JTH

Implementation of Project-Based Character Education in Elementary Schools

Raharjo, Ronal, Fajrie, Nur*, Ismaya, Erik Aditia & Kurniati, Diah

Muria Kudus University, Jl. UMK North Ring, Gondangmanis, Bae, Kudus – 59327 Central Java, INDONESIA

*Corresponding author email: nur.fajrie@umk.ac.id

Abstract: This study aims to describe and analyze the implementation of environmental care character education at State Elementary School 1 Sarirejo. This research uses a qualitative approach with a case study method. Data were collected through observation, interviews, and documentation, and analyzed using interactive data analysis techniques. The results showed that there are various efforts made by the school in instilling the character of environmental care in students, such as integrated learning activities, extracurricular activities, and positive habituation. However, there are several obstacles in the implementation of environmental awareness character education, such as lack of student awareness, limited resources, and lack of support from parents. This study provides recommendations to improve the effectiveness of environmental awareness character education at State Elementary School 1 Sarirejo.

Keywords: character education, environmental care, primary school, integrated learning, extracurricular activities

1.   Introduction

Basic education has an important role in shaping the character of the younger generation. This is in accordance with the mandate of Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System which states that education aims to develop the potential of students to become human beings who are faithful and devoted to God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens.

Indonesia has a rich culture that can be used as a source of character learning. One form of traditional art that is rich in character values is wayang. Wayang is a cultural heritage that can teach moral values through its stories and characters. In the context of education, puppets can be used as a medium to instill character education in students.

Character education is becoming an increasingly important issue along with the challenges of globalization and technological development. Technological advances bring not only positive impacts but also challenges, including moral degradation and social values. Therefore, character education in primary schools must be designed in such a way as to answer these challenges. This is in line with the opinion of Fajrie (2012) who states that character education must be able to integrate local cultural values so that students have a strong identity and are able to compete at the global level.

The implementation of character education through the Project Based Learning (PjBL) approach has been proven effective in various studies. PjBL is a learning model that focuses on projects as the core of the learning process. Students learn through hands-on experience in planning, implementing, and completing projects that are relevant to their lives. