



CORE Learning Model Assisted by Mind Mapping to Improve Elementary School Students' Javanese Skills

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Abstract

The importance of this research is due to the challenges encountered in learning Javanese in elementary schools, particularly regarding the material of Javanese script writing. The gap in the literature or the difference between theory and practice is that previous studies have widely explored the application of the CORE learning model across various subject areas, such as science and mathematics. Nonetheless, there exists a limited number of studies that combine the CORE learning model with mind-mapping techniques, specifically within the context of Javanese language instruction at the elementary level. The purpose of this study is to describe the application of the CORE learning model assisted by mind mapping in improving Javanese language learning outcomes. The research method employed is classroom action research. Data collection methods were through observation, tests, and interviews. The data analysis process used in the research was interactive analysis. The main findings revealed that the mind mapping-assisted CORE learning model could improve the learning outcomes of the Javanese language of 5th-grade elementary school students. In its implementation, students who were taught using the CORE learning model assisted by mind mapping exhibited a significant increase in their Javanese language learning outcomes. The conclusion is that the mind mapping-assisted CORE learning model is applicable in elementary school Javanese language learning. The implications of these results can be used by educators as a basis for implementing futuristic models and adaptive media combinations in language learning with several similar problems.

Keywords:

CORE Learning Model, Mind Mapping, Javanese Language Skills

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Abstrak

Penelitian ini penting dikarenakan adanya tantangan yang dihadapi dalam pembelajaran bahasa Jawa di sekolah dasar, khususnya pada materi menulis aksara Jawa. Kesenjangan dalam literatur atau perbedaan antara teori dan praktik adalah bahwa penelitian-penelitian sebelumnya telah banyak mengeksplorasi penerapan model pembelajaran CORE di berbagai bidang studi, seperti sains dan matematika. Meskipun demikian, masih sedikit penelitian yang menggabungkan model pembelajaran CORE dengan teknik pemetaan pikiran, khususnya dalam konteks pengajaran bahasa Jawa di tingkat sekolah dasar. Tujuan dari penelitian ini adalah untuk mendeskripsikan penerapan model pembelajaran CORE berbantuan mind mapping dalam meningkatkan hasil belajar bahasa Jawa. Metode penelitian yang digunakan adalah penelitian tindakan kelas. Metode pengumpulan data melalui observasi, tes, dan wawancara. Proses analisis data yang digunakan dalam penelitian ini adalah analisis interaktif. Temuan utama penelitian ini mengungkapkan bahwa model pembelajaran CORE berbantuan mind mapping dapat meningkatkan hasil belajar bahasa Jawa siswa kelas V SD. Dalam pelaksanaannya, siswa yang diajar menggunakan model pembelajaran CORE berbantuan mind mapping menunjukkan peningkatan hasil belajar bahasa Jawa yang signifikan. Kesimpulannya adalah model pembelajaran CORE berbantuan mind mapping dapat diterapkan dalam pembelajaran bahasa Jawa di sekolah dasar. Implikasi hasil ini dapat dijadikan pendidik sebagai landasan implementasi model futuristik dan kombinasi media yang adaptive dalam pembelajaran bahasa dengan beberapa problem yang sejenis.

Kata Kunci:

Model Pembelajaran CORE, Mind Mapping, Keterampilan Berbahasa Jawa

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INTRODUCTION

Learning is a complex system, and its success can be seen from two aspects: the product and the process aspects. The success of learning can be assessed through the outcomes/products, specifically the achievements of students while disregarding the learning process itself. In learning activities, the material to be delivered is oriented toward students' knowledge, attitudes, and skills, which include components such as curriculum, media, and facilities used. For example, in mathematics learning, complete media are essential to facilitate students' thinking process.

Specifically, Javanese in elementary schools constitutes a part of the Local Content Curriculum under the independent curriculum for elementary school level, which includes Phases A, B, and C containing four elements: 1) listening; 2) Reading and Viewing; 3) Speaking and Presenting; 4) Writing. One of the materials that is very closely related to Javanese is Javanese script. Javanese script is a priceless cultural heritage. The form of Javanese script and the art of making it are also heritages that should be preserved (Ramandani & Huda, 2020). The government is endeavoring to preserve the Javanese script. One of them is to incorporate it into the education curriculum. This effort is in the form of integrated Javanese script learning with Javanese language subjects, which are compulsory in local content (Fakhruddin et al., 2019).

