Project-Based Learning for Enhancing Student Independence in Civic Education: A Qualitative Case Study in Elementary Education

Malisa Ishayati[1], Triyanto[2], Pedukrintayati[3],

malisaishayati9@student.uns.ac.id
triyanto@staff.uns.ac.id
pedukrintayati@staff.uns.ac.id

Abstract: This study aims to explore how project-based learning (PjBL) can enhance student independence in civic education for fourth-grade students in an elementary school context. The research was conducted as a qualitative case study at SD Negeri 11 Martapura, involving one civic education teacher and twenty-four fourth-grade students. Data were collected through classroom observations, in-depth interviews with the teacher and selected students, and documentation of project results. The data were analyzed using Miles and Huberman's model, which included data reduction, data display, and conclusion drawing.

The findings indicate that the implementation of PjBL in civic education strengthens student independence through several dimensions: self-initiative in completing tasks, responsibility in group projects, discipline in managing time, and confidence in presenting results. Supporting factors include the teacher's role as a facilitator, the integration of simple digital tools (such as slides and video presentations), and active parental involvement. Meanwhile, challenges faced were the limited availability of technological resources in the classroom and the varied levels of student readiness.

In conclusion, PjBL effectively fosters independent learning characters in elementary civic education. From the perspective of educational technology, the model demonstrates how instructional design and the integration of simple technology can create meaningful learning experiences that support character development.

Keywords: Project-Based Learning, Student Independence, Civic Education, Educational Technology, Qualitative Study

Abstrak: Penelitian ini bertujuan untuk mengeksplorasi bagaimana model pembelajaran berbasis proyek (Project-Based Learning/PjBL) dapat meningkatkan kemandirian peserta didik dalam pembelajaran Pendidikan Pancasila dan Kewarganegaraan (PPKn) pada siswa kelas IV sekolah dasar. Penelitian ini dilaksanakan dengan pendekatan kualitatif studi kasus di SD Negeri 11 Martapura, melibatkan satu guru PPKn dan dua puluh empat siswa kelas IV. Data dikumpulkan melalui observasi kelas, wawancara mendalam dengan guru dan siswa terpilih, serta dokumentasi hasil proyek. Analisis data menggunakan model Miles dan Huberman yang mencakup reduksi data, penyajian data, dan penarikan kesimpulan.

Hasil penelitian menunjukkan bahwa penerapan PjBL dalam pembelajaran PPKn mampu memperkuat kemandirian siswa melalui beberapa dimensi: inisiatif dalam menyelesaikan

[1]*Educational Technology, Faculty of Education, Sebelas Maret University of Surakarta*

[2]*Educational Technology, Faculty of Education, Sebelas Maret University of Surakarta*

[3]*Educational Technology, Faculty of Education, Sebelas Maret University of Surakarta*

tugas, tanggung jawab dalam proyek kelompok, kedisiplinan dalam mengatur waktu, serta rasa percaya diri dalam mempresentasikan hasil. Faktor pendukung antara lain peran guru sebagai fasilitator, integrasi sederhana teknologi digital (seperti presentasi dan video), serta keterlibatan orang tua. Adapun hambatan yang ditemui meliputi keterbatasan sarana TIK di kelas dan tingkat kesiapan siswa yang beragam.

Disimpulkan bahwa PjBL efektif dalam menumbuhkan karakter kemandirian belajar pada pembelajaran PPKn di sekolah dasar. Dalam perspektif teknologi pendidikan, model ini menunjukkan bagaimana desain instruksional dan integrasi teknologi sederhana dapat menciptakan pengalaman belajar yang bermakna serta mendukung penguatan karakter peserta didik. Penentuan kegiatan pengembangan sumber daya manusia yang dimiliki oleh Kedeputian Pendidikan Pimpinan Tingkat Nasional Lemhannas RI utamanya dalam meningkatkan kompetensi digital sebagai upaya menghadapi transformasi organisasi di era digitalisasi.

