

## THE IMPLEMENTATION OF GIMKIT-ASSISTED GAME-BASED LEARNING MODEL TO ENHANCE STUDENTS' COGNITIVE ABILITY IN JUNIOR HIGH SCHOOL SOCIAL STUDIES LEARNING

Roihatul Makwa<sup>1\*</sup>, Khofifatu Rohmah Adi<sup>2</sup>

<sup>1\*,2</sup> Universitas Negeri Malang, Malang, Indonesia

\*[roihatul.makwa.2531747@students.um.ac.id](mailto:roihatul.makwa.2531747@students.um.ac.id)

### ARTICLE INFO

#### **Article history:**

Received: June 24, 2026

Accepted: September 15, 2026

Published: September 29, 2026

#### **Keywords:**

*Game-Based Learning; Gimkit; Cognitive Ability; Social Studies*

### ABSTRACT

Cognitive ability is an important indicator of progress toward learning objectives. However, students' cognitive achievement in Social Studies, particularly in narrative-based history lessons, remains relatively low. Pre-test results from class VIII-4 at SMPN 3 Malang showed that 13 of the 33 students (39.40%) had not met the Minimum Mastery Criterion (KKM). This study aimed to describe improvements in students' cognitive abilities during the implementation of Gimkit-assisted Game-Based Learning (GBL) in Social Studies lessons on the Nusantara Spice Route. The study employed a Classroom Action Research design based on Kemmis and McTaggart's spiral model and was conducted in two cycles involving 33 students from class VIII-4. Data were collected through observation, interviews, and tests and analyzed descriptively using pre-test and post-test scores, the class mastery rate, and normalized gain (N-Gain). The findings showed that students' mean scores increased from 78.18 on the pre-test to 82.42 in Cycle I and 94.30 in Cycle II. N-Gain increased from 0.19 (low) in Cycle I to 0.78 (high) in Cycle II, while the class mastery rate reached 100% at the end of Cycle II. These findings indicate improvement in students' cognitive achievement over the two intervention cycles. However, given the absence of a comparison group and the use of repeated instruction and assessment, this improvement cannot be attributed solely to Gimkit. The findings suggest that Gimkit-assisted GBL may be considered an instructional approach to support students' cognitive development in Social Studies lessons on the Nusantara Spice Route.

#### **Corresponding Author:**

**Roihatul Makwa**

[roihatul.makwa.2531747@students.um.ac.id](mailto:roihatul.makwa.2531747@students.um.ac.id)

## INTRODUCTION

Education is a key government priority in improving the quality of human resources. This priority is reflected in the fourth paragraph of the Preamble to the 1945 Constitution of the Republic of Indonesia, which identifies educating the nation as one of

the state's objectives (Kusumawati et al., 2025; Azizah & Humaisi, 2021). Through education, individuals can explore and fully develop their potential, becoming knowledgeable and competent in addressing various challenges (Lestari & Kurnia, 2023; Noverita et al., 2023). The development of these qualities depends on effective and meaningful learning processes (Ramadhanti et al., 2026). Effective instruction can support the development of students' cognitive abilities, enabling them to acquire, understand, and analyze learning content (Noviani et al., 2025; Fitriani & Salehudin, 2024). However, these conditions have not been fully realized in Social Studies instruction. Limited student attention and the use of teaching methods that lack variety and appeal may hinder the development of students' cognitive abilities (Andriani & Wakhudin, 2020; Mafiroh, 2024).

These problems were also identified in Social Studies lessons in class VIII-4 at SMPN 3 Malang. Classroom observations indicated that students tended to appear bored and showed limited enthusiasm during lessons, particularly those involving historical content. An interview with the eighth-grade Social Studies teacher also indicated that students paid insufficient attention during history lessons, resulting in a classroom environment that was less conducive to learning. These observations were supported by pre-test results on the Nusantara Spice Route, which showed that 13 of the 33 students (39.40%) had not met the Minimum Mastery Criterion (KKM) of 80. These difficulties stem from the characteristics of historical content, which is often narrative and includes historical figures, places, dates, chronology, and causal relationships. Such characteristics may lead students to become bored when instruction lacks variety (Tulong et al., 2026). Boredom may reduce students' attention, limiting their ability to acquire, recall, organize, and connect historical information. Consequently, students may struggle to understand concepts, chronology, causal relationships, and connections among historical events. An instructional model that sustains students' attention while actively involving them in learning historical content is therefore needed.

Cognitive ability refers to an individual's capacity to think, connect information, and consider events in ways related to their level of intelligence (Rahakbauw & Watini, 2022; Agus, 2024; Mufidah et al., 2024). It also encompasses the ability to learn new concepts and skills and to use memory to solve problems (Izzudin, 2021). According to Bloom's Taxonomy, the cognitive domain comprises six levels: C1 (remembering), C2 (understanding), C3 (applying), C4 (analyzing), C5 (evaluating), and C6 (creating) (Ramadhanti et al., 2026). However, this study assessed only C1 through C4. C1 concerns students' ability to recall historical figures, places, dates, and spice trade routes. C2 concerns their ability to explain concepts and the processes through which the Nusantara Spice Route developed. C3 concerns their ability to apply previously learned information to solve problems in particular contexts. C4 concerns their ability to analyze causal relationships and the effects of the spice trade on societies across the Indonesian archipelago. This mapping informed the development of learning activities and test instruments. Accordingly, increases in test scores were not automatically interpreted as improvements in higher-order thinking but were considered in relation to the cognitive

indicators assessed.

One instructional model that may address these problems is Game-Based Learning (GBL). This model integrates learning content and objectives with game elements, including rules, challenges, interaction, competition, repetition, and feedback. These elements can encourage students' active engagement and create more engaging learning experiences (Zhang & Yu, 2022). In history instruction, game-based questions and challenges can help students practice identifying key information, understanding sequences of events, connecting historical figures with places and dates, and analyzing causal relationships. Repeated questions encourage students to retrieve information from memory, while feedback helps them identify and correct misunderstandings. Thus, GBL serves not only to create an enjoyable classroom atmosphere but also to sustain attention and encourage active information processing. These processes can support students' understanding of the content and their progress toward learning objectives (Rusydi & Hidayah, 2025; Rijkiah et al., 2025; Hidayah & Sujastika, 2024).

Implementing GBL requires appropriate instructional media to integrate game elements effectively into classroom activities (Pratiwi et al., 2024). This study, therefore, used Gimkit as a supporting platform. GBL and Gimkit serve distinct roles: GBL is the instructional model that structures learning objectives, lesson stages, activities, challenges, interaction, and feedback, whereas Gimkit is the digital platform that facilitates its implementation. Gimkit provides quizzes, a points system, various game modes, power-ups, and immediate feedback that can be used to deliver interactive practice activities (Rusydi & Hidayah, 2025). These features allow students to answer questions, receive feedback, and revise their answers during learning activities. Agustina et al. (2024) also reported improvements in learning outcomes related to understanding (C2), applying (C3), and analyzing (C4) following the use of Gimkit in Indonesian History lessons. In the present study, Gimkit questions were developed in line with the C1–C4 indicators to ensure that gameplay remained focused on learning objectives rather than merely on earning points quickly.

Despite its potential to support learning, Gimkit-assisted GBL has several limitations. As a digital platform, Gimkit depends on access to devices and a stable internet connection. Its points system and competitive features may also lead students to prioritize speed and rankings over an accurate understanding of the content. Furthermore, students with lower scores may lose confidence if competition is not managed appropriately. These challenges can be addressed by selecting suitable game modes, allowing sufficient response time, designing questions at appropriate cognitive levels, ensuring a stable internet connection before lessons, and maintaining constructive competition. With these measures in place, Gimkit can support GBL while keeping students' understanding of the content at the center of learning activities.

Previous studies have examined Gimkit-assisted GBL across different subjects, educational levels, research objectives, and research designs. Rusydi and Hidayah (2025) conducted Classroom Action Research to implement Gimkit-assisted GBL in Pancasila Education lessons on cooperation involving 36 fourth-grade elementary school students.

Their study focused on improving learning outcomes and was conducted over three cycles. Meanwhile, Agustina et al. (2024) investigated the use of Gimkit in Indonesian History instruction using a quantitative approach with a quasi-experimental method and a time-series design. Their study focused on learning outcomes at C2, C3, and C4 and used multiple-choice tests for the pre-test and post-test. The present study shares these studies' use of Gimkit to support learning outcomes but differs in its subject, educational level, content, range of cognitive abilities assessed, and intervention implementation. It employed Gimkit-assisted GBL through two cycles of Classroom Action Research in eighth-grade Social Studies lessons on the Nusantara Spice Route, assessing cognitive abilities from C1 through C4. It therefore extends previous research by integrating GBL as an instructional model with Gimkit as a supporting platform within a cyclical process of improving Social Studies instruction.

Based on these classroom problems and the identified research gap, this study aimed to describe improvements in eighth-grade students' cognitive abilities following the implementation of Gimkit-assisted GBL in Social Studies lessons on the Nusantara Spice Route. Improvements were assessed using pre-test and post-test results, performance on C1–C4 indicators, N-Gain values, and the class mastery rate. The intervention was considered successful if at least 80% of students achieved scores  $\geq 80$  and the improvement in cognitive ability reached the high N-Gain category.

## RESEARCH METHOD

This study employed Classroom Action Research (CAR). CAR is conducted by teachers within the instructional process to improve the quality of teaching and learning through action and reflection (Amran & Sudirman, 2023; Yuliawati, 2021). Through systematic stages, CAR enables teachers to evaluate classroom learning processes and develop ongoing improvements (Holipah et al., 2023; Putri & Susanto, 2023). CAR was selected because this study focused on improving instructional practice within a single class rather than comparing treatment effects between experimental and control groups.

The study followed Kemmis and McTaggart's spiral model and was conducted over two cycles. Each cycle comprised four stages: planning, acting, observing, and reflecting (Halimatuz et al., 2025). These stages formed a continuous process, with reflections from Cycle I informing improvements to the intervention in Cycle II (Mardiana & Suharyanto, 2024). The research procedure is presented in Figure 1.

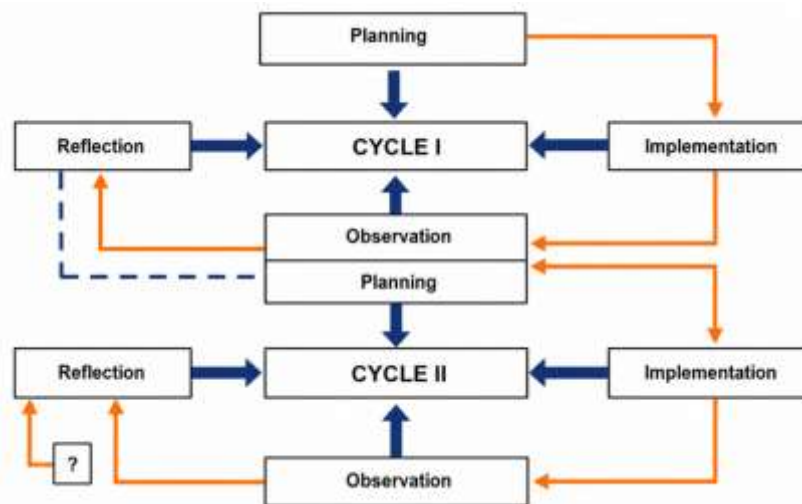


**Figure 1. The Spiral Model of Classroom Action Research**

The study was conducted at SMPN 3 Malang and involved 33 students from class VIII-4. The same students participated throughout the study, completing one pre-test before the intervention, both intervention cycles, and a post-test at the end of each cycle. Permission was obtained from the school before the study began. Students' identities were kept confidential, and the findings were reported at the group level. The Social Studies teacher served as an observer and collaborator, providing feedback during the reflection stage.

The intervention consisted of implementing Game-Based Learning (GBL), supported by the Gimkit platform, in lessons on the Nusantara Spice Route. GBL served as the instructional model, while Gimkit facilitated the game-based activities. Each cycle consisted of two sessions, each lasting  $2 \times 35$  minutes. Before Cycle I, students completed a pre-test to assess their initial cognitive abilities. During the first session of each cycle, students studied the content and participated in learning activities using Gimkit. The second session involved content reinforcement, further gameplay, and the post-test. Cycle I used the Snowbrawl game mode. Based on reflections from Cycle I, the intervention in Cycle II was modified by providing a more stable internet connection, switching to Fishtopia as a less-technically-demanding game mode, and strengthening classroom management. These changes formed part of the iterative improvement process in CAR. Accordingly, improvements in Cycle II were interpreted in relation to the intervention as a whole rather than attributed solely to Gimkit.

Data were collected through observation, interviews, and tests. Observation provided supplementary data on the implementation of the lessons and students' participation during the intervention. Observations focused on visual, oral, listening, writing, and mental activities, adapting the classification of learning activities presented by Adibah et al. (2025). The observed activities included attending to explanations and instructional media; reading learning materials or student worksheets (LKPD); asking questions; answering questions or expressing opinions; participating in discussions;

listening to explanations; taking notes and completing tasks; analyzing information and solving problems; providing reasons or drawing conclusions; and presenting completed work. Observations were neither scored nor analyzed quantitatively. Instead, observation notes were analyzed descriptively to document the intervention's implementation and to inform reflection and planning for the following cycle. Interviews with the subject teacher were conducted at the end of each cycle to obtain feedback on lesson implementation, identify difficulties, and propose improvements. Tests served as the primary instrument for assessing students' cognitive development.

The test instruments consisted of one pre-test administered before Cycle I and one post-test administered at the end of each cycle. Each test contained 30 multiple-choice items, six assessing C1 (remembering), eight assessing C2 (understanding), eight assessing C3 (applying), and eight assessing C4 (analyzing). The pre-test covered the full Nusantara Spice Route content taught across both cycles, whereas each post-test assessed the subtopics taught in its respective cycle. The three tests used different items but were designed with comparable numbers of items, item formats, distributions of cognitive levels, scoring guidelines, and proportions of indicators assessed. The test blueprints and items were reviewed by the supervising teacher for content alignment, item construction, language use, cognitive level, and consistency with the learning objectives. The instruments were subsequently revised based on this review and deemed suitable for use.

Test data were analyzed using descriptive quantitative methods, including mean scores, the class mastery rate, and N-Gain. The school's Minimum Mastery Criterion (KKM) was 80. Students scoring  $\geq 80$  were classified as having achieved mastery, while those scoring  $< 80$  were classified as not having achieved mastery. The class mastery rate was used because CAR seeks to improve learning outcomes across the class rather than merely increase the scores of a few students. It was calculated as follows:

$$\text{Classical Mastery} = \frac{\text{Number of Students Achieving Mastery}}{\text{Total Number of Students}} \times 100\%$$

The corresponding criteria are presented in the following table:

| Interval | Category  |
|----------|-----------|
| 90-100%  | Very Good |
| 80-89%   | Good      |
| 70-79%   | Fair      |
| 60-69%   | Poor      |
| <60%     | Very Poor |

**Table 1. Classical Mastery Criteria**

**Source: (Maesari et al., 2020)**

N-Gain was used to describe improvements in students' cognitive achievement relative to their initial scores and the maximum attainable score. N-Gain for Cycle I was

calculated using the mean pre-test score and the mean Cycle I post-test score. N-Gain for Cycle II was calculated using the same mean pre-test score and the mean Cycle II post-test score. Because the pre-test covered the full content, whereas the post-tests assessed the subtopics taught in each cycle, N-Gain values were used descriptively to characterize students' progress during the intervention rather than to compare the difficulty of the subtopics. N-Gain was calculated using the following formula:

$$N-Gain = \frac{Posttest\ Score - Pretest\ Score}{Maximum\ Score - Pretest\ Score}$$

The N-Gain criteria are presented in the table below:

| N-Gain Value | Category |
|--------------|----------|
| > 0,70       | High     |
| 0,30 – 0,70  | Moderate |
| < 0,30       | Low      |

**Table 2. N-Gain Criteria**

**Source: Saputro et al. (2026)**

The intervention was considered successful when both of the following criteria were met: at least 80% of students achieved scores  $\geq 80$ , and the improvement in cognitive ability reached the high N-Gain category. No further cycle was required once both criteria had been satisfied.

## RESULTS AND DISCUSSION

### Students' Cognitive Abilities Before the Intervention

Before the intervention, students completed a pre-test to assess their initial cognitive abilities regarding the Nusantara Spice Route. The pre-test covered the full scope of the content to be taught in Cycles I and II. The results are summarized in Table 3.

| Aspect                                   | Description |
|------------------------------------------|-------------|
| Lowest Score                             | 57          |
| Highest Score                            | 90          |
| Class Average                            | 78,18       |
| Number of Students Achieving Mastery     | 20          |
| Number of Students Not Achieving Mastery | 13          |
| Classical Mastery Percentage             | 60,60%      |

**Table 3. Recapitulation of Pre-Test Results**

**Source: Analysis of research data (2026)**

As shown in Table 3, only 20 of the 33 students met the Minimum Mastery

Criterion (KKM), while the remaining 13 scored below it. The class mastery rate was 60.60%, classified as poor because it fell within the 60–69% range. These results indicated that students' cognitive achievement in Social Studies, particularly on the Nusantara Spice Route, had not met the success criterion of an 80% class mastery rate. The findings, therefore, indicated a need for further instructional action through the implementation of a more innovative and engaging model, namely Gimkit-assisted Game-Based Learning (GBL).



**Figure 2. Students Completing the Pre-Test**

### **Implementation of Gimkit-Assisted Game-Based Learning Cycle I**

During the planning stage of Cycle I, the researcher collaborated with the subject teacher to develop a Deep Learning Lesson Plan (RPM) for the Nusantara Spice Route. The researcher also prepared an observation instrument to document students' participation during lessons and developed pre-test and post-test questions to assess cognitive abilities. In addition, interactive quizzes were designed on Gimkit in accordance with the established learning indicators. Snowbrawl was selected as the game mode for Cycle I.