Because Javanese script is one of the valuable cultural heritages of the Javanese people, Javanese script is crucial to learn. Understanding and using Javanese script helps preserve the cultural identity and history of the Javanese people. Javanese script has been used for centuries and is closely related to the traditions of classical Javanese literature, poetry, and manuscripts. In addition, understanding Javanese script allows one to read and write in Javanese more accurately. This is important for good communication in Javanese, especially in more formal contexts or in understanding documents that use Javanese script, namely in ancient manuscripts such as *Serat-Serat*.

Learning the Javanese script (*Aksara Jawa*) poses several challenges for elementary school students, which can significantly affect their motivation and achievement in the subject. The Javanese script consists of basic characters (*Aksara Nglegena*), syllabic diacritics (*Sandhangan*), *Murda* characters, and additional modified forms, which require memorization and understanding of specific rules for usage. This makes it cognitively demanding, especially for young learners.

Learning Javanese script is also an important step in maintaining this cultural diversity and recognizing the values and richness of different ethnic and linguistic groups in Indonesia. Javanese script material is perceived as very scary for students because, for them, Javanese script is considered difficult. Basically, the use of the Javanese script itself is very minimal in everyday life. This is one of the factors that makes students have difficulty with Javanese script.

The observation result of this study revealed that most elementary school students in Madiun still encountered difficulty understanding Javanese script material because the form of Javanese script writing is difficult and rarely found. Some students were good at Javanese script, but some students were less interested in learning when they heard the word Javanese script because they felt bored studying and working on the questions given by their teacher. As a result, many students were too lazy to learn Javanese script and ended up becoming students with difficulty learning Javanese script, affecting students' learning outcomes.

Additionally, elementary school teachers predominantly employ the lecture method for instruction. In this method, communication between teachers and students is generally one-way (Haliq, 2020). This causes a lack of student activity in learning. Teaching methods of the Javanese script are often delivered using rote learning, textbook-based instruction, and one-way lectures, which do not actively engage students. As a result, learners might find the material boring, irrelevant, or too difficult to grasp.

Many students perceived Javanese script as old-fashioned or disconnected from their daily lives, leading to a lack of intrinsic motivation. Without creative and interactive

teaching strategies, students struggled to find value or enjoyment in the subject. Thus, it could cause students to get bored quickly in learning, so student learning outcomes have not been optimal. This is proven by the average Javanese language score, which remains low, and most (58%) of student scores were still below the minimum completion criteria (KKM) of 75.

Fundamentally, teachers must also play a role in helping students to deal with the difficulties they are experiencing. As with any language, reading, and writing, difficulties in learning Javanese must be addressed as early as possible (Ponisih, 2021). Learning Javanese script requires full concentration so that students can work on the questions correctly. In the process of learning Javanese, innovation and creativity are needed so that students are able to maximize their potential or existing ideas. Teachers can also create interesting media so that students are able to focus on the ongoing learning, inviting students to express their ideas.

Javanese language question, particularly, has their own solution flow and cannot be combined with other questions with different materials. For that, the CORE learning model includes four aspects of activities: Connecting, Organizing, Reflecting, and Extending (Luksiana & Purwaningrum, 2018). The CORE learning model is a learning model that incorporates small groups and students who work as a team to solve a problem until they achieve the main goal and give an interesting impression on student learning. This aligns with the statement (Beladina et al., 2013) that learning by implementing the CORE learning model will provide meaningful learning.

In this study, the CORE learning model is included in the learning tools. The CORE learning model is applied in the form of group discussions (Sari & Karyati, 2020). There are four possible activities in the discussion in relation to the CORE model: *first*, discussion when answering several questions about learning materials related to the material to be studied; *second*, discussion to organize ideas held by each group member; *third*, discussion in determining the conclusion of the learning material; *fourth*, the discussion to solve

problems given in the form of descriptive questions.

The learning model emphasizes students' thinking skills to connect, organize, explore, manage, and develop the information that has been obtained (Yaniawati et al., 2019). In this model, thinking activities are highly emphasized to students. Students are required to be able to think critically about the information that has been obtained. In the activity of connecting old concepts or new concepts, students are trained to remember old information by using old information to be used in new information.

Organizing idea activities can train students' ability to organize and manage information that they already have. Then, reflection activities are to deepen and explore information to strengthen existing concepts. In expanding activities, students are trained to develop, expand the information that has been obtained, and use information that can find new and useful concepts and information. According to Salwa (2023), to overcome this, other alternatives are needed that can focus students' attention on participating in learning, namely by implementing the CORE learning model.

The following is the learning syntax with the CORE model. (C) Old-new and inter-concept connections: through group discussions, students recall previous materials related to the material to be studied and connect the knowledge they have acquired with the knowledge to be studied. (O) Organization of ideas to understand the material: students discuss and organize the ideas held by each group member by working on the worksheets given by the teacher. (R) Rethinking, deepening, and exploring: students conclude the material they have discussed with the group. (E) Developing, expanding, using, and discovering: students work on the questions given by the teacher.

The advantages of the CORE learning model include training students to work together and discuss in groups. Students are able to solve a problem with a common goal (Irawan & Iasha, 2021). Students are also more creative because they are more active in the learning process. This learning model requires students to be able to think critically about the information they have received. By using this

learning model, students are expected to be able to understand Javanese script learning.

Many studies have been conducted on the CORE learning model before. Core learning with project-based learning in the USA has been investigated (Dean et al., 2023). In several studies, such as Pramita (2015), Samuel (2024), and Ulya et al. (2024) it was stated that the CORE learning model can increase student creativity, especially in psychomotor skills. Deswita et al. (2018) studied mathematical communication with the CORE approach. Siregar et al. (2018) examined the effectiveness of implementing CORE in mathematics learning in high school. Similar research was also conducted by Konita et al. (2019). While the CORE learning model has been shown to improve student engagement and conceptual understanding in various disciplines, research on its application in language learning, especially in regional languages such as Javanese, remains very limited. Most existing studies have focused on science and mathematics subjects, with insufficient attention given to its potential in developing linguistic and cultural competencies.

Similarly, mind mapping has been widely recognized as an effective visual learning tool, particularly in enhancing memory retention and organizing complex information. Zhao et al. (2022), in their research, stated that mind mapping is very suitable for use by elementary school students. Then, Pertiwi (2021) said that mind mapping can be used to improve mathematics learning outcomes.

In learning Javanese, the model that has been developed so far is the contextual learning model (Nurhasanah et al., 2016; Ismiyati, 2018; Fakhruddin et al., 2019; Maruti, 2019; Cahyani & Subrata, 2024). However, there is a notable lack of research exploring the integration of mind mapping with the CORE learning model, particularly in the teaching of Javanese script and language in elementary schools.

This factual gap reflects a broader issue, which is the lack of innovation in regional language instruction, which continues to rely heavily on traditional and teacher-centered methods. By addressing this gap, the present study contributes not only to the development

of effective pedagogical strategies for Javanese language learning but also expands the scope of the CORE model's applicability in language education combined with mind mapping media. The combination is based on the purpose link for improving language skill.

Table 1. Purpose Links of the Combination of CORE Learning Model and Mind Mapping Media

CORE Stage	Purpose	Mind Map Use
Connecting	Activate prior knowledge	Create a mind map with a central idea and branches from students' existing ideas.
Organizing	Structure new content	Add new branches to represent new concepts and show links between them
Reflecting	Think critically about what has been learned	Use the mind map to compare, contrast, or question information
Extending	Apply knowledge in new contexts	Expand the mind map with real-world applications or new scenarios

Based on the results of previous studies, this study is different. This study aligns the critical thinking process in learning to write Javanese script. The purpose of this study is to describe the application of the CORE learning model assisted by mind mapping in improving learning outcomes in writing and reading Javanese script in fifth-grade elementary school students.

METHODS

This type of research was classroom action research (CAR). This research was conducted in several cycles. The stages of classroom action research are presented in the Figure 1 as follows.

