

The Effectiveness of Using Flipbooks as an Interactive Medium in Social Studies Learning Based on Local Wisdom to Enhance Critical Thinking Skills

Hasni*

Universitas Negeri Makassar, Makassar, Indonesia

Nana Supriatna

Universitas Pendidikan Indonesia, Bandung, Indonesia

Sapriya

Universitas Pendidikan Indonesia, Bandung, Indonesia

Murdiyah Winarti

Universitas Pendidikan Indonesia, Bandung, Indonesia

Erlina Wiyanarti

Universitas Pendidikan Indonesia, Bandung, Indonesia

— *Review of* —
**Integrative
Business &
Economics**
— *Research* —

ABSTRACT

The strength of 21st-century Social Studies learning lies in the challenges of the times integrated into the material. Therefore, through this research, the strength of conceptual material can reinforce the practice of Social Studies learning. This study aims to determine the effectiveness of using flipbooks based on local wisdom in improving students' critical thinking skills. The research method is quasi-experimental with a match-only pretest-posttest control group design. The study was conducted at SMP Negeri 2 Makassar, Indonesia, with a sample of 70 students consisting of 35 students from class VII A (experimental class) and 35 students from class VII B (control class). The results showed that using flipbooks as an interactive medium in Social Studies instruction based on local wisdom is quite effective in enhancing students' critical thinking skills. This is evidenced by the N-gain (67.28%) of the experimental class being significantly higher compared to the control class (36.39%). The practicality test results of the flipbooks based on local wisdom conducted by the students showed a score of 83.09% (very practical), and the percentage of student activity in the experimental class (72.0%) was higher compared to the control class (57.0%) in all observed aspects. This research contributes to highlighting the trend that Social Studies learning must be able to integrate digital media based on local wisdom to understand social phenomena, making students' thinking more creative and critical.

Keywords: Flipbook, Social Studies Learning, Local Wisdom, Critical Thinking.

Received 29 October 2023 | Revised 6 June 2024 | Accepted 12 August 2024.

1. INTRODUCTION

Technological advancements continue to evolve over time, prompting significant changes

in human life from the information era to the digital era across all fields (Bolick, 2017; Levstik & Tyson, 2010; Nguyen et al., 2022).

The ability to access, adapt, and create new knowledge using new information and communication technologies is crucial for social learning (Inada, 2023; Kirkwood & Price, 2006; Warschauer, 2004). Utilizing technology as a learning medium is an innovative step towards enhancing the quality of education in Indonesia, enabling it to compete globally. Additionally, digital technology learning leads to improved quality and forms of learning that can be activated through digital technology access (Giroux, 2002; Hicks et al., 2014).

The current gap between developed and developing countries in e-learning adoption affects individual behavior when adopting new technologies (Nguyen et al., 2023; Putro et al., 2022). This is relevant to the findings of Tully & Alfaraz (2017), which show that smartphone use has influenced communication behavior. People communicate using Information and Communication Technologies (ICT) to gain new experiences, receive responses, and be recognized by their surroundings, making them more inclined to socialize, thus integrating smartphones into their lifestyles. This cultural shift also extends to the learning process. Before the development of ICT, books were the sole source of knowledge. However, today's learners seek information and knowledge through ICT, particularly the internet.

According to data from the Central Statistics Agency, the proportion of people aged 10 and above in rural and urban areas who read regularly is still low. Newspaper readers account for only 15.06%, magazine readers even less at 6.92%, storybook readers at 5.01%, school textbook readers at 20.49%, and science book readers at 14.08% (Statistik, 2012). Specifically, these findings are relevant to the Programme for International Student Assessment (PISA), a comprehensive international survey that essentially assesses students' reasoning abilities, including critical thinking skills (Rahayu, 2016). Indonesian students' performance in recent PISA assessments has been concerning, especially in reading skills, which are notably weak (Schleicher, 2019). The low development of Higher Order Thinking Skills (HOTS) is evident from the 2011 PISA survey results, where Indonesia scored 428, along with 12 other countries scoring below 500 (Kemendikbud & Kemendikbud, 2018).

According to a survey by the Ministry of Communication and Information Technology and UNICEF (2014) in Anwas (2016), there are 30 million children and adolescents in Indonesia who use the internet, with digital media now being their primary communication channel. The survey also found that 98% of the children and adolescents surveyed were aware of the internet, and 79.5% were internet users. Asia (2015) survey showed that the number of internet users in Indonesia in 2014 was 74.6 million. The most sought-after information on the internet includes: news (54.2%), entertainment (16.3%), movies (10.2%), sports (8.7%), and music (8.5%). The remaining categories include political news (7.4%), soap operas (6%), celebrity news (5.5%), gossip (5.2%), and educational content (5%).

Integrating technology into the curriculum is an integral part of effective teaching (Mills, 2006). One example of technology application in learning is the concept introduced by NACOL (North American Council For Online Learning), known as the blended learning model. This learning model focuses not only on face-to-face activities but also utilizes online-based learning technology to support classroom learning activities (Chaeruman, 2011; Liu et al., 2016; Tao et al., 2011; Uno, 2011).

Research findings indicate that the use of digital learning media such as flipbooks can enhance understanding and academic performance. This is because flipbooks are more engaging and interactive compared to printed books (Hidajat, 2023; Ramdania DR, 2007; Sugianto et al., 2013). In today's advanced technological era, mobile learning (M-

Learning) presents a potential opportunity to improve the quality of education (Sharples et al., 2005). The use of digital media-based learning resources can enhance students' writing skills and improve learning outcomes (Åberg et al., 2016; Lai et al., 2016; Nurcahili, 2010).

Passive Social Studies learning is not limited to developing countries. Similar issues in Social Studies learning are observed in the United States, as found in Russell III's (2010) study on Social Studies learning practices that focus on factual content to provide students with conceptual understanding. Passive Social Studies learning practices make the curriculum appear rigid, which contradicts the principles of 21st-century Social Studies learning aimed at understanding social phenomena. Through deconstruction Social Studies learning can bring students closer to their environment, culture, and existing systems, while linking various curriculum materials (Doolittle & Hicks, 2003; Eun, 2023). In the era of the industrial revolution, Social Studies learning is expected to promote students' social awareness and prevent them from being ignorant of their social values. This forms a crucial foundation for developing knowledge, emotions, and socio-cultural aspects (Maryani & Syamsudin, 2009; Van Auken et al., 2010).

One way to foster critical thinking skills is by using learning media such as flipbooks. Flipbooks are digital books in an interactive format that utilize electronics and contain information in the form of text or images. Flipbooks enable users to create and combine graphics, audio, and video, providing tools that allow for interaction, creativity, and communication (Hofstetter, 2001; Suad et al., 2023). Enhancing students' critical thinking skills is particularly necessary in Social Studies learning. With critical thinking skills, students are encouraged to think broadly and deeply to find their own solutions to Social Studies problems (Johnson, 2002; Rosida et al., 2017). Therefore, Social Studies teachers who use multimedia learning media or information and communication technology can inspire students by presenting images, videos, and real-life examples (Bayyat, 2023; Cannon et al., 2023).

This research is crucial to addressing the issues in developing Social Studies learning in schools. The problem lies in the use of textbooks as the sole learning resource, which not only distances students from their environment but also renders learning meaningless for them. Additionally, the learning media used are still conventional and monotonous, leading to passive student behavior. This study on Social Studies learning media positions flipbooks as a basis for integrating local wisdom as a global ancestral heritage. The focus of this research is on one such heritage of the Bugis-Makassar community in Indonesia, known as *La Galigo*. Previous studies have not explored the use of flipbooks as an innovative Social Studies learning media based on local wisdom to enhance students' critical thinking skills.

2. LITERATURE REVIEW

2.1. Media Digital Flipbook

Digital is a form of communication media that falls under graphic communication media. Its content comprises a combination of images, words, and symbols arranged in such a way that the reader elicits an aesthetic response in the form of an idea or story. Digital applications are nouns, images, and other symbols arranged in a particular location to convey information and elicit an aesthetic response from the reader (McCloud, 2021). According to Norton as cited in (Mácajová, 2013), digital applications are sequential art, an arrangement of images or images and words to tell a story or dramatize an idea. The presence of technology in education can be interpreted in three paradigms: (a) technology as a tool or technological product that can be used in education, (b) technology as content

or a part of material that can be processed and used as content in education, and (c) technology as an application program or effective and efficient learning and management tool (Munir, 2012).

Interactive flipbook media is a combined media that incorporates several forms of media controlled by a computer in the production and delivery of material (Arsyad, 2002). Flipbook software can transform the format of Portable Document Format (PDF) files into more engaging digital books that transition from one page to another (Mulyaningsih & Saraswati, 2017; Riyanto et al., 2019). The Open Electronic Book Package format is an Extensible Markup Language (XML)-based electronic book format created with an electronic book system. Electronic books in this format are recognized when flipbook software presents them in a Three-Dimensional (3D) format that can be flipped (Janottama & Putraka, 2017). This latest technology provides significant opportunities for the utilization of digital books in science and distance learning (Gorghiu et al., 2011). One technology expected to create an engaging and easily understandable learning atmosphere is the use of flipbook applications. The benefits of using learning media are that their presentation is raw, engaging, interactive, and efficient (De Sousa et al., 2017).

2.2. Local Wisdom

In this research, one of the local wisdom that can be used as Social Studies learning media is the manuscript of *La Galigo*, a prose literary work that embodies the cultural values that serve as the life philosophy of the Bugis Makassar community, Indonesia (Rahman & Mariani, 2009). According to Ryan and Bohlin as cited in (Komalasari, 2019; Nucci & Narvaez, 2014), teaching and integrating character values into the curriculum in educational institutions bring about positive changes in both intellectual and moral levels. The ability and skills of teachers in organizing materials constitute the "real curriculum," which serves as the "basic document for teachers" in conducting meaningful and effective Social Studies learning (Omidvar & Sukumar, 2013). There are several fundamental values in Bugis-Makassar society, Indonesia, such as '*siri*' (shame), *pesse* or *pacce* (social sympathy and empathy), *lempu* (consistency), *getteng* (firmness), and *reso* (hard work) (Pandang et al., 2022). These values are aligned with the cultural values in *La Galigo*, which will be used as material in Social Studies learning. The cultural values in *La Galigo* include the values of '*siri*' and '*pesse*' (shame and sympathy), as well as the values of '*sipakatau*', '*sippakalebbi*', and '*sipakainge*' (mutual respect, honoring, and reminding) (Rahman, 2003).

2.3. Critical Thinking Skills

There are three skills that must be possessed in the 21st century: life and career skills, learning and innovation skills, and information media and technology skills (Fadel & Trilling, 2010). In addition, the International Commission on Education for the Twenty-first Century formulated four principles of education in the 21st century known as the four pillars of education, namely learning to know, learning to do, learning to be, and learning to live together (Delors et al., 1997).

Critical thinking skills are complex skills that allow an individual to acquire information, gather data, and evaluate findings effectively (Ennis, 2011; Kennedy, 2007). Developing critical thinking skills can result in improving the quality of thinking involving reasoning and logic in problem-solving (Adeyemi, 2012; Fitriani et al., 2020; Zubaidah et al., 2018). According to several experts, a critical thinker usually has the ability to interpret, analyze, evaluate problems using evidence, concepts, methodologies, and criteria that can be used as a basis for decision-making (Carriger, 2015). Additionally, critical thinking means engaging in the mental process of applying concepts, analyzing,

synthesizing, evaluating outcomes, and reflecting (Alkharusi et al., 2019; Vieira & Tenreiro-Vieira, 2016). Students who learn through contextual problems can effectively enhance critical thinking performance (Fitriani et al., 2020).

Critical thinking skills need to be developed in students from an early age (Calma & Dickson-Deane, 2020; Thompson, 2011). Material development for students to improve critical thinking skills is developed so that students have adaptive behavioral and behavioral skills in facing 21st-century challenges, using flipbook applications. The assessment indicators of critical thinking skills in this research refer to Ennis (1998) categorized into five aspects: providing simple explanations (practical), building basic skills, drawing conclusions, having confidence, and taking action.

3. METHODOLOGY

3.1. Desain study

The research method employed in this study is quasi-experimental, utilizing a matched-only pretest-posttest control group design (Fraenkel et al., 2012).

Table 1. Matching Only Pretest-Posttest Control Group Design

| Group | Pretest | Treatment | Posttest |
|--------------------|---------|-----------|----------|
| Experimental Group | 0 | X | 0 |
| Control Group | 0 | C | 0 |

Notes:

0 = Student's critical thinking skills test

X = Social Studies learning using flipbook

C = Social Studies learning without using flipbook

3.2. Sampling Technique and Sample Selection.

The research was conducted at SMP Negeri 2 Makassar, which is a prominent school in the center of Makassar City, Indonesia. Sample determination was based on probability sampling technique. Probability sampling is a sampling technique that provides equal opportunity for each member of the population to be selected as a sample member (Sugiyono, 2013). The sample in this study consisted of seventh-grade students of SMP Negeri 2 Makassar, Indonesia, totaling 70 students, comprising 35 students in class VII A (experimental group) and 35 students in class VII B (control group).

3.3. Research Instruments

The instruments in this study include observation sheets, interview sheets, assessment sheets for practical work and student activities using flipbooks, and a test of critical thinking skills.

3.4. Data Analysis

The research data collected in this study consist of qualitative and quantitative data. Qualitative data will be analyzed descriptively using method and source data triangulation. Data analysis includes the practicality of using flipbook, in the form of student response questionnaire data analyzed qualitatively (percentage). Analysis to calculate the percentage of student responses is adapted from Arikunto (2009) with categories: very practical (if 84-100% of students give positive responses), practical (68-83%), quite practical (52-67%), less practical (36-51%), and not practical (less than 35%). Quantitative data analysis is carried out through tests of critical thinking skills in the experimental and control groups.

The test used in this study is a multiple-choice test with 25 questions, because with multiple-choice tests the author can assess the effectiveness of using flipbooks to improve students' critical thinking skills. Indicators of critical thinking skills include: providing simple explanations (practical), building basic skills, drawing conclusions, confidence, and action (Ennis, 1998). The data obtained, in the form of pretest and posttest scores, are analyzed quantitatively using descriptive quantitative methods such as N-gain and t-test. Normalized gain (N-gain) rules were developed by Hakke (1999) in the form of percentages: effective (>76%), moderately effective (56-75%), less effective (40-55), and ineffective (<40%). Meanwhile, the t-test refers to the Sudjana (2020) formula with a confidence level of 5%.

4. RESULTS

4.1. Effectiveness of Flipbook as an Interactive Media in Social Studies Learning Based on Local Wisdom to Enhance Students' Critical Thinking Skills

Based on the identification of materials, several cultural values as Bugis-Makassar local wisdom, Indonesia, were found. In this study, these cultural values refer to the *La Galigo* manuscript, which is relevant as a source of Social Studies learning, especially in the seventh-grade curriculum introducing the ancestors' traces of the Indonesian nation.

These values include the cultural values of *siri'* and *pesse'* (shame and sympathy), as well as the cultural values of *sipakatau'*, *sipakainge'*, and *sippakalebbi'* (respecting, reminding, and honoring each other). The results of this study aim to present materials by transforming the values of local wisdom into various presentation features, such as animated videos and illustrations, to enhance students' critical thinking skills.

The implemented flipbook aims to assess the effectiveness of flipbooks as an innovative Social Studies learning media based on local wisdom. This implementation was carried out in the seventh-grade classes of SMP Negeri 2 Makassar, Indonesia, involving experimental and control groups to enhance students' critical thinking skills. The effectiveness of the flipbook research results is measured based on the N-gain results of pretest and posttest in the experimental and control groups. Furthermore, a t-test was conducted to determine the significance of student test score improvements. The N-gain results in this study can be seen in Table 2 below:

Table 2. Pretest-Posttest Scores of Experimental and Control Groups

| Number | Kelas | Average Value | | Average N-Gain per Group | Average N-Gain |
|----------|--------------|---------------|----------|--------------------------|----------------------|
| | | Pretest | Posttest | | |
| 1 | Experimental | 60.23 | 86.74 | 67.28 | 51.26% |
| 2 | Control | 57.83 | 73.31 | 36.39 | |
| Category | | | | | Moderately Effective |

Based on the table above, it is evident that there is a difference in critical thinking skills overall between the experimental and control groups. The N-gain between the experimental and control groups assessed/tested after the posttest shows that the experimental group is more effective compared to the control group. From the data, it can be observed that the N-gain value used is the group N-gain value, not the N-gain value per sample/individual. The N-gain value of the experimental class already includes the difference between the pretest and posttest, with an average of 51.26%, indicating a moderately effective category for the flipbook as an innovation in IPS learning media. To

see the differences in pretest, posttest, and N-gain values between the experimental and control groups, refer to Table 3 for the following statistical data.

Table 3. Statistical Data of Pretest-Posttest Results and N-gain Experimental Group and Control Group

| NO | Experimental Group | | Ideal Score | N-Gain (%) | Control Group | | Ideal Score | N-Gain (%) |
|-----------|--------------------|----------|-------------|------------|---------------|----------|-------------|------------|
| | Pretest | Posttest | | | Pretest | Posttest | | |
| 1 | 60 | 80 | 100 | 50.00% | 56 | 68 | 100 | 27.27% |
| 2 | 72 | 88 | 100 | 57.14% | 60 | 72 | 100 | 30.00% |
| 3 | 56 | 76 | 100 | 45.45% | 60 | 72 | 100 | 30.00% |
| 4 | 68 | 84 | 100 | 50.00% | 64 | 76 | 100 | 33.33% |
| 5 | 56 | 80 | 100 | 54.55% | 56 | 68 | 100 | 27.27% |
| 6 | 52 | 80 | 100 | 58.33% | 48 | 68 | 100 | 38.46% |
| 7 | 64 | 92 | 100 | 77.78% | 60 | 72 | 100 | 30.00% |
| 8 | 72 | 92 | 100 | 71.43% | 68 | 72 | 100 | 12.50% |
| 9 | 56 | 80 | 100 | 54.55% | 56 | 76 | 100 | 45.45% |
| 10 | 56 | 84 | 100 | 63.64% | 60 | 80 | 100 | 50.00% |
| 11 | 64 | 88 | 100 | 66.67% | 60 | 76 | 100 | 40.00% |
| 12 | 64 | 92 | 100 | 77.78% | 64 | 74 | 100 | 27.78% |
| 13 | 40 | 72 | 100 | 53.33% | 44 | 60 | 100 | 28.57% |
| 14 | 52 | 76 | 100 | 50.00% | 52 | 60 | 100 | 16.67% |
| 15 | 64 | 92 | 100 | 77.78% | 52 | 74 | 100 | 45.83% |
| 16 | 72 | 96 | 100 | 85.71% | 52 | 76 | 100 | 50.00% |
| 17 | 60 | 96 | 100 | 90.00% | 60 | 74 | 100 | 35.00% |
| 18 | 64 | 92 | 100 | 77.78% | 64 | 80 | 100 | 44.44% |
| 19 | 60 | 84 | 100 | 60.00% | 64 | 76 | 100 | 33.33% |
| 20 | 60 | 88 | 100 | 70.00% | 60 | 76 | 100 | 40.00% |
| 21 | 56 | 88 | 100 | 72.73% | 52 | 76 | 100 | 50.00% |
| 22 | 60 | 84 | 100 | 60.00% | 52 | 74 | 100 | 45.83% |
| 23 | 56 | 84 | 100 | 63.64% | 56 | 76 | 100 | 45.45% |
| 24 | 60 | 88 | 100 | 70.00% | 60 | 76 | 100 | 40.00% |
| 25 | 56 | 92 | 100 | 81.82% | 56 | 74 | 100 | 40,91% |
| 26 | 64 | 92 | 100 | 77.78% | 56 | 76 | 100 | 45.45% |
| 27 | 60 | 88 | 100 | 70.00% | 60 | 74 | 100 | 35.00% |
| 28 | 52 | 84 | 100 | 66.67% | 60 | 74 | 100 | 35.00% |
| 29 | 60 | 84 | 100 | 60.00% | 60 | 60 | 100 | 0.00% |
| 30 | 68 | 88 | 100 | 62.50% | 60 | 76 | 100 | 40.00% |
| 31 | 56 | 88 | 100 | 72.73% | 56 | 80 | 100 | 54.55% |
| 32 | 60 | 84 | 100 | 60.00% | 56 | 76 | 100 | 45.45% |
| 33 | 68 | 92 | 100 | 75.00% | 60 | 74 | 100 | 35.00% |
| 34 | 60 | 96 | 100 | 90.00% | 60 | 74 | 100 | 35.00% |
| 35 | 60 | 92 | 100 | 80.00% | 60 | 76 | 100 | 40.00% |
| Max Score | 72 | 96 | | 90.00% | 68 | 80 | | 54.55% |
| Min Score | 40 | 72 | | 45.45% | 44 | 60 | | 0.00% |

| | | | | | | | | |
|------|-------|-------|--|--------|-------|-------|--|--------|
| Mean | 60.23 | 86.74 | | 67.28% | 57.83 | 73.31 | | 36.39% |
|------|-------|-------|--|--------|-------|-------|--|--------|

The statistical data shows a difference in the N-gain scores, where the experimental group obtained an average N-gain of 67.28%, while the control group obtained an average N-gain of 36.39%.

4.2. Practicality and Student Activities Using Flipbook as an Interactive Media Based on Local Wisdom to Improve Critical Thinking Skills

The practicality of the flipbook as an interactive Social Studies learning media based on local wisdom to enhance students' critical thinking skills can be observed through student responses as users of the learning media. Data on the practicality of the flipbook were collected through observation activities with the administration of questionnaires conducted directly by the researcher.

The assessment results with several indicators evaluating the practicality of the flipbook as an innovation media based on local wisdom include interest in presenting the flipbook, skills trained, evaluation, media as a source of local value concepts, and language. The assessment results can be seen in the table 4 below:

Table 4. Results of Student Response Analysis to the Practicality of Flipbook

| Number | The observed aspects | The percentage of student responses. (%) | The criteria for practicality. |
|----------------|--|--|--------------------------------|
| 1 | Interest in Presentation | 89.20 | Very practical |
| 2 | Trained Skills | 86.67 | Very practical |
| 3 | Relevance of Material to Local Wisdom Values | 69.80 | Practical |
| 4 | Evaluation | 81.80 | Practical |
| 5 | Language | 88.00 | Very practical |
| Average | | 83.09 | Practical |

Based on the analysis of student responses, the flipbook as an innovative Social Studies learning media based on local wisdom is highly practical in enhancing students' critical thinking skills. Meanwhile, the observation results of student activities between the experimental and control classes during the learning process can be seen in Table 5 below:

Table 5. Student Activities During the Learning Process

| Number | The observed aspects | Experimental Group | Presentation (%) | Control Group | Presentation (%) |
|--------|---|--------------------|------------------|---------------|------------------|
| | | Average | | Average | |
| 1 | Students' readiness to receive lesson material | 21 | 84.0 | 18 | 72.0 |
| 2 | Students' activeness in discussion activities | 17 | 68.0 | 15 | 60.0 |
| 3 | Students' activity in discussion sessions | 16 | 64.0 | 10 | 40.0 |
| 4 | Students' activeness in doing assignments on the flipbook | 22 | 88.0 | 16 | 64.0 |

| | | | | | |
|---|--|----|-------------|----|-------------|
| 5 | Able to develop findings according to the context of the problem | 19 | 76.0 | 15 | 60.0 |
| 6 | Able to apply local wisdom values in the discussion process | 18 | 72.0 | 16 | 64.0 |
| 7 | Students engage in the learning process with attentiveness and courageously provide critiques. | 16 | 64.0 | 10 | 40.0 |
| 8 | Students' engagement in the final activities of the lesson. | 15 | 60.0 | 14 | 56.0 |
| Percentage of Student Activities | | | 72.0 | | 57.0 |

Based on the table above, it turns out that student activity during the learning process in the experimental class using flipbooks is higher (72.0%) compared to the control class (57.0%). This indicates that students' interest in using locally based flipbooks can increase their engagement in learning, thus enhancing students' critical thinking skills.