**Figure 3. The Teacher Explaining the Learning Content**

During the implementation stage, the researcher first provided a brief explanation

of the learning content to prepare students for the game session. Students then received instructions on how to access Gimkit and participate in the activities. Using their own devices, they accessed the platform via the link shared by the researcher and participated in the prepared quiz. However, unstable internet connectivity and delayed system responses (lag) disrupted activities and prevented the lessons from running optimally.



**Figure 4. Students Accessing Gimkit and Answering Questions**

During the observation stage, the observation notes indicated that several students appeared enthusiastic about participating in Gimkit-assisted learning. However, their participation was disrupted by network issues, causing some students to lose focus and preventing them from participating smoothly in the game session. The researcher also interviewed the subject teacher to obtain feedback on the implementation of Cycle I. The teacher reported that students showed interest in game-based learning, particularly when using Gimkit for the first time. Nevertheless, the teacher also noted that network disruptions prevented the classroom environment from being fully conducive to learning.

Following the intervention in Cycle I, students completed a post-test to assess their cognitive achievement after the implementation of Gimkit-assisted GBL. The results are summarized in Table 4.

| Aspect                                   | Description |
|------------------------------------------|-------------|
| Lowest Score                             | 72          |
| Highest Score                            | 88          |
| Class Average                            | 82,42       |
| Number of Students Achieving Mastery     | 28          |
| Number of Students Not Achieving Mastery | 5           |
| Classical Mastery Percentage             | 84,84%      |

**Table 4. Recapitulation of Cycle I Post-Test Results**

**Source: Analysis of research data (2026)**

As shown in Table 4, the Cycle I post-test results indicated an improvement over the pre-test results presented in Table 3. Of the 33 students, 28 met the KKM, resulting

in a class mastery rate of 84.84%. This rate was classified as good because it fell within the 80–89% range. However, five students had not achieved mastery, and the lowest score was 72. Network disruptions and a classroom environment that was not fully conducive to learning were observed during Cycle I. Nevertheless, the study did not examine the reasons for each student's individual failure to achieve mastery. These classroom observations informed the reflection process and the improvements planned for Cycle II. During the reflection stage, the researcher and the subject teacher evaluated the implementation of the intervention, classroom conditions, and post-test results. Although the class mastery rate exceeded 80%, the Cycle I N-Gain was 0.19, which fell within the low category. Thus, the combined success criteria of an adequate class mastery rate and a high N-Gain had not been met. Based on this reflection, the intervention continued into Cycle II with three modifications: providing a more stable internet connection, selecting a less technically demanding game mode, and strengthening classroom management.

## Cycle II

Planning for Cycle II was informed by the reflection on Cycle I. This cycle focused on the subtopic “The Influence of the Nusantara Spice Route on Various Aspects of Life.” The researcher prepared instructional materials, post-test questions, and the less-technically-demanding Fishtopia game mode to reduce access difficulties. Classroom management was also strengthened through clearer explanations of the game rules and more focused supervision.

During implementation, the researcher explained the content before students participated in the game. Students then accessed Gimkit and followed the previously explained rules. Cycle II ran more smoothly than Cycle I because technical disruptions were reduced. Observation notes and interviews with the subject teacher indicated that the classroom environment was more conducive to learning and that students participated more consistently. These observations provided supplementary information about the learning process rather than a quantitative measure of increased student engagement.

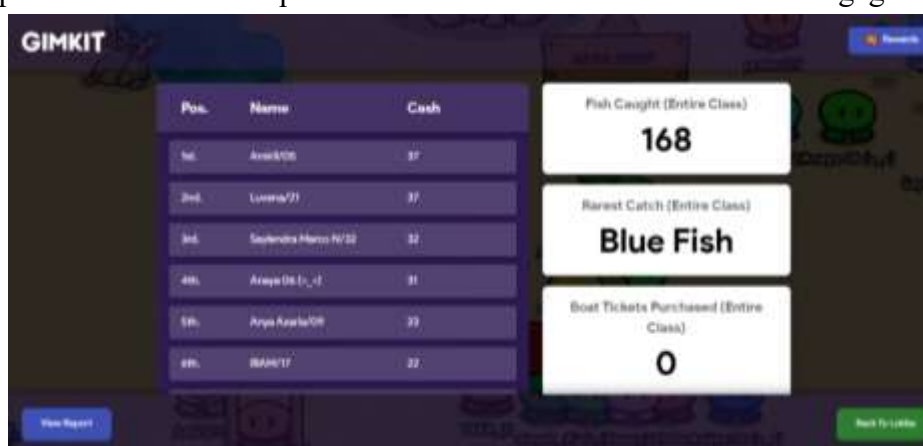


**Figure 5. Student Scores Displayed on Gimkit**

After the Cycle II intervention, students completed a post-test to assess their cognitive achievement on the subtopic taught. The results are summarized in Table 5.

| Aspek                                    | Keterangan |
|------------------------------------------|------------|
| Lowest Score                             | 84         |
| Highest Score                            | 100        |
| Class Average                            | 94,30      |
| Number of Students Achieving Mastery     | 33         |
| Number of Students Not Achieving Mastery | 0          |
| Classical Mastery Percentage             | 100%       |

**Table 5. Recapitulation of Cycle II Post-Test Results**  
**Source: Analysis of research data (2026)**

As shown in Table 5, the class mean score on the Cycle II post-test was 94.30, with a minimum score of 84 and a maximum of 100. All students scored  $\geq 80$ , resulting in a class mastery rate of 100%, classified as very good. The Cycle II N-Gain was 0.74, which fell within the high category. Both success criteria—a class mastery rate of at least 80% and a high N-Gain were therefore met, and the intervention did not proceed to Cycle III.

The Cycle II results followed several simultaneous improvements, stabilizing the internet connection, using the less technically demanding Fishtopia mode, and strengthening classroom management. Accordingly, the improvement in learning outcomes may have reflected these changes in addition to the use of Gimkit. Students had also become more familiar with Gimkit and with tests using similar formats. However, the contribution of each factor was not measured separately in this study.

### **Development of Students' Cognitive Abilities Through Game-Based Learning**

The development of students' cognitive abilities during Gimkit-assisted GBL was analyzed using the pre-test, Cycle I post-test, and Cycle II post-test scores. The pre-test was administered once before the intervention and covered the full Nusantara Spice Route content. Post-tests were then administered at the end of each cycle. They contained different questions but were designed to be equivalent in the number and format of items, cognitive levels assessed, and level of difficulty. A comparison of the mean scores and N-Gain values is presented in Figure 6.

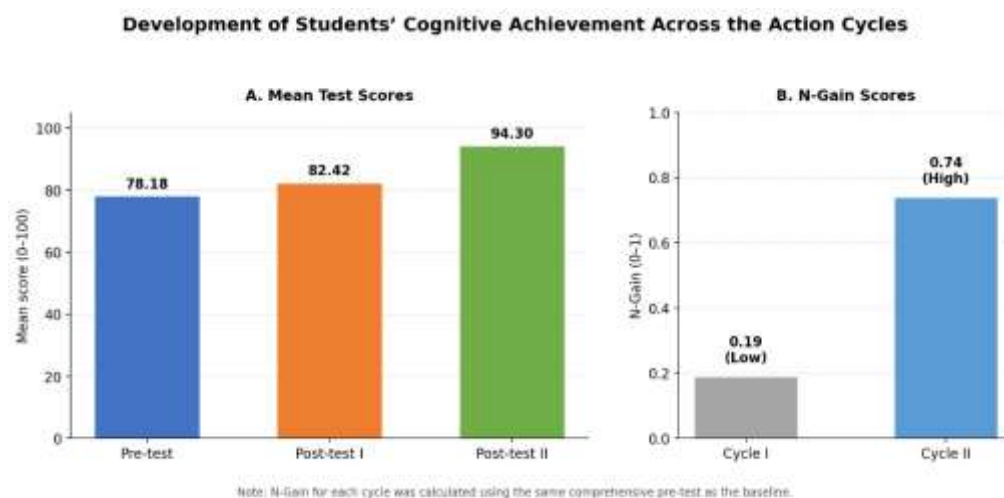


**Figure 6. Comparison of Test Scores**

As shown in Figure 6, students' mean scores increased progressively from 78.18 on the pre-test to 82.42 on the Cycle I post-test and 94.30 on the Cycle II post-test. The class mastery rate also increased from 60.60% before the intervention to 84.84% in Cycle I and 100% in Cycle II. Although the two post-tests assessed different subtopics, they were designed to be equivalent in the number and format of items, cognitive levels assessed, and level of difficulty.

Using the same pre-test mean as the baseline, N-Gain was 0.19 in Cycle I, classified as low, and 0.74 in Cycle II, classified as high. Although the Cycle I class mastery rate exceeded the 80% success threshold, N-Gain remained low. The intervention, therefore, continued into Cycle II with improvements to internet stability, the selection of a less technically demanding game mode, and stronger classroom management. In Cycle II, the class mastery rate reached 100%, and N-Gain reached the high category, satisfying both success criteria. Overall, these data indicate improvements in students' cognitive achievement during the two intervention cycles.

An analysis of test results by cognitive level in Bloom's Taxonomy also indicated improvements across all assessed levels, from C1 through C4. The results are presented in Table 6.

| Cognitive level    | <i>Pre-test</i> | <i>Post-test I</i> | <i>Post-test II</i> |
|--------------------|-----------------|--------------------|---------------------|
| C1 (Remembering)   | 85,35%          | 89,90%             | 97,98%              |
| C2 (Understanding) | 81,44%          | 85,23%             | 95,83%              |
| C3 (Applying)      | 76,89%          | 80,68%             | 93,56%              |
| C4 (Analyzing)     | 71,21%          | 75,76%             | 90,91%              |

**Table 6. Students' Achievement by Cognitive Level**

**Source: Analysis of research data (2026)**

As shown in Table 6, students' achievement increased across all assessed cognitive levels. Achievement at C1 increased from 85.35% to 97.98%, C2 from 81.44%

to 95.83%, C3 from 76.89% to 93.56%, and C4 from 71.21% to 90.91%. The largest descriptive increase occurred at C4, amounting to 19.70 percentage points. These findings indicate that improvements were observed not only in remembering and understanding but also in applying and analyzing information about the Nusantara Spice Route. However, they do not demonstrate that each student progressed from C1 to C4, because the analysis examined the percentage of correct answers at each cognitive level rather than individual students' development.

Overall, the data indicate improvements in students' cognitive achievement during the intervention. However, these improvements may have been influenced by improved internet connectivity, the less technically demanding Fishtopia mode, more focused classroom management, and students' increasing familiarity with Gimkit and the test format, as well as the use of Gimkit itself. The contribution of each factor was not measured separately, and the study did not include a control group.

### **Implementation of Gimkit-Assisted Game-Based Learning in Social Studies**

The findings indicate improvements in students' cognitive abilities during the implementation of Gimkit-assisted GBL in Social Studies lessons on the Nusantara Spice Route. These improvements were reflected in the progressive increase in mean scores from the pre-test to the Cycle II post-test and a class mastery rate of 100%. N-Gain also increased from the low category in Cycle I to the high category in Cycle II. Together, these findings indicate improvements in students' cognitive achievement over the two intervention cycles.

These findings are consistent with previous research reporting that GBL can improve cognitive outcomes and student motivation by providing progressively challenging activities and constructive competition, encouraging active participation and greater readiness to learn (Oktaviana & Qurrotuaini, 2026). Similarly, Kenamon and Satriya (2025) reported that GBL can improve students' cognitive abilities. They explained that presenting content through more concrete game-based activities helps reduce cognitive load, allowing students to participate more actively in the learning process. Thus, GBL can contribute not only to enjoyable learning experiences but also to learning outcomes and conceptual understanding.