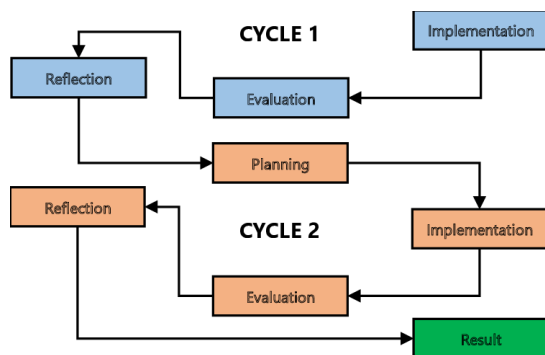


Figure 1. Research Design

Data collection methods were done by observation, tests, and interviews. Observation was collecting data by directly observing the object to be studied. The observation sheet used was an observation sheet of teacher activities in managing learning with the mind mapping media during the teaching and learning process as presented in Table 2.

Table 2. Observation Indicators

Aspect	Indicator
Student Engagement	<ul style="list-style-type: none"> • Students actively participate in discussions (Connecting stage). • Students work together in groups to create mind maps (Organizing stage). • Students ask/answer questions to reflect on learning (Reflecting stage). • Students relate the material to real-life context (Extending stage).
Teacher's Role	<ul style="list-style-type: none"> • The teacher facilitates discussion effectively. • The teacher gives guidance during mind-mapping activities. • The teacher encourages student reflection.

The observations sheet was for measuring student activity during the learning process. This student activity data aimed to determine student activities during learning at each meeting. Observation data was filled in by writing the code or number of student activity activities with the instructions listed.

The test instruments used in this study were descriptive questions and multiple-choice questions arranged based on indicators. The questions given were questions about

writing Javanese script, where students independently worked on the writing test. The questions given consisted of pre-test questions, cycle I test questions, cycle II test questions, and post-tests.

The main technique for collecting data in this research was the observation technique (data source primary). Observations were conducted before the research took place. These observations were conducted to observe how students' Javanese learning outcomes were. Interviews were used to determine students' and teachers' responses to the learning process using spatial media.

For the data analysis process, the method used in the research was interactive analysis from Miles and Huberman, dividing the steps in data analysis activities into several parts: data collection, data reduction, data presentation, and drawing conclusions or verification.

RESULTS AND DISCUSSION

The results of this study consist of two cycles. The explanation of each cycle is as follows.

Cycle 1

The implementation of cycle 1 consists of planning, implementation, observation, and reflection. The following is a description of the implementation in cycle 1.

Action Planning

The activities carried out are as follows.

- 1) Preparing learning tools, including lesson plans and syllabi
- 2) Prepare worksheets that are appropriate to the material
- 3) Mind mapping learning media and its related features according to the specified material
- 4) Preparing evaluation tools in the form of test questions to measure the level of student learning outcomes be given at the end of learning

Action Implementation

The researcher arrived early to help prepare the class. The teacher immediately started the lesson after all the preparations had been done and the bell had rung. The teacher opened the lesson with a greeting and prayer to start the learning activities. The teacher also

did not forget to take student attendance and convey the objectives of the learning that would be carried out. The teacher motivated students to be enthusiastic about participating in learning by inviting students to say "Good Morning - Good Morning" while clapping their hands. The teacher and students were very enthusiastic. After that, the teacher and students held a question-and-answer session.

The teacher also displayed mind-mapping media about the *Nglegena*, *Sandhangan*, and *Pasangan* characters to help students understand the material. Some students were asked to come forward to recognize *Sandhangan* and *Pasangan*. After that, the teacher and students did a question-and-answer session about the existing forms of Javanese script. The teacher invited students to play a lottery game. Thus, each student would get one lottery containing a form of Javanese script. Students were asked to explain the use of *Sandhangan* or *Pasangan*, and students who could answer correctly would get a reward in the form of an achievement card. When all the students had won the lottery, the teacher instructed the students to open the lottery together. Students sequentially mentioned the type and name of the Javanese script. Students who could mention it correctly were 17 students, while one student had not been able to mention it correctly. Students who had not been able to answer correctly were asked to find the answer from the existing book.

The next activity was that the teacher displayed a learning media about sentences written in Javanese script. Students were very enthusiastic about seeing and observing the various sentences presented. The teacher asked several students to observe and read the sentences in the media. The teacher-guided and corrected if there were students who were wrong in mentioning. The teacher also displayed media in the form of various pictures with Javanese script writing underneath so that students understood and were clearer about Javanese script.

The teacher then gave students the opportunity to ask questions about things they did not understand. Students were divided into five groups, and each group was asked to draw lots with the names of existing Javanese scripts. The teacher distributed readings in the form of modules containing sentences in

Javanese script. The teacher asked students to find keywords related to the theme that each group got. Each group looked for keywords by identifying things from general to specific. First, students identified the existing forms. Then, each group identified the various forms of existing Javanese script for the various *Sandhangan*. After completion, each group was asked to visualize the results of their group into a mind map. Each group made a mind map with great enthusiasm. After completion, the mind map was rotated to other groups so that each group could see the results of all other groups. Next, students discussed working on the Student Worksheet (LKS).



Figure 2. The Implementation of Extending (E) Stage

Then, the teacher and students asked and answered questions about things that were not yet understood. The teacher distributed test questions to find out the student's learning outcomes in the Javanese language subject.

In the next meeting, in the exploration activity, students paid attention to the teacher's explanation about the types and functions of *Sandhangan*. The teacher conducted a question-and-answer session with students. The teacher's elaboration carried out individual evaluations. After that, the teacher provided an individual evaluation sheet for the Javanese script material. Furthermore, the teacher provided a brief explanation of the work procedures and determined the time limit. Then, the teacher calculated the group's score by adding up each individual's contribution so that an average score was obtained. Next, the teacher gave awards to groups or students who

had expressed their opinions and provided motivation to students who had not been active in learning, and the teacher provided responses to students' answers with the correct answers. The teacher gave students the opportunity to ask questions about material that had not been understood. In the final activity, the teacher and students made conclusions from the learning process and made a summary of the learning activities carried out. Then, the teacher gave homework or remedial work. The teacher evaluated the level of student absorption of the CORE learning process assisted by mind mapping from the results of the post-test.

In the final activity, students and teachers concluded the material that had been learned. Learning was closed with follow-up from the teacher and prayer. Before the learning activity was closed with prayer, the teacher and students reflected and formulated actions from the learning activities that had been carried out.

Observation

At this stage, what was observed was the students' learning outcomes. Student learning outcomes were reviewed from the acquisition of cognitive data or knowledge by carrying out individual evaluation tests at the end of learning. The results obtained are presented in Table 3.

Table 3. Student Learning Outcomes (Tests) Cycle 1

Score	Information	Completed	Not Completed
81-100	Very good	10	-
71-80	Good	4	-
60-70	Enough	2	-
0-59	Not enough	-	2
Number		16	2
Average value		74	
Classical learning values		88%	

Table 3 presents the result of the test that was given to students in the Javanese script subject using mind mapping learning media to find out students' learning outcomes. Based on the table above, the number of students was 18

students. Moreover, only 16 students completed the learning, and two students did not complete it. The average value of 74 and the classical value of 88% did not meet the indicator of the expected learning outcomes of 75%, and the next cycle should be held.

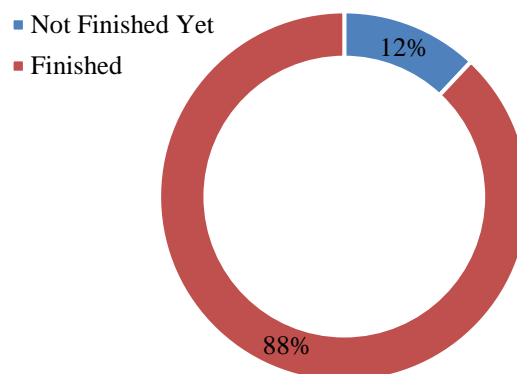


Figure 3. Learning Outcomes (Cycle 1)

Reflection

Based on the results of observations, analysis could be carried out, and the data obtained could be explained. At this reflection stage, the researcher evaluated the shortcomings of the implementation of cycle I. Several weaknesses and deficiencies in the learning process revealed that some students were still noisy during the learning process because the reward was not interesting. Also, during the game, there were still students who looked at books because the time to work on the Student Worksheet (LKS) was too long, and the teacher had not explained how to understand the Javanese script material, so students had difficulty in working on questions on the material.