5. DISCUSSION

Based on the data analysis, the effectiveness of flipbooks as interactive social studies learning media based on local wisdom is considered quite effective in enhancing students' critical thinking skills at SMP Negeri 2 Makassar, Indonesia. This is evident from the high average N-gain scores of students' critical thinking skills in the experimental class (67.28%), categorized as effective, compared to the control class (36.39%), categorized as ineffective.

In the experimental class, the learning process was conducted using flipbooks, while the control class did not utilize flipbooks as one of the innovative social studies learning media. The integration of local wisdom values to enhance critical thinking skills is demonstrated by the results of the pretest and posttest, as shown in the following Table 6:

Table 6. Integration of Local Wisdom Values to Enhance Critical Thinking Skills

| Grade 7 Material | Local Wisdom Values of Bugis-Makassar, Indonesia in the <i>La Galigo</i> Manuscript | Indicators of Critical Thinking Skills |
|--|--|--|
| Understanding the Traces of Indonesia's Ancestral Heritage | <i>Siri'</i> and <i>Pesse'</i> (the values of shame and sympathy.) | Providing simple (practical) explanations Developing basic skills Concluding |
| | <i>Sipakatau'</i> , <i>sipakainge'</i> , and <i>sippakalebbi'</i> (mutual respect, reminding, and honoring). | Confidence Action |

Based on the table above, the N-gain results for each critical thinking indicator in the experimental and control classes can be seen in Table 7 below:

Table 7. Critical Thinking Skills Achievement Data

| Indicators of Critical Thinking Skills | "Experimental Class (Average N-gain)" | "Control Class (Average N-gain)" |
|---|---------------------------------------|----------------------------------|
| "Providing simple explanations (practical)" | 83.71% | 54.53% |
| "Building basic skills" | 77.78% | 50% |
| Conclusion | 70% | 45.83% |
| Confidence | 66.64% | 45.45% |
| Action | 63.64% | 40% |

The statistical analysis results indicate that the average N-gain of 35 seventh-grade students at SMP Negeri 2 Makassar, Indonesia, shows the highest achievement for each indicator in providing simple explanations. The smallest N-gain, which occurred for the same indicator, is providing action. The experimental class achieved (63.64%) and the control class (40.00%). Based on this data, it can be concluded that there is a difference in critical thinking skills between the class using flipbooks and the class using only textbooks without innovative learning media.

However, there is evidence of growth in critical thinking skills in both classes for each indicator. Nevertheless, the experimental class excelled in growth assessment across all indicators, indicating it to be more effective or yielding higher results. The use of learning media such as multimedia or the utilization of information and communication technology can inspire students through the aid of visual presentations and videos, as well as real-life examples (Sukiman, 2012).

The improvement in critical thinking skills in the experimental class, especially in the indicator of providing simple explanations, was higher compared to other indicators. This is because students felt assisted by the features available in the flipbook, such as animated videos and illustrations. This research is supported by Aksoy (2012), who stated that the animation method is more effective than traditional teaching methods in improving student learning outcomes because animation can enrich students' competencies in various teaching materials. This is in line with Ahmad Susanto (2016), who stated that efforts to develop optimal critical thinking skills in students are carried out through innovative and interactive learning, where students are viewed as thinkers, not just information receivers. Facilitators and motivators in learning are also important in assisting students in learning. Additionally, this concept is reinforced by Mills (2006), who suggests that integrating technology into the curriculum is an integral part of good teaching.

The research also found that students' critical thinking skills, as evidenced by the N-gain results indicating the action indicator in both classes, are in the low category. This indicates that learning using flipbooks has not yet fully developed students' critical thinking skills maximally in a limited time frame. A long process is required to train students' critical thinking skills. This ability will develop optimally if given special attention and continuously trained. This finding is also in line with McKendree (2002), who stated that critical thinking skills can be developed but require time and continuous practice. Therefore, it is important to develop critical thinking skills in students from an early age and continue to cultivate them so that students can think creatively (Thompson, 2011).

The improvement of students' critical thinking skills is essential, especially in Social Studies learning, because with critical thinking skills, students are expected to seek Social

Studies learning problem solutions with broader and more creative approaches (Johnson, 2002; Vieira et al., 2011; Vieira & Tenreiro-Vieira, 2016).

Based on the analysis results, it is known that students are interested in flipbooks, especially in aspects such as interest in flipbook presentation, skills trained, evaluation, media as a source of local cultural values, and language. Students like flipbooks because of their attractive appearance and their format significantly helps to increase motivation and train critical thinking. It contains various features such as animated videos, illustrations, and phenomena relevant to Social Studies materials. The results of students' responses indicate that viewing photos or images has higher significance than reading or listening (BSNP, 2006; Houts et al., 2006).

Another effectiveness that supports the fact that flipbooks based on local wisdom are quite effective in improving students' critical thinking skills can be seen in students' activities during the learning process. This finding is in line with the benefits of using learning media, which are presented more raw, attractive, interactive, and efficient (Arsyad, 2002). The presence of technology in education can be interpreted in three paradigms: (a) technology as a tool or in the form of technological products that can be used in education, (b) technology as content or as part of the material that can be used as content in education, and (c) technology as application programs or effective and efficient learning and management tools (Munir, 2012).

This research provides benefits that the use of flipbooks as innovative Social Studies learning media based on local wisdom is more attractive and easy to understand, presents multimedia messages, modifies student learning to be more active and varied, and provides flexible learning.

6. CONCLUSIONS

This research demonstrates that the use of flipbooks in Social Studies learning has proven to be effective in capturing students' interest, increasing learning motivation, and cultivating critical thinking skills. Features such as animated video displays, illustrations, and content relevant to Social Studies materials assist students in understanding concepts and developing critical thinking skills. The approach based on local wisdom in developing flipbooks provides added value and has been proven to make a positive contribution to Social Studies learning. This not only enriches the learning content but also activates students' understanding of rich local values that are rich in culture and tradition as the heritage of the world's ancestors. With the presence of technology in Social Studies learning brings significant benefits, especially in terms of presenting more interesting, interactive, and efficient material.

