



## Syntactic Analysis of the Project-Based Learning Model in the Waskitha Basa lan Sastra Jawa Textbook for Grade X Senior and Islamic High Schools

\*Lisa Octaviani<sup>1,a\*</sup>, Mujimin Mujimin<sup>2,b</sup>

<sup>1,2</sup>Department of Javanese Language and Literature Education, Semarang State University, Indonesia

<sup>a</sup>[lisaocta@students.unnes.ac.id](mailto:lisaocta@students.unnes.ac.id), <sup>b</sup>[mujimin@mail.unnes.ac.id](mailto:mujimin@mail.unnes.ac.id)

### ARTICLE INFORMATION

#### Article History:

Received : 09/09/2024

Revised : 02/10/2024

Accepted : 27/12/2024

Published : 31/01/2025

#### Keywords:

Textbooks; Syntactic  
Learning Model;  
Independent Curriculum

#### DOI:

<https://doi.org/10.46963/asatiza.v6i1.2213>

#### \*Correspondence Author:

[lisaocta@students.unnes.ac.id](mailto:lisaocta@students.unnes.ac.id)

©Authors (2024). Licensed  
Under [CC BY SA](#)

### Abstract

Learning models play a critical role in the educational process. They are systematically designed as a guide for conducting learning activities to achieve educational objectives. Each learning model includes specific syntax that can be implemented by students under teacher guidance. This study aims to analyze the syntax of learning models based on the learning activities presented in the textbook published by Erlangga, titled Waskitha Basa lan Sastra Jawa for Grade X Senior and Islamic High Schools. The study employs a descriptive qualitative research method with observation and interactive analysis. The research instrument consists of data cards. The data analysis technique used is content analysis. The results of the study reveal that the Waskitha Basa lan Sastra Jawa textbook for Grade X, which consists of six chapters, includes four chapters (Chapters 1, 2, 3, and 4) that apply the Project-Based Learning model. However, two chapters (Chapters 5 and 6) were found not to implement any discernible learning model. This research provides valuable insights for textbook authors to ensure the completeness of the learning model syntax applied in textbooks. Consequently, the learning process facilitated by the textbook can be optimized and aligned with the intended learning model syntax to effectively achieve educational goals.

### How to cite this article:

Octaviani, L., & Mujimin, M. (2025). Syntactic analysis of the project-based learning model in the Waskitha Basa Lan Sastra Jawa textbook for grade x senior and Islamic high schools. *Asatiza: Jurnal Pendidikan*, 6(1), 1-11. <https://doi.org/10.46963/asatiza.v6i1.2213>

## INTRODUCTION

Learning models play a vital role as the foundation for designing and implementing effective teaching strategies. A learning model serves as a conceptual framework that organizes and guides the learning process to achieve educational objectives. According to Joyce & Weil (as cited in Khoerunnisa et al., 2020), a learning model is a design or pattern used to develop curricula, plan learning materials, and direct classroom

instruction. Therefore, a learning model can be interpreted as a teacher's effort to design engaging, meaningful, and structured learning activities. The selection of learning models is tailored to the prevailing curriculum to meet learning goals (Lestari et al., 2023). Currently, the applicable curriculum is the Kurikulum Merdeka (Independent Curriculum).

The Kurikulum Merdeka emphasizes learning in a relaxed, enjoyable, and stress-free environment,

allowing students to explore and develop their natural talents (Rahayu et al., 2022). The essence of this curriculum is freedom and creative thinking, aiming to develop students' potential to address the demands of 21st-century learning. In the 21st-century learning era, teachers are required to innovate by creating engaging, meaningful, and enjoyable learning experiences for students (Ulya et al., 2023). The characteristics of 21st-century learning encompass four key aspects: critical thinking and problem-solving, creativity and innovation, collaboration, and communication (Susilowati, 2022).

A key component of the Kurikulum Merdeka is the *Projek Penguatan Profil Pelajar Pancasila* (Project to Strengthen the Profile of Pancasila Students), which utilizes a Project-Based Learning (PjBL) approach across interdisciplinary learning activities (Dewi, 2022). This curriculum emphasizes a student-centered learning process, granting students the opportunity to independently explore knowledge and achieve a deeper understanding, ultimately enhancing their personal development (Kurnia et al., 2024). In this context, students are at the center of the learning process, while teachers act as facilitators.