From the results of the reflection, several problems were identified that were faced in implementing the action, so the researcher discussed with the collaborator how to overcome these problems so that they could be applied in the next cycle.

Cycle 2

The implementation of cycle 2 consisted of planning, implementation, observation, and reflection. The following is a description of the learning implementation data in cycle 2 as follows.

Action Planning

The activities carried out at this stage are as follows.

- 1) Re-explaining the intent and purpose of implementing the mind mapping media
- 2) Planning the learning to be implemented by creating a lesson plan (RPP) by applying the mind mapping media and its completeness according to the specified material
- 3) Conducting discussions with teachers regarding the learning activities carried out.

Action Implementation Stage

The teacher immediately started the lesson. The teacher opened the lesson with a greeting and prayer to start the learning activities. The teacher also did not forget to take student attendance and conveyed the objectives of the learning to be carried out. The teacher motivated students before entering the material so that they were enthusiastic about following the learning by inviting students to observe sentences written in Javanese. Students were enthusiastic about observing and reading.

Several students were asked to come forward to observe how to write *Pasangan*. After that, the teacher and students did a question-and-answer session about *Pasangan*. The teacher provided individual evaluation sheets. The teacher provided a brief explanation of the work procedures and determined the time limit. The teacher calculated the group score by adding up each individual's contribution to get an average score. The teacher gave awards to groups or students who had expressed their opinions and provided motivation to students who had not been active in learning. The teacher responded to students' answers with the correct answers.

After finishing, the teacher mentioned examples of writing *Pasangan* and *Sandhangan* correctly. Some students tried to follow the movements of the examples of writing Javanese script. Students who were brave and could make examples correctly would get a reward from the teacher. The next activity was for the teacher to display picture media about the various forms of *Pasangan* and *Sandhangan*. Students were very enthusiastic about seeing and observing the various forms of existing Javanese script.

The teacher asked students who had not had the opportunity to answer in the lottery game to take turns observing and mentioning the various forms of *Sandhangan* and *Pasangan*, which are in the image media. The teacher-guided and corrected if there were students who were wrong in mentioning. The teacher then gave students the opportunity to ask things that were not yet understood.

Students were divided into five groups, and each group was asked to draw lots of objects with the names of geometric shapes. The teacher distributed readings in the form of modules containing Javanese script material. The teacher asked students to find keywords related to the theme of each group, and then each group looked for keywords by identifying things from general to specific. First, students identified the names of the shapes in the module. Then, each group identified the shapes in each picture using the various names of the shapes. After completion, each group visualized the results into a mind map. Students in each group created mind maps with great enthusiasm. After completion, the mind map was rotated to other groups so that each group could see the results of all other groups. Next, students discussed working on the Student Worksheet (LKS). Students were allowed to see the modules or pictures provided by the teacher in completing the LKS. After completing the discussion, the teacher randomly selected the order of groups to advance and present the results of their discussions. Other groups and the teacher responded.

The teacher invited students to conclude the learning on that day. The teacher also reminded students to study the material that had been studied. The teacher closed with a greeting and invited students to take a break.

The teacher then distributed test questions to find out the student's learning outcomes in the Javanese script writing subject. The majority of students did the test calmly and focused. However, there were still noisy students. The teacher reprimanded the noisy students. Occasionally, some students asked questions that they did not understand. Students collected the test results after 35 minutes and continued by filling out the questionnaire.



Figure 4. Implementation of Reflecting (R) Stage

Observation Implementation

In this classroom action research, the teacher plays a role in learning as the implementer of learning activities. At the same time, the researcher observed the learning activities carried out by the teacher and students.

(1) Teacher observation

The implementation of cycle II, which was carried out by teachers using mind mapping media, was good. The teacher's ability to start learning was good, and the teacher opened the learning by greeting, praying, taking students' attendance, giving apperception, and asking about the students' condition. During the learning process, the teacher delivered the material clearly enough, responded and answered students' questions well enough, and was able to condition the class well. The teacher's ability to use mind-mapping media was better than the previous cycle. The final learning activities were carried out well, and the teacher motivated students to be more active in learning.

Based on the observation results, the teacher was good at conducting learning, and the teacher had involved students in the use of learning media. In cycle 2, the teacher improved the learning media so that students were more interested in participating in learning so that student learning outcomes could improve.

(2) Student observation

Implementation in cycle 2 during learning activities showed that students participated in learning well and actively; students focused and paid attention to the

explanation of the Javanese script delivered by the teacher using learning media. No students talked to their friends. Students looked enthusiastic about paying attention to the media and participating in the use of the media. In participating in learning activities, students responded when there were questions from the teacher. In cycle II, students showed many changes compared to cycle I.

Based on the results of student observations, it can be said that students were good at following the learning process. Students were very enthusiastic about paying attention and responding to teachers so that student learning outcomes could improve, and there was no need for the next cycle.

(3) Cycle 2 Test Results

Student learning outcomes were reviewed from the acquisition of cognitive data or knowledge by conducting individual evaluation tests at the end of learning. The results obtained are presented in Table 4.

Table 4. Student Learning Outcomes (Tests) Cycle 2

Score	Information	Completed	Not Completed
81-100	Very good	17	1
71-80	Good	4	-
60-70	Enough	2	-
0-59	Not enough	-	2
Number		17	1
Average value		86	
Classical learning values		94%	

Table 4 shows the test result that was given to students at the end of learning in the Javanese language subject with the CORE model using mind mapping learning media to improve student learning outcomes. Based on the table, it is known that students who took the test were 17 students. Students who completed the learning have shown improvement and have achieved the expected indicators. In cycle 2, the average score of students reached 87, or in classical completeness, reached 100 %. Based on the test result table above, there was no need to hold the next cycle.

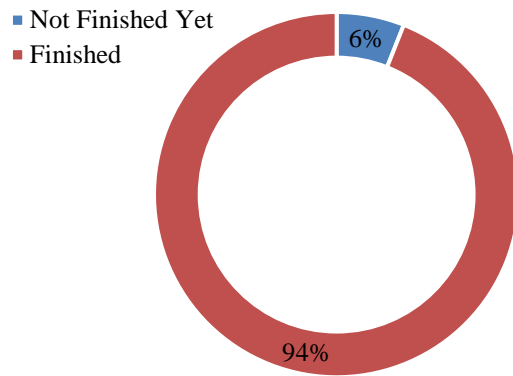


Figure 5. Learning Outcomes (Cycle 2)

Reflection Stage

Based on the results of observations, an analysis was then carried out by explaining the data obtained. In cycle II, learning involved students in the use of learning media, and students were more active. Moreover, the teacher was good enough to condition the class and invited students to play games so that students did not get bored. In cycle 2, the researcher did not need to carry out the next cycle because learning in cycle 2 had been successful and had met the minimum completion criteria.

Discussion

Cycles 1 and 2 as a whole have increased. In cycle 1, the average value only reached 74, and in cycle 2, the average value was 86. Students' classical learning data has also experienced a significant increase starting from cycle 1 and cycle 2 by obtaining data from cycle 1 of 88% and cycle 2 of 94%.

The novelty of this study lies in the integration of the CORE (Connecting, Organizing, Reflecting, Extending) learning model with Mind Mapping techniques, specifically in the context of Javanese language learning, a combination that, to date, has received little attention. This approach not only fosters meaningful learning but also supports the development of students' critical thinking and cultural awareness through the visual-spatial organization of traditional linguistic elements, such as *Unggah-Ungguh Basa* (speech levels) and Javanese script (*Aksara Jawa*).

The findings of this study demonstrate a significant improvement in students' Javanese language learning outcomes following the

implementation of the CORE learning model assisted by mind mapping. These results align with prior studies that support the effectiveness of the CORE model in enhancing student understanding and engagement (Avianti et al., 2018; Saregar et al., 2021; Stowe et al., 2019). However, this study contributes novel insights by applying the model specifically to the learning of Javanese script in elementary education, a context that has received limited scholarly attention.

This corroborates the opinion of Pertiwi (2021), who stated that mind maps can help people be more creative and focus their attention. Mind mapping can make students more focused or concentrated. This is because when making mind mapping using plain white paper, plain white paper will give the impression of focus to students. In addition, the presence of a mind mapping center in the form of an idea or main idea located in the middle or center of the mind map can make students focus on the main idea or idea of the material being studied.

Students with mind mapping become more enthusiastic about learning. This is because students learn using colors and images. Color is a very good memory marker. Color in mind mapping is intended to actively involve the right brain of students (Zhao et al., 2022). Colors can also please students' brains, so mind maps can help students to learn. Images in mind mapping can also strengthen keywords from the material being studied. The mind mapping media is in accordance with cognitive learning theory. Students with the mind mapping learning media become more motivated, creative, and active in learning. This is because students use their imagination and brains to make mind maps, so they have the opportunity to maximize their potential according to their respective brains and imaginations. For example, students also seem enthusiastic and interested in participating in mathematics learning, even though the material they are studying is very much. Learning with the mind mapping learning media can make it easier for students to remember rote material, such as the material on cuboids and cubes.

The discussion above indicates that the application of the CORE Model assisted by Mind Mapping can improve Javanese learning

outcomes with a wide range of materials. This is in accordance with the opinion of Bergroth (2016) that mind maps are more beautiful, artistic, colorful, and imaginative. They have various forms so that the eyes and brain are interested and make them easier to remember. Therefore, it is concluded that the application of the CORE model with the mind mapping can improve Javanese language learning outcomes for Javanese script material for fifth-grade elementary school students.

Despite its strengths, this study was limited in several aspects. The research was conducted within a relatively small sample size and focused only on one educational level (e.g., elementary or junior high). Additionally, the implementation was limited to certain language skills, such as vocabulary and reading comprehension, without exploring deeper areas like writing or oral fluency in traditional or modern Javanese. The long-term effects of the integrated model were also not measured.

This study contributes to the growing body of literature on innovative pedagogical strategies in regional language learning, particularly in revitalizing interest and proficiency in the Javanese language among students. It provides an alternative model that can help educators move beyond rote memorization by encouraging active learning and cultural reflection. The findings may serve as a foundation for curriculum designers and language teachers to adapt this model in broader and more diverse settings.

CONCLUSION

Learning activities with the CORE learning model assisted by mind mapping to improve learning outcomes of Javanese language subjects for fifth-grade elementary school students have been implemented well. The implementation of learning using the mind-mapping learning method could increase positive student material activities. This can be seen from each cycle; student activity increased positively from cycle 1 by 88% and cycle 1 by 94%. Learning is also more effective, as shown by students adapting quickly because their activities increased positively, especially in terms of discussing, taking notes, and asking questions.

The implementation of learning using the mind-mapping learning method could improve the learning outcomes of fifth-grade elementary school students. Cycles 1 and 2 experienced an increase overall. In cycle 1, the average value only reached 74, and in cycle 2, the average value was 86. Students' classical learning data has also experienced a significant increase starting from cycles 1 and 2 by obtaining data in cycle I of 88% and in cycle 2 of 94%. Thus, increasing positive student activities could also improve student learning outcomes.

The findings of this study hold several implications. The integration of the CORE learning model and mind mapping offers a viable instructional strategy to address the persistent challenges in learning Javanese script. It demonstrates that regional language learning can be revitalized through constructivist and visual-based learning models. The study provides empirical evidence that not all phases of the CORE model contributed equally. The organizing and reflecting phases were shown to play a pivotal role in enhancing student understanding and memory of complex script structures. This finding can inform future instructional design, especially in content areas with symbolic or visual demands. For maximum impact, teacher training programs, especially in local content areas, should incorporate active learning approaches and visual tools. The findings encourage local education offices and curriculum developers to adopt a more integrated approach to designing lesson plans for Javanese or other regional languages.

To extend the scope and depth of this study, several recommended replicating this study in other regions of Java or other provinces with different dialects, or local scripts could validate the generalizability of the findings. Future studies could also apply the model at lower or upper-grade levels to assess developmental differences in script mastery. Then, the next researcher can explore the use of digital mind mapping tools or apps in classroom settings, which may increase engagement and improve accessibility for students, especially in more technologically equipped schools.

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