ACKNOWLEDGEMENTS

A heartfelt thank you to the Pusat Layanan Pendidikan (PUSLAPDIK), the Beasiswa Pendidikan Indonesia (BPI), and the Lembaga Pengelola Dana Pendidikan (LPDP) for sponsoring the publication of this article. The author also extends gratitude to the organizers of the SIBR 2024 Seoul Conference on Interdisciplinary Business & Economics Research. Thanks to this event, the author received valuable feedback and suggestions that helped improve this article.

REFERENCES

- [1] Åberg, E. S., Ståhle, Y., Engdahl, I., & Knutes-Nyqvist, H. (2016). Designing a

- Website to Support Students' Academic Writing Process. *Turkish Online Journal of Educational Technology-TOJET*, 15(1), 33–42.
- [2] Adeyemi, S. B. (2012). Developing Critical Thinking Skills in Students: A Mandate for Higher Education in Nigeria. *European Journal of Educational Research*, 1(2), 155–161. <https://doi.org/10.12973/eu-jer.1.2.155>.
- [3] Ahmad Susanto, M. P. (2016). Teori Belajar dan Pembelajaran di Sekolah Dasar. *Kencana*.
- [4] Aksoy, G. (2012). The Effects of Animation Technique on the 7th Grade Science and Technology Course. *Online Submission*, 3(3), 304–308. doi:10.4236/ce.2012.33048.
- [5] Alkharusi, H. A., Al Sulaimani, H., & Neisler, O. (2019). Predicting Critical Thinking Ability of Sultan Qaboos University Students. *International Journal of Instruction*, 12(2), 491–504.
- [6] Anwas, O. M. (2016). Model Buku Teks Pelajaran berbasis Teknologi Informasi dan Komunikasi. *Kwangsan: Jurnal Teknologi Pendidikan*, 4(1), 17–32.
- [7] Arikunto, S. (2009). Dasar-dasar Evaluasi Pendidikan. *Jakarta: Bumi Aksara (edisi revisi)*.
- [8] Arsyad, A. (2002). Media Pembelajaran *Jakarta: Raja Grafindo Persada*.
- [9] Asia, T. (2015). Statistik Pengguna Internet dan Media Sosial di Indonesia.
- [10] Bayyat, A. (2023). Considerations for 21st Century Pedagogy? *Taylor & Francis*.
- [11] Bolick, C. M. (2017). The Diffusion of Technology Into The Social Studies. *The Wiley Handbook of Social Studies Research*, 499–517. <https://doi.org/10.1002/9781118768747.ch22>.
- [12] BSNP, B. S. (2006). Standar Isi Untuk Satuan Pendidikan Dasar dan Menengah; Standar Kompetensi dan Kompetensi Dasar SMP/MTs. *Jakarta: Badan Standar Nasional Pendidikan (BSNP)*.
- [13] Calma, A., & Dickson-Deane, C. (2020). The Student as Customer and Quality in Higher Education. *International Journal of Educational Management*, 34(8), 1221–1235. <https://doi.org/10.1108/IJEM-03-2019-0093>.
- [14] Cannon, M., Potter, J., Olusoga, Y., & Cowan, K. (2023). Lessons from the Play Observatory: re-imagining learning through film-making and transludic practices in children's pandemic play. *Education 3-13*, 1–17. <https://doi.org/10.1080/03004279.2023.2186970>.
- [15] Carriger, M. S. (2015). Problem-based Learning and Management Development—Empirical and Theoretical Considerations. *The International Journal of Management Education*, 13(3), 249–259. <https://doi.org/10.1016/j.ijme.2015.07.003>.
- [16] Chaeruman, U. A. (2011). Implementing Blended Learning: a Case Based Sharing Experience. *Diakses Dari Http://Www. Teknologi Pendidikan. Net/2011/06/21/Implementing-Blended-Learning-a-Case-Based-Sharingexperience/Pada Tanggal*, 5.
- [17] De Sousa, L., Richter, B., & Nel, C. (2017). The Effect of Multimedia Use on The Teaching and Learning of Social Sciences at Tertiary Level: a Case Study. *Yesterday and Today*, 17, 1–22. <http://dx.doi.org/10.17159/2223-0386/2017/n17a1>.
- [18] Delors, J., Amagi, I., Carneiro, R., Chung, F., Geremek, B., Gorham, W., Kornhauser, A., Manley, M., Padrón Quero, M., & Savané, K. S. (1997). La educación encierra un tesoro: *Informe para la UNESCO de la Comisión Internacional sobre la Educación para el Siglo Veintiuno*. Unesco.
- [19] Doolittle, P. E., & Hicks, D. (2003). Constructivism as a theoretical foundation for the use of technology in social studies. *Theory & Research in Social Education*, 31(1), 72–104. <https://doi.org/10.1080/00933104.2003.10473216>.
- [20] Ennis. (1998). Critical Thinking. *Prentice-Hall Inc*.