The PjBL model aligns with the Kurikulum Merdeka, as it fosters critical thinking, creativity, collaboration, and communication (4Cs) among students—skills essential for navigating 21st-century challenges. This learning approach encourages students to engage in projects, allowing them to design, create, and present solutions to real-world problems (Nugrohadhi & Anwar, 2022). Such activities enable students to develop their

skills and potential across various fields (Saraswati et al., 2022). Research by Nugraha et al. (2023) highlights that PjBL not only enhances students' participation but also fosters creativity and improves learning outcomes (Made et al., 2022). To optimize the implementation of learning models, textbooks play a crucial role as supportive tools in the learning process.

Textbooks serve as a medium to incorporate curriculum values, guide learning activities, and assist both teachers and students in achieving educational goals (Arraman & Hazmi, 2018). Textbooks are not merely sources of information but also provide structured guidance for effective learning design (Salhuteru et al., 2023). As essential resources in primary and secondary education, textbooks include content aimed at improving students' moral character, religious faith, knowledge, and sensitivity to aesthetic, kinesthetic, and technological aspects (Sitepu, 2012). Textbooks are developed based on national education standards to support the development of students' competencies (Hanifah et al., 2023).

In line with these principles, many publishers have developed textbooks aligned with the Kurikulum Merdeka, including local content such as the Javanese language. One such textbook is *Waskitha Basa lan Sastra Jawa* for Grade X Senior and Islamic High Schools, published by Erlangga. This textbook includes six learning materials but does not explicitly mention the learning models used. Preliminary observations suggest that the learning activities reflect the syntax of the Project-Based Learning

model. However, this cannot conclusively determine the textbook's adherence to PjBL, as further studies are needed, particularly for textbooks based on the Kurikulum Merdeka.

Previous research has analyzed learning models in textbooks. For instance, Cyndiani et al. (2022) examined the implementation of PjBL in a fifth-grade textbook, analyzing scores for each element of PjBL in the learning activities. This study differs by focusing on a Javanese local content textbook under the Kurikulum Merdeka framework, specifically analyzing the reflection of PjBL syntax in learning activities.

Based on this background, the objective of this study is to analyze the learning activities in the Waskitha Basa lan Sastra Jawa textbook for Grade X Senior and Islamic High Schools, focusing on the reflection of Project-Based Learning syntax. The findings of this study can serve as a reference for textbook authors to revise and improve future editions, ensuring that textbooks effectively facilitate learning and align with the goals of the Kurikulum Merdeka.

## METHOD

This study employs a qualitative method with a descriptive qualitative approach. The data utilized in this research consists of learning activities that reflect the characteristics of a learning model. The data source is the textbook Waskitha Basa lan Sastra Jawa for Grade X Senior and Islamic High Schools, authored by Lucia Yuyun Dian Susanti and Dwi Handayani, and published in 2022 by Erlangga.

The data collection technique involves the following steps:

1. Conducting a comprehensive review of the Waskitha Basa lan Sastra Jawa textbook.
2. Highlighting relevant research data within the textbook that serves as the object of the study.
3. Recording the data identified during the research.

The research instrument used is a data card. This data card supports the process of data identification and analysis by capturing textbook activities that reflect the syntax of the Project-Based Learning (PjBL) model. The data card is structured as a table, containing columns for the PjBL syntax, textbook activities, page numbers, and additional notes.

The process of filling out the data card involves several steps: The researcher reads the learning activities in the textbook repeatedly; The researcher identifies and records learning activities that reflect the syntax of the Project-Based Learning model; The researcher cross-checks the data with the learning activities to ensure alignment with the PjBL syntax.

Below is the table format for the Data Card:

**Table 1.** Data Card

**Waskitha Basa lan Sastra Jawa for Grade X Senior and Islamic High Schools, Kurikulum Merdeka**

**Identity**

Lesson :

Theme :

Page :

Learning Model: Project-Based Learning

| No | Syntax                                   | Activity | Notes |
|----|--|----------|-------|
| 1. | Fundamental Question                     |          |       |
| 2. | Project Planning                         |          |       |
| 3. | Scheduling                               |          |       |
| 4. | Monitoring Students and Project Progress |          |       |
| 5. | Assessment of Results                    |          |       |
| 6. | Evaluation and Reflection                |          |       |

The data analysis technique employed in this study is content analysis. Content analysis is a research technique used to make inferences that can be replicated and validated by considering the context of the data (Wahyuningsih et al., 2018). In this study, the researcher focuses on the words, phrases, and sentences present in the learning activities. Based on this approach, the researcher is able to easily identify the learning activities that reflect the syntax of Project-Based Learning. The data obtained is analyzed using the theoretical framework of learning model syntax. The syntax of Project-Based Learning (Kemdikbud, 2014:34) includes determining fundamental questions, planning the project, creating schedules, monitoring students and project progress, assessing results, and evaluating experiences.

Data validity is ensured through source triangulation. Source triangulation is a research method that involves collecting data from various sources using

the same technique to verify the credibility of the data through cross-checking (Susanto et al., 2023).

## RESULT AND DISCUSSION

The textbook Waskitha Basa Lan Sastra Jawa for Grade X Senior and Islamic High Schools is one of the local content textbooks for the Java language. This textbook was published by Erlangga in 2022, based on the Kurikulum Merdeka. The textbook consists of six chapters, all of which are structured around the learning outcomes of the Kurikulum Merdeka. Each chapter in the book includes between three to eight activities that reflect the steps of the learning process. These learning activities reveal the syntax (steps) of the teaching and learning process, which ultimately indicates the use of a particular learning model aligned with the Kurikulum Merdeka. Among the learning models that can be applied under the Kurikulum Merdeka are Discovery Learning, Inquiry-Based Learning, Problem-Based Learning, and Project-Based Learning (Arsyad et al., 2023).

Based on the analysis conducted by the researcher, the Waskitha Basa Lan Sastra Jawa for Grade X Senior and Islamic High Schools textbook leans towards the Project-Based Learning model, as evidenced by the inclusion of pre-project activities at the end of each chapter. However, it is important to note that the textbook does not explicitly state that it employs the Project-Based Learning model. Below is the analysis of the learning model found in the Waskitha Basa Lan Sastra Jawa for Grade X Senior and Islamic High Schools textbook.

**Table 2.** Analysis of the Learning Model in Chapters 1-6

| Chapter                                | Learning Model |      |                         |                           |        |
|--|----------------|------|-------------------------|---------------------------|--------|
|  | PBL            | PjBL | <i>Inquiry Learning</i> | <i>Discovery Learning</i> | Others |
| Chapter 1 Information                  |                | ✓    |                         |                           |        |
| Chapter 2 <i>Pawarta</i>               |                | ✓    |                         |                           |        |
| Chapter 3 <i>Geguritan</i>             |                | ✓    |                         |                           |        |
| Chapter 4 <i>Pewayangan</i>            |                | ✓    |                         |                           |        |
| Chapter 5 Aksara Jawa                  |                |      |                         |                           | ✓      |
| Chapter 6 <i>Unggah-Ungguhing Basa</i> |                |      |                         |                           | ✓      |

Table 2 shows that the Waskitha Basa lan Sastra Jawa textbook for Grade X Senior and Islamic High Schools contains the Project-Based Learning model. The Project-Based Learning model is found in four chapters (Chapters 1, 2, 3, and 4) of the textbook. It is observed that two chapters do not identify a learning model, namely Chapters 5 and 6. This can be determined by the learning activities that reflect the syntax of the learning model, as shown in the table.

The syntax of the Project-Based Learning model (Kemdikbud, 2014, p. 34) consists of six steps: determining the essential question (start with the essential question), designing the project (design project), creating the schedule (create schedule), monitoring the students and the progress of the project (monitoring the students and progress of the project), assessing the outcome (assess the outcome), and evaluating the experience (evaluate the experience). In addition, the Project-Based Learning syntax developed by the George Lucas Educational Foundation includes essential questions,

developing a project plan, making a schedule, following students and the project's progress, evaluating the results, and evaluating the experience.

Therefore, the first syntax activity involves starting with an essential question. The second syntax involves collaborative planning between the teacher and students. The third syntax involves the teacher and students collaboratively creating a schedule to complete the project. The fourth syntax involves the teacher monitoring and being responsible for the students' activities during the project completion. The fifth syntax involves assessment to measure the achievement of competency standards, evaluate, provide feedback, and assist the teacher in designing the next learning strategy. Based on this, each chapter in the textbook is further analyzed to determine the syntax of the learning activities within. Below is the analysis of the Project-Based Learning model syntax in the Waskitha Basa lan Sastra Jawa textbook for Grade X Senior and Islamic High Schools.