INTRODUCTION

Education in the 21st century requires not only the mastery of knowledge but also the development of competencies that support lifelong learning, including critical thinking, creativity, collaboration, and learner autonomy. Various innovations in educational technology have been developed to address these needs, such as the integration of e-modules and digital-based instructional design, which have been proven effective in improving student learning outcomes (Vidianti, Adesti, & Pebriantika, 2024; Selvi, Nurhikmah, & Arnidah, 2024). In the elementary school context, creative learning media also play a crucial role in fostering active student engagement, such as the use of games and interactive simulations that make abstract concepts more concrete (Suprianto, Ridwan, & Sundari, 2024; Widyalistyorini et al., 2024). These innovations highlight the urgency of adopting learning models that not only improve academic performance but also build students' independence in managing their own learning processes.

In the Indonesian elementary school setting, the development of student character, particularly independence, is often overshadowed by the dominance of cognitive-oriented learning. Civic and social studies subjects, which have the potential to nurture social attitudes and democratic values, frequently receive limited innovation in classroom practice (Wangi, Supriyanto, & Trimurtini, 2024). Recent studies highlight the importance of cultivating civic virtues through innovative and student-centered approaches, especially in the implementation of the independent curriculum at the elementary level (Fitra & Witanto, 2024). Furthermore, the necessity of developing project-based learning (PjBL) tools in social studies education demonstrates the growing awareness that independence, collaboration, and problem-solving skills must be systematically fostered from an early age (Usman, Suntari, & Wulandari, 2024). These insights underline the urgency for schools to integrate contextual and participatory methods as a foundation for character building.

Previous studies have shown the effectiveness of innovative learning models in improving both student outcomes and the development of character values. For instance, the application of a Problem-Based Learning (PjBL) model assisted by Quizizz media has been proven to enhance elementary students' science learning achievements (Kusuma & Kasriman, 2022). Likewise, educational games such as the metaphor-hunting activity were found to significantly foster social and cognitive skills among elementary learners (Jannah & Nasution, 2022). Character education has also been strengthened through the

development of audio-visual media based on integrity values, which creates engaging learning environments while instilling moral values (Oktaviani et al., 2022). At the same time, teacher competence remains a crucial factor in ensuring the successful implementation of digital learning models, highlighting the importance of professional training in media use (Prasetiyo & Agustian, 2021). Furthermore, innovations such as hypnoteaching-based videos have also demonstrated positive impacts on student learning outcomes (Warto et al., 2021). However, most of these studies tend to focus on cognitive achievements and technical aspects of media integration, while the issue of strengthening students' independence character through the integration of PjBL in Civic Education at the elementary school level has not yet been adequately addressed.

Recent studies in the field of civic education have highlighted the importance of innovative approaches to strengthen students' sense of responsibility and engagement. The use of blended learning models, for example, has been shown to effectively cultivate civic responsibility in learners through asynchronous and student-centered learning activities (Cahyono et al., 2024). Similarly, the development of hybrid reflective micro-learning models integrated with ICT demonstrates how technological innovations can create flexible learning experiences that encourage autonomy (El Faisal et al., 2024). In addition, digital citizenship has emerged as a key determinant in improving the quality of civic education, emphasizing the role of technology in shaping students' civic values and behaviors (Alrakhman et al., 2024). Studies also reveal that navigating online learning for civic education, even involving parental roles in the digital era, can foster adaptive and responsible learning environments (Halimah et al., 2024). At the elementary level, alternative instructional media such as pop-up books have proven effective in enriching Pancasila Education, making abstract concepts more concrete and engaging for young learners (Rofiah, Budiyono, & Dewi, 2024). Building upon these insights, the present study introduces a focus on strengthening students' independence character through the integration of Project-Based Learning (PjBL) in civic education, addressing a research gap that has not yet been widely explored in Indonesian elementary schools.

Building on the aforementioned gaps, the present study is designed to explore how Project-Based Learning (PjBL) can serve as an effective instructional approach to strengthen students' independence in civic education at the elementary school level. Previous research on civic education has emphasized the importance of employing interactive strategies—such as role-play, simulations, and service learning—to foster civic knowledge, skills, and dispositions (Halverson, Tucker, & Smith, 2024). In the broader field of science and STEM education, PjBL has consistently been identified as a model capable of enhancing problem-solving, collaboration, and learner autonomy (Nurhidayah, Wibowo, & Astra, 2021; Diana, Yohannes, & Sukma, 2021). Furthermore, evidence-based reviews highlight PjBL as part of a family of active learning models, including Problem-Based Learning (PBL) and Challenge-Based Learning (CBL), which are grounded in student-centered design and experiential engagement (Sukackė et al., 2022). Thus, the primary aim of this study is to qualitatively investigate the implementation of PjBL in civic education and its potential to cultivate student independence, a character trait that is increasingly vital in supporting lifelong learning and democratic participation.

In light of these considerations, this study is positioned to contribute both theoretically and practically to the field of educational technology and civic education. Theoretically, it advances the discourse on how PjBL can be integrated into character education, particularly in fostering independence among elementary school learners. Practically, the study provides insights for teachers and schools in designing civic education lessons that are not only knowledge-oriented but also character-driven, utilizing projects that promote initiative, responsibility, and problem-solving. The main purpose of this research is to qualitatively investigate how Project-Based Learning can be planned, implemented, and evaluated in elementary civic education to strengthen students' independence character. By adopting a case study approach in an Indonesian elementary school context, this research seeks to generate a deeper understanding of PjBL practices and provide recommendations for future instructional designs, including the integration of simple digital tools to support meaningful learning experiences in civic education.

RESEARCH METHODS

1. Research Design

This study employed a qualitative research design with a case study approach. Qualitative research is suitable for exploring the meanings, experiences, and perspectives of participants in depth (Creswell & Poth, 2018). A case study design was chosen because it allows for intensive investigation of a bounded system—in this case, the implementation of Project-Based Learning (PjBL) in a fourth-grade civic education classroom at SD Negeri 11 Martapura (Yin, 2018).

2. Setting and Participants

The study was conducted in SD Negeri 11 Martapura, focusing on a fourth-grade class during civic education lessons. Participants included 28 students and one classroom teacher. The selection of participants was carried out using purposive sampling, ensuring that the subjects were directly involved in the implementation of PjBL (Palinkas et al., 2015).

To collect comprehensive data, this study employed multiple instruments. Table 1 presents the research instrument grid, outlining the instruments, their focus, and the type of data collected.

Table 1. Research Instrument Grid

Instrument	Focus	Example of Data Collected
Observation	Student behaviors during PjBL activities (initiative, responsibility, collaboration).	Field notes on group work, student presentations, and task distribution.
Interview	Teacher and student perceptions of independence development.	Teacher's reflections and students' self-reports on confidence and initiative.
Documentation	Lesson plans, student worksheets, and project outcomes as supporting evidence.	Copies of lesson plans (RPP), project posters, and photos of group presentations.

The combination of these instruments enabled triangulation of data, thereby enhancing the credibility and trustworthiness of the research findings (Lincoln & Guba, 1985).

3. Data Collection Techniques

Data were collected using three main techniques: observation, interviews, and documentation. Observation was used to capture students' behaviors and interactions during the PjBL activities, while interviews were conducted with the teacher and selected students to gather deeper insights into their experiences (Merriam & Tisdell, 2016). Documentation, including lesson plans, student worksheets, and project reports, was analyzed to complement the observational and interview data.

4. Data Analysis

Data analysis followed the interactive model of Miles, Huberman, and Saldaña (2014), which consists of three concurrent flows of activity: data reduction, data display, and conclusion drawing/verification. This model was chosen because it provides a systematic yet flexible framework for analyzing qualitative data, allowing the researcher to continuously refine emerging themes throughout the research process.

5. Trustworthiness of Data

To ensure the credibility and trustworthiness of the findings, several strategies were employed, including data triangulation (across observation, interview, and documentation), member checking with participants, and peer debriefing. Lincoln and Guba (1985) emphasize the importance of credibility, transferability, dependability, and confirmability as criteria for establishing trustworthiness in qualitative research.

RESULT AND DISCUSSION

1. Planning of PjBL in Civic Education

The results showed that the teacher at SD Negeri 11 Martapura had designed lesson plans that explicitly integrated the steps of Project-Based Learning (PjBL) into civic education. The planning process emphasized problem orientation, identification of project themes, and grouping strategies to encourage collaborative work. Lesson documents revealed that the teacher prepared guiding questions that required students to analyze real-life civic issues, such as cooperation in the community and responsibility in group activities. These elements ensured that the learning objectives were not only cognitive but also affective, with a strong focus on developing students' independence character.

In addition, observation during lesson preparation indicated that the teacher intentionally allocated time for students to plan their project work independently. Instead of providing step-by-step instructions, the teacher encouraged learners to identify tasks, assign roles, and set deadlines. This design reflects the principles of effective PjBL, where students are positioned as active agents of their learning process (Halverson, Tucker, & Smith, 2024). As emphasized in recent civic education research, well-prepared instructional planning is critical for cultivating civic responsibility and independence among students (Cahyono et al., 2024).

2. Implementation of PjBL to Foster Student Independence

During the implementation phase, students were engaged in project-based tasks such as creating posters and presentations related to civic themes. Classroom observation revealed that students collaborated in small groups, negotiated their roles, and made decisions regarding the presentation format of their projects. Interestingly, the teacher played more of a facilitator role, offering guidance only when necessary, which gave students the space to develop autonomy. Interviews with students confirmed that many of them felt more confident in expressing ideas and solving problems during group tasks, a sign of increased independence.

This finding resonates with the literature showing that PjBL encourages students to take ownership of their learning, thereby fostering responsibility and initiative (Nurhidayah, Wibowo, & Astra, 2021). Moreover, Diana, Yohannes, and Sukma (2021) found that real-world tasks embedded in PjBL enhance learners' motivation and problem-solving ability—both of which were visible in this case study. During the project implementation, students occasionally faced difficulties, such as disagreements within groups or challenges in organizing information. However, rather than relying on teacher instructions, they attempted to resolve issues through peer discussion. This illustrates how PjBL not only provides cognitive benefits but also functions as a training ground for independence and democratic practices (Sukackė et al., 2022).

To strengthen the findings, this study employed multiple instruments to collect data. The instruments included observation, interviews, and documentation, each focusing on specific aspects of students' independence during the implementation of PjBL. The details are presented in Table 1.

Table 2. Research Instruments

Instrument	Focus	Data Collected
Observation	Student behaviors during PjBL activities (initiative, responsibility, collaboration).	Field notes on group work, student presentations, and task distribution.
Interview	Teacher and student perceptions of independence development.	Teacher's reflection and students' self-reports on confidence and initiative.
Documentation	Lesson plans, student worksheets, and project outcomes as supporting evidence.	Copies of RPP, student project posters, and photos of group presentations.

205

The triangulation of these three instruments ensured that the findings were not only descriptive but also supported by multiple sources of evidence. Observation provided direct insight into student behaviors, interviews captured both teacher and student perspectives, while documentation verified the actual learning artifacts produced during PjBL. This integration of instruments enhanced the credibility and trustworthiness of the results.

3. **Emerging Impacts on Student Independence Character**

The most significant result was the observable growth in students' independence character. Based on classroom observation, students began to demonstrate greater initiative, for example, by preparing materials without being told and showing persistence when facing technical problems, such as arranging visual aids. Teacher interviews also revealed a noticeable change in student behavior: learners were more punctual in completing tasks and displayed stronger self-confidence during presentations. Some students who initially hesitated to speak in front of the class gradually developed the courage to share their group's project outcomes.

These findings align with civic education literature emphasizing the importance of digital citizenship and character development in the 21st century. Alrakhman et al. (2024) stress that independence and responsibility are foundational values in civic education, particularly in a digital era where self-regulation is crucial. Similarly, El Faisal et al. (2024) highlight how reflective and ICT-based learning can stimulate student autonomy, while Halimah et al. (2024) demonstrate that even in online contexts, civic education can cultivate independence through guided yet flexible activities. The case in SD Negeri 11 Martapura supports these findings by showing that structured yet student-centered project activities can successfully foster the independence character of elementary students in civic education.

DISCUSSION

The findings of this study confirm that Project-Based Learning (PjBL) can effectively foster independence character among elementary school students in civic education. The observed improvement in initiative, responsibility, and self-confidence corresponds with previous studies highlighting the value of PjBL in promoting learner autonomy. For instance, Nurhidayah, Wibowo, and Astra (2021) as well as Diana, Yohannes, and Sukma (2021) emphasized that PjBL enhances problem-solving skills and motivates learners to take responsibility for their tasks. The results of this case study extend these insights into the context of civic education, demonstrating that PjBL is not only beneficial for science and STEM subjects but also for character education.

In terms of planning and implementation, the teacher's design of project tasks that allowed students to negotiate roles and manage group work resonates with Halverson, Tucker, and Smith (2024), who argued that civic education requires interactive strategies such as simulations, role-play, and projects to strengthen civic dispositions. Similarly, the teacher's role as a facilitator rather than a knowledge transmitter reflects the blended and ICT-supported civic education practices reported by Cahyono et al. (2024) and El Faisal et al. (2024). This suggests that the principles of learner-centered design are transferable across contexts and can be adapted to elementary-level civic education.

Furthermore, the improvement in student independence observed in this study is in line with Alrakhman et al. (2024), who found that digital citizenship strongly affects the quality of civic education, particularly in fostering responsibility and self-regulation. Halimah et al. (2024) also confirmed that civic education in digital or hybrid learning environments can still promote adaptive independence when properly guided. The present findings therefore reinforce the importance of integrating technology and reflective learning models to complement PjBL, especially in settings where resources are limited.

Finally, the results also address gaps identified in earlier research, such as the limited availability of tools to support project-based civic education. Usman, Suntari, and Wulandari (2024) stressed the need for

developing PjBL-based electronic worksheets (E-LKPD) for social studies, while Wangi, Supriyanto, and Trimurtini (2024) highlighted the importance of cultivating social attitudes in IPS learning. The findings from SD Negeri 11 Martapura confirm these concerns by demonstrating that students benefit from structured yet participatory learning designs. Thus, this study contributes to the growing literature on civic education by providing qualitative evidence that PjBL can be a powerful means to strengthen independence character, bridging both theoretical discourse and classroom practice.

CONCLUSION AND SUGGESTIONS
Conclusions
The findings of this study indicate that the integration of Project-Based Learning (PjBL) into civic education successfully strengthened students' independence character in SD Negeri 11 Martapura. The research revealed that (1) lesson planning was systematically designed to incorporate PjBL principles, (2) implementation encouraged student autonomy and responsibility through group projects, and (3) positive impacts emerged, as students demonstrated stronger initiative, self-confidence, and responsibility in completing tasks. These results highlight the potential of PjBL as not only an instructional strategy for knowledge acquisition but also as a medium for character formation, particularly independence.

Suggestions
1. **For Teachers** – Teachers are encouraged to adopt PjBL as an alternative approach in civic education by designing character-oriented projects that emphasize initiative, social responsibility, and democratic values. This is in line with previous research that highlights the role of social studies in cultivating social and civic attitudes among students (Wangi, Supriyanto, & Trimurtini, 2024).
2. **For Schools** – Schools should provide adequate support for the implementation of PjBL by facilitating resources, collaboration opportunities, and the development of practical tools such as PjBL-based electronic worksheets (E-LKPD), as suggested by Usman, Suntari, and Wulandari (2024).
3. **For Policymakers and Curriculum Developers** – Civic education should emphasize not only knowledge of rights and responsibilities but also the cultivation of democratic and independent dispositions, consistent with Sunarso, Hidayah, Firmasnyah, and Arpannudin (2024) as well as Hanum, Murdiono, and Suyato (2024).
4. **For Future Research** – Further studies are recommended to expand the scope by incorporating digital platforms and cross-subject integration to maximize the impact of PjBL on civic education. Broader investigations may also compare different contexts to provide more comprehensive evidence of PjBL's contribution to strengthening independence character.

REFERENCES

Alrakhman, R., Budimansyah, D., Sapriya, & Rahmat. (2024). The effect of digital citizenship on the quality learning civic education. Jurnal Civics: Media Kajian Kewarganegaraan, 21(1), 29–40. https://doi.org/10.21831/jc.v21i1.67086

Cahyono, C., Danial, E., Rahmat, R., Masyitoh, I. S., & Romli, A. D. (2024). Developing students' civic responsibility using blended learning model with an asynchronous system. Jurnal Civics: Media Kajian Kewarganegaraan, 21(1), 1–8. https://doi.org/10.21831/jc.v21i1.67361

Creswell, J. W., & Poth, C. N. (2018). Qualitative inquiry and research design: Choosing among five approaches (4th ed.). Thousand Oaks, CA: Sage.

Diana, N., Yohannes, & Sukma, Y. (2021). The effectiveness of implementing project-based learning (PjBL) model in STEM education: A literature review. Journal of Physics: Conference Series, 1882(1), 012146. https://doi.org/10.1088/1742-6596/1882/1/012146

El Faisal, E., Safitri, S., Dianti, P., Lestari, D., & Sulkipani, S. (2024). Development of a hybrid reflective micro learning model based on ICT in micro teaching courses. Jurnal Civics: Media Kajian Kewarganegaraan, 21(1), 9–19. https://doi.org/10.21831/jc.v21i1.68070

Fitra, N. V., & Witanto, Y. (2024). Fostering democratic citizenship: Innovative approaches to improve civic values in elementary school independent curricula. Jurnal Ilmiah Pendidikan Guru Sekolah Dasar (JPGSD), 12(2), 291–301. https://doi.org/10.23887/jjpgsd.v12i2.75513

Halimah, L., Romlah, O. Y., Heryani, H., & Setiawati, L. (2024). Navigating online learning for citizenship education through parenthood in the digital era. Jurnal Civics: Media Kajian Kewarganegaraan, 21(1), 90–97. https://doi.org/10.21831/jc.v21i1.57731

Halverson, L. R., Tucker, E., & Smith, G. H. (2024). Teaching civics: An overview of instructional strategies using primary sources, role-play and simulations, and academic service learning for teaching civic knowledge, skills, and dispositions. The Social Studies, 116(4), 211–231. https://doi.org/10.1080/00377996.2024.2379908

Hanum, F. F., Murdiono, M., & Suyato, S. (2024). Innovation in civic education learning model to improve national defense skills in college students. Jurnal Civics: Media Kajian Kewarganegaraan, 21(1), 107–115. https://doi.org/10.21831/jc.v21i1.67165

Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic inquiry. Newbury Park, CA: Sage.

Merriam, S. B., & Tisdell, E. J. (2016). Qualitative research: A guide to design and implementation (4th ed.). San Francisco, CA: Jossey-Bass.

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). Qualitative data analysis: A methods sourcebook (3rd ed.). Thousand Oaks, CA: Sage.

Nurhidayah, I. J., Wibowo, F. C., & Astra, I. M. (2021). Project-based learning (PjBL) learning model in science learning: Literature review. Journal of Physics: Conference Series, 2019(1), 012043. https://doi.org/10.1088/1742-6596/2019/1/012043

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. Administration and Policy in Mental Health and Mental Health Services Research, 42(5), 533–544. https://doi.org/10.1007/s10488-013-0528-y

Rofiah, N. H., Budiyono, & Dewi, R. (2024). Learning media using pop-up book "Variety of traditional houses in Indonesia" as alternative media in Pancasila Education for primary school. Jurnal Civics: Media Kajian Kewarganegaraan, 21(1), 116–126. https://doi.org/10.21831/jc.v21i1.66211

Sakinah, N., Herwin, Kawuryan, S. P., & Bara, S. N. (2024). Group investigation learning model influence on prospective elementary school teachers' democratic attitudes. Jurnal Pendidikan Guru Sekolah Dasar (JPGSD), 12(2), 282–290. https://doi.org/10.23887/jjpgsd.v12i2.70478

Selvi, N., & Arnidah, A. (2024). Development of E-modules for science subjects to improve learning

outcomes of class VII students of SMPN 2 North Galesong Takalar District. Teknodika, 22(2), 101–109. https://doi.org/10.20961/teknodika.v22i2.87521

Sukackė, V., Guerra, A. O. P. d. C., Ellinger, D., Carlos, V., Petronienė, S., Gaižiūnienė, L., Blanch, S., Marbà-Tallada, A., & Brose, A. (2022). Towards active evidence-based learning in engineering education: A systematic literature review of PBL, PjBL, and CBL. Sustainability, 14(21), 13955. https://doi.org/10.3390/su142113955

Sunarso, S., Hidayah, Y., Firmasnyah, A., & Arpannudin, I. (2024). Content analysis of Pancasila and civic education curriculum at the junior high school level in Indonesia: Philosophical perspectives in affirming civic identity. Jurnal Civics: Media Kajian Kewarganegaraan, 21(1), 98–106. https:/doi.org/10.21831/jc.v21i1.63161

Suprianto, O., Ridwan, I. R., & Sundari, N. (2024). Improving learning outcomes through the Ular Tangga Raksasa game on civic education in elementary school. Teknodika, 22(2), 110–120. https://doi.org/10.20961/teknodika.v22i2.85023

Usman, H., Suntari, Y., & Wulandari, Y. (2024). The need for the development of PjBL-based social studies E-LKPD for elementary school students. Jurnal Ilmiah Pendidikan Guru Sekolah Dasar (JPGSD), 12(2), 390–398. https://doi.org/10.23887/jjpgsd.v12i2.72170

Vidianti, A., Adesti, A., & Pebriantika, L. (2024). The effectiveness of E-modules based on problem-based learning toward student learning outcomes in educational profession courses. Teknodika, 22(2), 92–100. https://doi.org/10.20961/teknodika.v22i2.93828

Wangi, H. E., Supriyanto, T., & Trimurtini. (2024). Cultivation of social attitudes in social studies subjects for sixth grade of elementary school. Jurnal Ilmiah Pendidikan Guru Sekolah Dasar (JPGSD), 12(2), 205–215. https://doi.org/10.23887/jjpgsd.v12i2.76094

Widyalistyorini, D., Siyam, I. N., Yanti, W. F., Rezeki, I. S. T., Julianto, J., & Rahmawati, E. (2024). Overcoming misconceptions of elementary school students in energy materials and their changes using the Colorado PhET application. Teknodika, 22(2), 121–128. https://doi.org/10.20961/teknodika.v22i2.88443

Yin, R. K. (2018). Case study research and applications: Design and methods (6th ed.). Thousand Oaks, CA: Sage.