- [21] Ennis, R. (2011). Critical thinking: Reflection and perspective Part II. *Inquiry: Critical Thinking across the Disciplines*, 26(2), 5–19. <https://doi.org/10.5840/inquiryctnews201126215>.
- [22] Eun, J.-Y. (2023). A media criticism-based approach for designing critical multicultural instruction in social studies curricula. *Pedagogy, Culture & Society*, 31(1), 129–146. <https://doi.org/10.1080/14681366.2021.1891450>.
- [23] Fadel, C., & Trilling, B. (2010). 21st Century Skills: Learning for Life in Our Times. *Education Review*.
- [24] Fitriani, A., Zubaidah, S., Susilo, H., & Al Muhdhar, M. H. I. (2020). PBLPOE: A Learning Model to Enhance Students' Critical Thinking Skills and Scientific Attitudes. *International Journal of Instruction*, 13(2), 89–106.
- [25] Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). How to design and evaluate research in education (Vol. 7). *McGraw-hill New York*.
- [26] Giroux, H. A. (2002). Breaking into the Movies: Film and the Politics of Culture (Malden, MA. *Blackwell*.
- [27] Gorghiu, L. M., Gorghiu, G., Bîzoi, M., & Suduc, A. M. (2011). The Electronic Book-a Modern Instrument Used in Teachers' Training Process. *Procedia Computer Science*, 3, 563–567. <https://doi.org/10.1016/j.procs.2010.12.093>.
- [28] Hakke, R. (1999). Analyzing change/Gain Score. *Dept. of Physics, Indiana University*.
- [29] Hicks, D., Lee, J. K., Berson, M., Bolick, C., & Diem, R. (2014). Guidelines for Using Technology to Prepare Social Studies Teachers. *Contemporary Issues in Technology and Teacher Education*, 14(4), 433–450.
- [30] Hidajat, F. A. (2023). The development of digital e-books to improve students' creativity skills: A self-regulation strategies approach. *International Journal of Instruction*, 16(4), 367–384.
- [31] Hofstetter, F. T. (2001). Multimedia Literacy. Third Edition. *McGraw-Hill. International Edition*.
- [32] Houts, P. S., Doak, C. C., Doak, L. G., & Loscalzo, M. J. (2006). The Role of Pictures in Improving Health Communication: a review of research on attention, comprehension, recall, and adherence. *Patient Education and Counseling*, 61(2), 173–190. <https://doi.org/10.1016/j.pec.2005.05.004>.
- [33] Inada, Y. (2023). A Comparative Study of Physical Versus Online Classrooms: Co-Creation in Industry-Academia Collaborative Education. *Review of Integrative Business and Economics Research*, 12(2), 97–117. issn: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print).
- [34] Janottama, I. P. A., & Putraka, A. N. A. (2017). Gaya dan teknik perancangan ilustrasi tokoh pada cerita rakyat Bali. *Segara Widya: Jurnal Hasil Penelitian Dan Pengabdian Masyarakat*, 5. doi: <https://doi.org/10.31091/sw.v5i0.189>.
- [35] Johnson, E. B. (2002). Contextual Teaching and Learning. *Corwin Press, INC. A Sage Publications Company. Thousand Oaks, California*.
- [36] Kemendikbud, R., & Kemendikbud, K. (2018). Kementerian Pendidikan Dan Kebudayaan Republik Indonesia. Infograpis.
- [37] Kennedy, R. (2007). In-class Debates: Fertile Ground for Active Learning and The Cultivation of Critical Thinking and Oral Communication Skills. *International Journal of Teaching & Learning in Higher Education*, 19(2). ISSN 1812-9129.
- [38] Kirkwood, A., & Price, L. (2006). Adaptation for a Changing Environment: Developing Learning and Teaching With Information and Communication Technologies. *International Review of Research in Open and Distributed Learning*, 7(2), 1–14. <https://doi.org/10.19173/irrodl.v7i2.294>.

- [39] Komalasari, K. (2019). Living Values Based Interactive Multimedia in Civic Education Learning. *International Journal of Instruction*, 12(1), 113–126.
- [40] Lai, M., Lim, C. P., & Wang, L. (2016). Potential of Digital Teaching Portfolios for Establishing a Professional Learning community in Higher Education. *Australasian Journal of Educational Technology*, 32(C). doi: <https://doi.org/10.14742/ajet.2572>.
- [41] Levstik, L. S., & Tyson, C. A. (2010). Handbook of research in social studies education. *Routledge*. <https://doi.org/10.4324/9780203930229>.
- [42] Liu, Q., Peng, W., Zhang, F., Hu, R., Li, Y., & Yan, W. (2016). The Effectiveness of Blended Learning in Health Professions: systematic review and meta-analysis. *Journal of Medical Internet Research*, 18(1), e4807. doi:10.2196/jmir.4807.
- [43] Mácajová, M. (2013). Neuropedagogy And Brain Compatible Learning Idea For Education In The 21st Century. *Technologia Vzdělávání*, 21(3).
- [44] Maryani, E., & Syamsudin, H. (2009). Pengembangan Program Pembelajaran IPS untuk Meningkatkan Kompetensi Keterampilan Sosial. *Jurnal Penelitian*, 9(1).
- [45] McCloud. (2021). Understanding Comic: Memahami Komik. *Kepustakaan Populer Gramedia*.
- [46] McKendree, J., Small, C., Stenning, K., & Conlon, T. (2002). The Role of Representation in Teaching and Learning Critical Thinking. *Educational Review*, 54(1), 57–67. <https://doi.org/10.1080/00131910120110884>.
- [47] Mills, S. C. (2006). Using the internet for active teaching and learning. *Prentice Hall*.
- [48] Mulyaningsih, N. N., & Saraswati, D. L. (2017). Penerapan Media Pembelajaran Digital Book dengan Kvisoft Flipbook Maker. *Jurnal Pendidikan Fisika*, 5(1), 25–32. doi: <http://dx.doi.org/10.24127/jpf.v5i1.741>.
- [49] Munir, P. D. (2012). Multimedia Konsep & Aplikasi Dalam Pendidikan: Bandung. *Alfabeta*.
- [50] Nguyen, H. T., Tran, V.-T., Nguyen, S. T., & Van Trinh, T. (2023). A Literature Review on the Management of Preschool Teacher's Professional Competence Development in the 4.0 Industrial Revolution. *Journal of Law and Sustainable Development*, 11(9), e1060–e1060. doi: <https://doi.org/10.55908/sdgs.v11i9.1060>.
- [51] Nguyen, P., Pham, T., Trieu, H., Lam, L., & Tran, K. (2022). Opportunities and Challenges for Developing a Sustainable Software City: Lessons from Quang Trung Software City in Vietnam. *Review of Integrative Business and Economics Research*, 11(3), 38–60. issn: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print).
- [52] Nucci, L. P., & Narvaez, D. (2014). Handbook Pendidikan Moral dan Karakter. *Nusa Media*.
- [53] Nurcahili. (2010). Pengaruh Media Pembelajaran Berbasis Teknologi Informasi dan Komunikasi dalam Proses Pembelajaran Kimia terhadap Peningkatan Hasil Belajar Siswa. *Jurnal Pendidikan Dan Kebudayaan*.
- [54] Omidvar, R., & Sukumar, B. (2013). The Effects of Global Education in the English Language Conversation Classroom. *English Language Teaching*, 6(7), 151–157. ISSN 1916-4742 E-ISSN 1916-4750.
- [55] Pandang, A., Umar, N. F., Hajati, K., & Hamidi, B. (2022). Gender Disparities in Students' Entrepreneurial Self-Efficacy (ESE) with Various Areas. *Education Research International*. <https://doi.org/10.1155/2022/9479758>.
- [56] Putro, H. P. N., Hadi, S., Rajjani, I., & Abbas, E. W. (2022). Adoption of E-learning in Indonesian Higher Education: innovation or irritation? *Educational Sciences: Theory & Practice*, 22(1), 36–45. <https://repositori.ulm.ac.id/handle/123456789/26017>.
- [57] Rahayu, S. (2016). Mengembangkan Literasi Sains Anak Indonesia Melalui Pembelajaran Berorientasi Nature of Science (NOS). *Sains Dan Teknologi*, 177.

- [58] Rahman, N. (2003). Pendahuluan” dalam La Galigo: Menelusuri Jejak Warisan Sastra Dunia. *Makassar: Pusat Studi Lagaligo UNHAS*.
- [59] Rahman, N., & Mariani, M. (2009). Kearifan Llingkungan Hidup Manusia Bugis Berdasarkan Naskah Méong Mpaloé. *La Galigo Press*.
- [60] Ramdania DR, S. H. & W. (2007). Penggunaan Media Flash Flipbook dalam Pembelajaran Teknologi Informasi dan Komunikasi untuk Meningkatkan Hasil Belajar Siswa. *Jurnal Pendidikan 1(1):1-6*.
- [61] Riyanto, R., Aryulina, D., & ... (2019). Identification of Students Knowledge on Local Games As a Basis to Develop Elementary School Science Textbook. *International Journal Of ...* <https://ejournal.unib.ac.id/IJER/article/view/8836>
- [62] Rosida, R., Fadiawati, N., & Jalmo, T. (2017). Efektivitas Penggunaan Bahan Ajar E-book Interaktif dalam Menumbuhkan Keterampilan Berpikir Kritis Siswa. *Jurnal Pembelajaran Fisika, 5(1)*.
- [63] Russell III, W. B. (2010). Teaching Social Studies in The 21st Century: A research Study of Secondary Social Studies Teachers’ Instructional Methods and Practices. *Action in Teacher Education, 32(1)*, 65–72. <https://doi.org/10.1080/01626620.2010.10463543>.
- [64] Schleicher, A. (2019). PISA 2018: Insights and Interpretations. *Oecd Publishing*.
- [65] Sharples, M., Taylor, J., & Vavoula, G. (2005). Towards a theory of Mobile Learning. *Proceedings of MLearn, 1(1)*, 1–9.
- [66] Statistik, B. P. (2012). Proporsi Penduduk Berumur 10 Tahun ke Atas yang Membaca Selama Seminggu Terakhir menurut Provinsi, Jenis Bacaan, dan Tipe Daerah. *Tersedia di* <https://www.bps.go.id/linkTabelStatis/view/id/1521>.
- [67] Suad, A., Tapalova, O., Berestova, A., & Vlasova, S. (2023). The Impact of Moodle Learning Analytics on Students’ Performance and Motivation. *International Journal of Instruction, 16(4)*, 297–312.
- [68] Sudjana, M. S. (2020). Metodologi Peneliti. *Bandung: Tarsito. Edisi 2*.
- [69] Sugianto, D., Abdullah, A. G., Elvyanti, S., & Muladi, Y. (2013). Modul Virtual: Multimedia Flipbook Dasar Teknik Digital. *Invotec, 9(2)*.
- [70] Sugiyono, D. (2013). Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif dan R&D. *Bandung: Alfabeta Cv. Cetakan Ke-3*.
- [71] Sukiman. (2012). Pengembangan Media Pembelajaran. *Pedagogia*.
- [72] Tao, J., Fore, C., & Forbes, W. (2011). Seven Best Face-to-Face Teaching Practices in a Blended Learning Environment. *Journal of Applied Learning Technology, 1(3)*.
- [73] Thompson, C. (2011). Critical Thanking Across the Curicullum: Process over Output. *International Journal of Humanities and Social Science*.
- [74] Tully, C., & Alfaraz, C. (2017). Youth and Mobility: The Lifestyle of The New Generation as an Indicator of a Multi-local Everyday Life. *Applied Mobilities, 2(2)*, 182–198. <https://doi.org/10.1080/23800127.2017.1322778>.
- [75] Uno, H. B. (2011). Teori Motivasi dan Pengukurannya: Analisis di Bidang Pendidikan. *Jakarta: Bumi Aksara*.
- [76] Van Auken, P. M., Frisvoll, S. J., & Stewart, S. I. (2010). Visualising Community: Using Participant-driven Photo-elicitation for Research and Application. *Local Environment, 15(4)*, 373–388. <https://doi.org/10.1080/13549831003677670>.
- [77] Vieira, R. M., & Tenreiro-Vieira, C. (2016). Fostering Scientific Literacy and Critical Thinking in Elementary Science Education. *International Journal of Science and Mathematics Education, 14(4)*, 659–680.
- [78] Vieira, R. M., Tenreiro-Vieira, C., & Martins, I. P. (2011). Critical Thinking: Conceptual Clarification and its Importance in Science Education. *Science Education International, 22(1)*, 43–54.

- [79] Warschauer, M. (2004). *Technology and Social Inclusion: Rethinking the Digital Divide*. MIT press.
- [80] Zubaidah, S., Corebima, A. D., & Mahanal, S. (2018). Revealing the Relationship between Reading Interest and Critical Thinking Skills through Remap GI and Remap Jigsaw. *International Journal of Instruction*, 11(2), 41–56.