**Table 3.** Analysis of the Syntax of the Project-Based Learning Model

|          | <b>Bab 1</b>      | <b>Bab 2</b>      | <b>Bab 3</b>      | <b>Bab 4</b>      |
|----------|-------------------|-------------------|-------------------|-------------------|
| Syntax 1 | <i>Activity 1</i> | <i>Activity 1</i> | <i>Activity 1</i> | <i>Activity 1</i> |
| Syntax 2 | <i>Activity 4</i> | <i>Activity 2</i> | <i>Activity 3</i> | <i>Activity 2</i> |
|          | <i>Activity 5</i> | <i>Activity 3</i> | <i>Activity 4</i> | <i>Activity 5</i> |
|          | <i>Activity 6</i> | <i>Activity 4</i> | <i>Activity 5</i> | <i>Activity 6</i> |
|          | <i>Activity 7</i> | <i>Activity 6</i> | <i>Activity 6</i> | <i>Activity 8</i> |
|          |                   | <i>Activity 7</i> | <i>Activity 7</i> |                   |
| Syntax 3 |                   |                   |                   |                   |
| Syntax 4 |                   |                   |                   |                   |
| Syntax 5 |                   | <i>Activity 7</i> | <i>Activity 8</i> |                   |
| Syntax 6 | <i>Reflection</i> | <i>Reflection</i> | <i>Reflection</i> | <i>Reflection</i> |

Table 3 shows that in the textbook Waskitha Basa lan Sastra Jawa SMA/MA Kelas X, the PjBL (Project-based Learning) syntax is not fully implemented. The learning activities in four chapters (Chapter 1, 2, 3, and 4) do not fully reflect Syntax 3 and 4. Therefore, the learning activities in the textbook have not completely implemented all six PjBL syntaxes. The following is a description of the PjBL syntax found in the four chapters, along with examples of the activities.

#### **Syntax 1 (Essential Question)**

Syntax 1 (essential question) is reflected in learning activities that include an essential question. An essential question is a question that stimulates students' curiosity about the material to be learned (Billy et al., 2019). The essential questions in the Waskitha Basa lan Sastra Jawa SMA/MA Kelas X textbook are found in learning activities in Chapters 1, 2, 3, and 4. There are two variations of activities in Syntax 1 (essential question), namely prompt questions and follow-up questions.

The prompt questions found in Learning Activity 1 of Chapters 1, 2, 3, and 4 consist of two to six questions related to the material to be studied. An example of a prompt question in Learning Activity 1, Chapter 2 is Apa sing diarani pawarta? (What is meant by news?). Another example is Unsur-unsur apa wae sing ana ing pawarta? (What are the elements found in the news?). These questions contain information about the material that the students will study.

Furthermore, the second variation of Syntax 1 (essential question) found in Learning Activity 1, Chapter 2 consists of questions answered in written form. In this activity, students read or listen to a news text, but before reading, students need to consider the available questions. One example is Coba gatekna pitakon ing ngisor iki (Try to observe the questions below) followed by instructions to search for the theme of the news, its content, and make an analysis based on the 5W+1H method. After reading the text, students will be able to answer the given questions.

This activity serves as an introduction to encourage students' curiosity about the upcoming learning activities.

### **Syntax 2 (Designing Project Planning)**

Syntax 2 (designing project planning) is reflected in the learning activities that are interconnected to form the planning process of the project to be carried out. In this textbook, Syntax 2 is found in Chapter 1 (Activities 4-7), Chapter 2 (Activities 3-7), Chapter 3 (Activities 3-7), and Chapter 4 (Activities 2, 5, 6, and 8). These activities have in common that they allow students to learn both individually and in groups before ultimately producing a project outcome. Syntax 2 (designing project planning) involves providing students with the opportunity to design the project work plan (Devi, 2019). Therefore, students are guided by the teacher to complete a project by collaborating with peers, fostering innovation, critical thinking, and creativity.

An example of an activity reflecting Syntax 2 (designing project planning) begins with students reading a news text and identifying the structure of the news. The instruction is *Para siswa ngandharake struktur kang ana ing pawarta ing ndhuwur kanthi ngisi ing sajroning kothakan kang sumadya* (Students explain the structure found in the news above by filling in the available box). Further activities involve students identifying news texts and discussing the language variety used in the news.

### **Syntax 3 (Creating a Project Schedule)**

Syntax 3 (creating a project schedule) is implemented collaboratively

between students and the teacher to create a timeline of activities to complete the project. Sabbok (2021) states that the teacher can estimate the available time to complete the project, and then the teacher and students collaboratively design a schedule adjusted to the available time. This schedule helps students become more disciplined in their learning process, ensuring that the project is completed on time. Ridwan Taufik et al. (2022) describe the steps in creating a schedule, including: (1) making a timeline, (2) setting deadlines, (3) asking students to plan something new, (4) guiding students, and (5) requesting students to provide an explanation of their method. The schedule is typically indicated by a project timeline table. However, this element is not reflected in the activities within the textbook Waskitha Basa lan Sastra Jawa SMA/MA Kelas X.

### **Syntax 4 (Monitoring Students and Project Progress)**

Syntax 4 (monitoring students and project progress) refers to the teacher's responsibility to observe students' activities throughout the project. Monitoring involves accompanying students at each stage of the project. In other words, the teacher acts as a mentor during the project process. To facilitate monitoring, a rubric can be created to allow the teacher to record important activities to help track students' progress (Ridwan Taufik et al., 2022). However, in the Waskitha Basa lan Sastra Jawa SMA/MA Kelas X textbook, there are no learning activities that reflect Syntax 4. This could be because the monitoring of students and project progress is assumed to

occur during the project implementation, where the teacher coordinates and observes students' engagement throughout the project process, provides assistance when necessary, and ensures progress.

#### **Syntax 5 (Assessing the Outcome)**

Syntax 5 (assessing the outcome) is carried out to help teachers measure students' achievement of standards, assess individual student progress, provide feedback on students' understanding, and support teachers in planning future teaching strategies. The assessment focuses on evaluating the products created by the students (Muhibbuddin et al., 2024). In the textbook, Syntax 5 is found in Learning Activity 7, Chapter 2, and Learning Activity 8, Chapter 3.

An example of an activity reflecting Syntax 5 (assessing the outcome) is in Learning Activity 8, Chapter 2, where a rubric for evaluation is provided. The rubric includes criteria for evaluating the alignment with the theme, word choice, and coherence of the paragraphs. Students are given a task to create a news text, and after writing the news, the product is assessed according to the evaluation rubric.

Another example of Syntax 5 (assessing the outcome) is when students submit their work on a cultural-themed poem, which they upload to various platforms such as print media, blogs, or social media. The evaluation includes aspects such as language use, content, and the performance of reading the poem, which is assessed through a video upload.

#### **Syntax 6 (Experience Evaluation and Reflection)**

Syntax 6 (experience evaluation and reflection) is reflected in learning activities that involve evaluating the learning process and the resulting project. In this stage, students and the teacher evaluate the learning process that has been carried out and the outcomes achieved. Syntax 6 is found in the final activities of each chapter (Chapters 1, 2, 3, and 4). These activities involve assessing students' understanding of the material learned. In this activity, a table for evaluation is provided, containing seven to ten statements with columns for yes and no, along with a column for what will be done next. One of the statements in the table is *Siswa bisa mangerteni crita wayang (Mahabharata)* (The student can understand the story of wayang [Mahabharata]). Another statement is *Siswa nyebutake paraga crita wayang (Mahabharata)* (The student can name the characters of the Mahabharata story). After completing the evaluation, students are instructed to calculate their scores using a formula provided below the table.

Based on the explanation above, the learning activities in the Waskitha Basa lan Sastra Jawa SMA/MA Kelas X textbook indicate the use of the Project-based Learning model. This is evident from the PjBL syntax reflected in the learning activities within the textbook. Interviews with the authors of the textbook confirmed that it was designed based on the Kurikulum Merdeka (Freedom Curriculum). One of the strengths of the textbook is that each chapter ends with a pre-project activity, which clearly outlines



the project to be undertaken by students, along with the stages of completion.

However, the textbook also has some shortcomings, namely the incompleteness of the PjBL model syntax reflected in the learning activities. To optimize the learning process, the textbook should include a more comprehensive, detailed, and applicable set of syntaxes. This should encompass all stages of the learning model, explain the roles of both the teacher and students, and provide guidance for overcoming potential challenges during the learning process. With a complete set of syntaxes, the textbook can effectively support teachers in applying the learning model to achieve the desired educational objectives.

## CONCLUSION

Based on the explanation above, it can be concluded that the Waskitha Basa lan Sastra Jawa SMA/MA Class X textbook consists of six chapters, four of which incorporate the Project-Based Learning (PjBL) model. These four chapters include Chapter 1 (Information), Chapter 2 (News), Chapter 3 (Poetry), and Chapter 4 (Wayang). From these four chapters, the researcher found that the learning activities presented in the textbook do not fully reflect Syntax 3 (designing a schedule) and Syntax 4 (monitoring students and project progress). In this regard, Syntax 3 and 4 are not explicitly applied in the learning activities.

Moreover, the learning activities in the Waskitha Basa lan Sastra Jawa SMA/MA Class X textbook exhibit variations that reflect the syntax of the Project-Based Learning model. This

research is expected to assist textbook authors in developing textbooks that consider the completeness of the learning model syntax to be implemented. Consequently, textbooks that fulfill the required learning model syntax will facilitate teachers in the learning process. Thus, the implementation of the learning model will proceed optimally in order to achieve the desired learning outcomes.

## REFERENCES

- Arraman, B. C., & Hazmi, N. (2018). Analisis Buku Teks Sejarah Kelas X Kurikulum 2013. *KAGANGA: Jurnal Pendidikan Sejarah Dan Riset Sosial-Humaniora*, 1(2), 122–140. <https://doi.org/10.31539/kaganga.v1i2.404>
- Arsyad, M., & Fahira E.F. (2023). *Model-Model Pembelajaran dalam Kurikulum Merdeka*. Purbalingga: Eureka Media Aksara.
- Sitepu, B. P. (2012). *Penulisan Buku teks Pelajaran*. Bandung: PT. Remaja Rosdakarya.
- Billy, G., Sutrisna, B., Wayansujana, I., & Ganing, N. N. (2019). Model Project Based Learning Berlandaskan Tri Hita Karana Berpengaruh Terhadap Kompetensi Pengetahuan IPS. *Jurnal Adat dan Budaya*, 1(2).
- Cyndiani, S., Asmah, S. N., & Nurcahyo, M. A. (2022). Analisis Model Project Based Learning (Pjbl) Pada Buku Siswa Tema 1 Kelas V Sekolah Dasar. *Jurnal Kiprah Pendidikan*, 1(4), 334-341.
- Dewi, M. R. (2022). Kelebihan dan kekurangan Project-based Learning untuk penguatan Profil Pelajar Pancasila Kurikulum Merdeka. *Inovasi Kurikulum*, 19(2), 213–226. <https://doi.org/10.17509/jik.v19i2.44>

226

- Devi, S. K., Ismanto, B., & Kristin, F. (2019). Peningkatan kemandirian dan hasil belajar tematik melalui project based learning. *Jurnal Riset Teknologi dan Inovasi Pendidikan*, 2(1), 55-65
- Hanifah, D. P., Hanifah, B. M., Amany, M., & Dyaahulhaq, S. F. (2023). Analisis Penerapan Kurikulum Merdeka: Kajian Buku Teks Bahasa Indonesia kelas 4 SD/MI. In *Prosiding SEMAI: Seminar Nasional PGMI*, 2, 10-21. <http://proceeding.uingsdur.ac.id/index.php/semai>
- Khoerunnisa, P., Syifa, &, & Aqwal, M. (2020). Analisis model-model pembelajaran. In *Jurnal Pendidikan Dasar*, 4(1). <https://ejournal.stitpn.ac.id/index.php/fondatia>
- Kurnia, J., Utaminingsih, S., & Masfuah, D. S. (2024). Peningkatan Hasil Belajar IPA dan Bahasa Indonesia Tema 3 Melalui Problem Based Learning Berbantu Media Video di SD 4 Karangbener. *WASIS: Jurnal Ilmiah Pendidikan*, 5(1), 1-6.
- Lestari, D., Asbari, M., & Yani, E. E. (2023). Kurikulum Merdeka: Hakikat kurikulum dan pendidikan. *Journal of Information Systems and Management (JISMA)*, 2(6), 85-88.
- Made, A. M., Ambiyar, A., Riyanda, A. R., Sagala, M. K., & Adi, N. H. (2022). Implementasi model project based learning (PjBL) dalam upaya meningkatkan hasil belajar mahasiswa teknik tenis. *Edukatif: Jurnal Ilmu Pendidikan*, 4(4), 5162-5169.
- Muhibbuddin, M. M., Zikha A, V., Natasya, D., Rizka R, A., & Trilisiana, N. (2024). Analisis Kesesuaian Implementasi Sintaks Project Based Learning dalam Proses Pembelajaran. *Epistema*, 5(1), 42-57. <https://doi.org/10.21831/ep.v5i1.63964>
- Nugraha, I. R. R., Supriadi, U., & Firmansyah, M. I. (2023). Efektivitas Strategi Pembelajaran Project Based Learning dalam Meningkatkan Kreativitas Siswa. *Jurnal Penelitian Dan Pendidikan IPS*, 17(1), 39-47.
- Nugrohadhi, S., & Anwar, T. (2022). Pelatihan Assembler Edu untuk Meningkatkan Keterampilan Guru Merancang Project-based Learning Sesuai Kurikulum Merdeka Belajar. *Media Penelitian Pendidikan: Jurnal Penelitian Dalam Bidang Pendidikan dan Pengajaran*, 16(1), 77-80. <https://doi.org/10.26877/mpp.v16i1.11953>
- Pertiwi, A. D., Nurfatimah, S.A., & Hasna, S. (2022). Menerapkan metode pembelajaran berorientasi student centered menuju masa transisi kurikulum merdeka. *Jurnal Pendidikan Tambusai*, 6(2), 8839-8848.
- Rahayu, R., Rosita, R., Rahayuningsih, Y. S., Hernawan, A. H., & Prihantini, P. (2022). Implementasi Kurikulum Merdeka Belajar di Sekolah Penggerak. *Jurnal Basicedu*, 6(4), 6313-6319. <https://doi.org/10.31004/basicedu.v6i4.3237>
- Ridwan, T., Sutandi, M., Fajar R., Miftah M. A., Fajar M. N., Mohamad F. S., Syahrul R., Mucholis, & Satya W. (2022). Implementasi Model Proyek Based learning di SMPN 2 Klagenan Cirebon.
- Sabbok M. (2021). Peningkatan Hasil Belajar Siswa Kelas IV dengan

- Penerapan Project Based Learning di SD Negeri Inpres Kayobunga Semester Ganjil Tahun Pelajaran 2018/2019. *Jurnal Merdeka Mengajar (JMM)*, 2(1), 55–61.
- Salhuteru, J., Rumahuru, O., Kainama, L., Unitly, M., & Amanukuany, R. (n.d.). Model-Model Pembelajaran Dalam Implementasi Kurikulum Merdeka.
- Saraswati, D.A., Sandrian, D. N., Nazulfah, I., Abida, N. T., Azmina, N., Indriyani, R., ... & Lestari, I. D. (2022). Analisis Kegiatan P5 di SMA Negeri 4 Kota Tangerang sebagai Penerapan Pembelajaran Terdiferensiasi pada Kurikulum Merdeka. *Jurnal pendidikan mipa*, 12(2), 185–191. <https://doi.org/10.37630/jpm.v12i2.578>
- Septiani, A. (2022). Implementasi kurikulum merdeka ditinjau dari pembelajaran matematika dan pelaksanaan P5 (studi di SMA Negeri 12 Kabupaten Tangerang). *AKSIOMA: Jurnal Matematika dan Pendidikan Matematika*, 13(3), 421-435.
- Susanto, D., & Jailani, M. S. (2023). Teknik Pemeriksaan Keabsahan Data Dalam Penelitian Ilmiah. *QOSIM: Jurnal Pendidikan, Sosial & Humaniora*, 1(1), 53-61.
- Susilowati, E. (2022). Implementasi kurikulum merdeka belajar pada mata pelajaran pendidikan agama islam. *Al-Miskawaih: Journal of Science Education*, 1(1), 115-132.
- Ulya, C., & Sukmawati, N. (2023). Problematika Implementasi Model Pembelajaran Berbasis Proyek pada Kurikulum Merdeka di SMP Negeri 8 Surakarta. *Jurnal Sinestesia*, 13(2). <https://sinestesia.pustaka.my.id/journal/article/view/448>
- Wahyuningsih, L., Suhita, R., Nugraheni, D., & Wardani, E. (2015). Analisis kelayakan buku teks bahasa jawa kurikulum 2013 tingkat SMP.