In this study, GBL and Gimkit served distinct but complementary roles. GBL provided the instructional model, integrating objectives, rules, challenges, feedback, and game activities into the learning process, while Gimkit provided the technological platform supporting its implementation. More specifically, the use of Gimkit to support GBL was associated with positive developments in the learning process and outcomes. This finding is consistent with previous research reporting that Gimkit can improve students' cognitive outcomes and create a more interactive and enjoyable learning environment (Agustina et al., 2024). Other research has suggested that Gimkit can create a dynamic learning environment and encourage active student participation (Dariwu & Tacoh, 2026). Its flexibility and ease of use also allow teachers to vary instructional methods according to students' needs, potentially supporting ongoing efforts to develop

students' cognitive abilities (Habibi & Jasiah, 2025). These studies demonstrate that Gimkit has been used to support learning across various contexts and objectives. The present study extends its application to junior high school Social Studies, specifically to the Nusantara Spice Route.

The implementation of GBL in this study also involved gamification elements integrated into Gimkit. Wijayanti et al. (2025) reported that Gimkit's points and challenges strengthened students' intrinsic motivation, as reflected in their scores and participation during learning activities. This is consistent with Deterding et al.'s (2011) account of gamification, which describes the use of game design elements in learning contexts to increase user engagement. Such elements may make learning more engaging and efficient, encouraging students to develop their knowledge (Valentinna et al., 2024). Nevertheless, evidence of student engagement in the present study was obtained qualitatively through observations and interviews and was not treated as quantitative evidence of increased motivation.

Gimkit-assisted GBL is also relevant to the characteristics of Social Studies instruction, particularly historical content. The Nusantara Spice Route involves not only facts and place names but also the chronology of voyages, causal relationships, connections among regions, and the economic, social, cultural, and political effects of the spice trade. Teaching this topic, therefore, requires activities that encourage students to connect historical information rather than merely memorize facts. Aoliyah (2023) explained that GBL in history instruction can increase students' interest, active participation, and understanding of the content. Wulandari and Safitri (2024) likewise reported that GBL can make history lessons more interactive and help students understand the topics studied. These findings support the use of game-based activities as one way to reduce monotony in history instruction.

This relevance is further supported by studies linking games to the development of historical thinking. Fatah and Nurpratiwi (2026) found that the use of Gimkit in history instruction influenced students' historical thinking abilities. Septrianingtias et al. (2026) reported that history-themed games can help students understand temporal and spatial dimensions, use historical evidence, analyze events, and draw conclusions. More broadly, Kuran et al. (2018) explained that history-themed games can help students understand the social, political, economic, and technological contexts of a historical period. Game-based activities can also guide students in constructing chronologies, identifying causal relationships, and understanding the significance of historical events (Monroe, 2023). Gimkit-assisted GBL is therefore relevant to the Nusantara Spice Route because its questions and activities can be designed to help students identify facts, understand chronology, connect causes and consequences, and analyze the route's influence on various aspects of life.

Students' developing understanding of the Nusantara Spice Route can also be examined through Bloom's cognitive taxonomy, which classifies the cognitive domain into six levels: remembering (C1), understanding (C2), applying (C3), analyzing (C4), evaluating (C5), and creating (C6) (Ramadhanti et al., 2026). Learning activities using

Gimkit provided opportunities for students to answer questions, apply information, and analyze problems related to the Nusantara Spice Route. The analysis showed increases in the percentage of correct answers across all assessed cognitive levels, from C1 through C4, with the largest descriptive increase occurring at C4. These findings indicate improvements in achievement at each cognitive level rather than a progression of individual students' abilities from C1 to C4.

Overall, the implementation of Gimkit-assisted GBL in this study provided variety in instruction and supported the development of students' cognitive abilities in Social Studies lessons on the Nusantara Spice Route. GBL provided an instructional framework that incorporated challenges, rules, feedback, and game-based activities, while Gimkit facilitated them. Their integration supported students in understanding facts and chronology, connecting causes and consequences, and analyzing the Spice Route's influence on various aspects of life. The consistency of these findings with theoretical perspectives and prior research suggests that Gimkit-assisted GBL has potential as a strategy to support the development of students' cognitive abilities in Social Studies.

## CONCLUSION

The findings suggest that Gimkit-assisted Game-Based Learning (GBL) can support improvements in the cognitive abilities of students in class VIII-4 during Social Studies lessons on the Nusantara Spice Route. These improvements were reflected in increases in the mean score from 78.18 to 94.30 and the class mastery rate from 60.60% to 100%. These outcomes resulted from iterative improvements to the intervention from Cycle I to Cycle II, including greater internet stability, a less technically demanding game mode, and more focused classroom management. Therefore, the improvement in students' cognitive abilities cannot be attributed solely to Gimkit but should be understood in relation to the combined implementation of Gimkit-assisted GBL and instructional improvements.

In Social Studies instruction, Gimkit can serve as a supporting platform for GBL, helping students learn facts, understand chronology and causal relationships, and examine the influence of the Nusantara Spice Route on various aspects of life. However, its implementation should be adapted to learning objectives, student characteristics, technological readiness, and classroom management. The findings are limited to 33 students in one class at one school, two relatively short intervention cycles, and the absence of a comparison group. Future research should involve more diverse participants and contexts, extend the intervention duration, and compare Gimkit-assisted GBL with other instructional models or platforms.

## REFERENCES

- Agustina, T. H., Rienovita, E., & Emilzoli, M. (2024). Pembelajaran Berbasis Gamifikasi : Pemanfaatan Platform Gimkit untuk Meningkatkan Hasil Belajar Siswa. *Jurnal Pendidikan dan Pembelajaran Indonesia*, 4, 1475–1484. <https://doi.org/https://doi.org/10.53299/jppi.v4i4.766>

- Agus, R. E. (2024). Fighting Egoism in Freedom of Religion and Belief (Case Study: Communities Around the Keraton Solo Hadiningrat). *ASANKA: Journal of Social Science and Education*, 5(2), 137–145. <https://doi.org/10.21154/asanka.v5i2.7172>
- Aini, B. H. Z., & Hardianti, F. (2025). Penggunaan Film Animasi Nussa dan Rara dalam Meningkatkan Perkembangan Bahasa Anak. *KANAKA : Jurnal Pendidikan Anak Usia Dini*, 1(1), 8–15. <https://ejournal.nusantaraglobal.ac.id/index.php/kanaka/article/download/3849/3421>
- Andriani, A., & Wakhudin. (2020). Implementasi Pendidikan Karakter Melalui Model Pembelajaran Discovery Learning di MIM Pasir Lor, Karanglewas, Banyumas. *JPM: Jurnal Pengabdian Kepada Masyarakat*, 1(2), 51–63. <https://doi.org/https://doi.org/10.32815/jpm.v1i2.303>
- Aoliyah, N. (2023). Penggunaan Teknik Game-Based Learning dalam Pembelajaran Sejarah dan Dampaknya terhadap Minat Belajar Siswa. *KALA MANCA: Jurnal Pendidikan Sejarah*, 11(1), 31–36. <https://doi.org/https://doi.org/10.69744/kamaca.v11i1.205>
- Azizah, D. N., & Humaisi, M. S. (2021). Kebijakan Sekolah terhadap Penggunaan Gadget dalam Pembelajaran IPS Terpadu. *ASANKA: Journal of Social Science and Education*, 2(1), Article 1. <https://doi.org/10.21154/asanka.v2i1.3052>
- Chen, D., Fitriani, R., Maryani, S., Setiya, E. F., Putri, W. A., & Ramadhanti, A. (2021). Deskripsi Keterampilan Proses Sains Dasar Siswa Kelas VIII SMP pada Materi Cermin Cekung. *PENDIPA Journal of Science Education*, 5(1), 50–55. <https://doi.org/https://doi.org/10.33369/pendipa.5.1.50-55> ABSTRACT
- Dariwu, R. R., & Tacoh, Y. (2026). Analisis Implementasi Gimkit sebagai Media Pembelajaran untuk Meningkatkan Partisipasi Belajar Siswa Kelas VIII di SMP Negeri 8 Salatiga. *Jurnal Ilmiah Wahana Pendidikan*, 12, 142–156. <https://doi.org/https://jurnal.peneliti.net/index.php/JIWP/article/view/12902>
- Deterding, S., Sicart, M., Nacke, L., O'Hara, K., & Dixon, D. (2011). *Gamification : Using Game Design Elements in Non-Gaming Contexts*. 2425–2428. <https://doi.org/https://doi.org/10.1145/1979742.1979575>
- Fatah, N. M., & Nurpratiwi, H. (2026). Pengaruh Penggunaan Media Pembelajaran Gimkit terhadap Kemampuan Berpikir Historis Peserta Didik Kelas XI SMK Ibu Kartini Semarang. *KOLONI*, 5(3), 1714–1729. <https://doi.org/https://doi.org/10.31004/koloni.v5i3.1043>
- Habibi, M. L., & Jasiah. (2025). Pengembangan Media Pembelajaran Berbasis Gimkit Pada Mata Pelajaran. *Al-Ilmiya: Jurnal Pendidikan Islam*, 1(3), 463–471. <https://journal.al-afif.org/index.php/al-ilmiya/article/view/309>
- Hidayah, Y., & Sujastika, I. (2024). Strengthening Civic Disposition to Build Civic Engagement and Political Participation in Civic Education in Indonesia. *ASANKA : Journal of Social Science and Education*, 5(2), 233–240. <https://doi.org/10.21154/asanka.v5i2.9867>
- Izzudin, A. (2021). Upaya Mengembangkan Kemampuan Kognitif Anak Usia Dini

- Melalui Media Pembelajaran Sains. *EDISI: Jurnal Edukasi Dan Sains*, 3(3), 542–557. <https://doi.org/https://doi.org/10.36088/edisi.v3i3.1614>
- Kenamon, W. D., & Satriya, M. A. (2025). Penerapan Game-Based Learning Berbasis Ular Tangga untuk Meningkatkan Hasil Belajar pada Materi Pengenalan Alat-Alat Laboratorium Kimia. *Mantiq: Journal of Educational Sciences*, 1(2), 78–90. <https://journal.madrasahistiqlal.id/index.php/mantiq/article/view/14>
- Kuran, M. Ş., Tozoğlu, A. E., & Tavernari, C. (2018). *History-Themed Games in History Education: Experiences on a Blended World History Course*. <https://doi.org/https://doi.org/10.48550/arXiv.1805.00463>
- Kusumawati, S. E., Salsabila, Z. A., & Nur, D. M. M. (2025). Penerapan Model Pembelajaran Game-Based Learning untuk Meningkatkan Keaktifan Belajar Siswa pada Mata Pelajaran IPS Kelas VII D SMP Negeri 1 Batealit Jepara. *JPIM: Jurnal Penelitian Ilmiah Multidisipliner*, 02(03), 2763. <https://ojs.ruangpublikasi.com/index.php/jpim/article/view/1280>
- Lestari, D. I., & Kurnia, H. (2023). Implementasi Model Pembelajaran Inovatif untuk Meningkatkan Kompetensi Profesional Guru di Era Digital. *JPG: Jurnal Pendidikan Guru*, 4(3), 205–222. <https://doi.org/https://doi.org/10.32832/jpg.v4i3.14252>
- Maesari, C., Marta, R., & Yusnira. (2020). Penerapan Model Pembelajaran Problem Solving untuk Meningkatkan Kemampuan Pemecahan Masalah Matematika Siswa Sekolah Dasar. *Journal on Teacher Education*, 1(1), 92–102. <https://doi.org/https://doi.org/10.31004/jote.v1i1.508>
- Mafiroh, P. B. (2024). Pengaruh Metode Pembelajaran Quiz Team terhadap Kemampuan Kognitif Siswa pada Mata Pelajaran IPS di Kelas VIII MTS Negeri 1 Kota Blitar Tahun Ajaran 2023/2024. *Dewantara: Jurnal Pendidikan Sosial Humaniora*, 3(3), 169–186. <https://doi.org/https://doi.org/10.30640/dewantara.v3i3.2875>
- Mardiana, S., & Suharyanto. (2024). Upaya Meningkatkan Keaktifan Siswa melalui Model Pembelajaran Kooperatif Tipe Numbered Heads Together ( NHT ) pada. *Ainara Journal: Jurnal Penelitian dan PKM Bidang Ilmu Pendidikan*, 5(2), 177–184. <https://doi.org/https://doi.org/10.54371/ainj.v5i2.451>
- Monroe, C. (2023). The Timeline Game : Constructing Historical Narratives in History Survey Courses. *Teaching History: A Journal of Methods*, 48(4), 125–133. <https://doi.org/https://doi.org/10.33043/TH.48.1.125-133>
- Mufidah, N., Nikmah, K., Samoda, T. A., & Pertiwi, F. N. (2024). Development of Android-Based Class in Hole Teaching Materials to Increase Students' History Awareness. *Eduksos Jurnal Pendidikan Sosial & Ekonomi*, 13(02). <https://doi.org/10.24235/edueksos.v13i02.17905>
- Noverita, A., Darliana, E., & Darsih, T. K. (2023). Pengembangan Media Pembelajaran Komik Berbasis. *Jurnal Bionatural*, 10(2), 116–123. <https://doi.org/https://doi.org/10.61290/bio.v10i2.730>
- Noviani, F., ML, R. F., Utami, R. A., & Kurnia, R. (2025). Strategi Pembelajaran Efektif untuk Meningkatkan Motivasi dan Kemampuan Literasi Siswa Sekolah Dasar. *Jurnal Basicedu*, 9(6), 1819–1826.

- <https://doi.org/https://doi.org/10.31004/basicedu.v9i6.10840>
- Oktaviana, R., & Qurrotuaini, E. (2026). Implementasi Game-Based Learning Menggunakan Media Role Play untuk Meningkatkan Perkembangan Kognitif Siswa SMA Negeri 5 Palembang pada Mata Pelajaran Bahasa Jurnal Pengabdian Nasional ( JPN ) Indonesia. *Jurnal Pengabdian Nasional (JPN) Indonesia*, 7(1), 184–195. <https://doi.org/https://doi.org/10.35870/jpni.v7i1.1759>
- Pratama, I. G. (2024). Kunci Sukses Pembelajaran Efektif : Tinjauan Sistematis Literatur (Literature Review) Memahami Hubungan Gaya Kognitif, Regulasi Diri, dan Motivasi. *Psycho Aksara: Jurnal Psikologi*, 2, 73–79. <https://doi.org/https://doi.org/10.28926/pyschoaksara.v2i1.1422>
- Pratiwi, R., Yuhanna, S., Habadi, N., Harahap, R., & Aminah, R. (2024). Peningkatan Kreativitas Belajar Peserta Didik Melalui Metode Game-Based Learning. *Jurnal Pengabdian Sosial*, 1(7), 592–596. <https://doi.org/https://doi.org/10.59837/7hza6b55>
- Putri, R. R., & Susanto, R. (2023). Upaya Meningkatkan Keaktifan Belajar Siswa pada Mata Pelajaran IPS Menggunakan Model Two Stay Two Stray. *JRTI (Jurnal Riset Tindakan Indonesia)*, 8(1), 111–124. <https://doi.org/https://doi.org/10.29210/30033106000>
- Rahakbauw, H., & Watini, S. (2022). Implementasi Model ATIK dalam Meningkatkan Kemampuan Kognitif Anak dalam Menyusun Pola ABCD-ABCD. *Jurnal Buah Hati*, 9(1), 1–9. <https://doi.org/https://doi.org/10.46244/buahhati.v9i1.1696>
- Rijkiah, A. R., Rahmawati, D. S., & Rachman, I. F. (2025). Penerapan Game-Based Learning untuk Mengoptimalkan Keterampilan Pemahaman Membaca Siswa Sekolah Dasar. *Jurnal Penelitian Pendidikan Indonesia (JPPI)*, 2(4), 469–480. <https://doi.org/https://doi.org/10.62017/jppi.v2i4.4531>
- Rusydi, F. M., & Hidayah, R. (2025). Penerapan Metode Game-Based Learning (GBL) dengan Media GimKit untuk Meningkatkan Hasil Belajar Peserta Didik dalam Pembelajaran Pendidikan Pancasila Materi Kerja Sama di Lingkunganku Kelas IV SDN 1 Karangduwur 2024/2025. *Kalam Cendekia: Jurnal Ilmiah Kependidikan*, 13(3), 1997–2005. <https://doi.org/https://doi.org/10.20961/jkc.v13i3.101634>
- Sa'diyah, Z., Rofi'ah, F. Z., & Nurhayati, I. (2024). Pengembangan Alat Evaluasi Pembelajaran dengan Aplikasi Gimkit pada Mata Pelajaran IPAS Siswa Madrasah Ibtidaiyah. *Al-Adawat: Jurnal Pendidikan Madrasah Ibtidaiyah*, 3(1), 66–80. <https://doi.org/https://doi.org/10.33752/aldawat.v3i01.7075>
- Saputro, D. A., Alim, M. S., & Rahmawati, I. D. (2026). Penerapan Metode GBL untuk Meningkatkan Hasil Belajar Kognitif Materi Pecahan Kelas 4 SDN Keleyan 1 Bangkalan. *Inovasi: Jurnal Ilmiah Pengembangan Pendidikan*, 4(3), 79–87. <https://ejournal.lpipb.com/index.php/inovasi%0A>
- Valentinna, C. R., Kurnianti, E. M., & Hasanah, U. (2024). Media Belajar Gamifikasi terhadap Peningkatan Motivasi Belajar Siswa Sekolah Dasar. *Jurnal Basicedu*, 8(3), 1722–1732. <https://doi.org/https://doi.org/10.31004/basicedu.v8i3.7476>
- Wulandari, A. P., Salsabila, A. A., Cahyani, K., Nurazizah, T. S., & Ulfiah, Z. (2023).

The Implementation of Gimkit-Assisted Game-Based Learning Model to Enhance Students' Cognitive Ability in Junior High School Social Studies Learning (Roihatul Makwa and Khofifatu Rohmah Adi)

Pentingnya Media Pembelajaran dalam Proses Belajar Mengajar. *Journal on Education*, 5(2), 3928–3936. <https://doi.org/10.31004/joe.v5i2.1074>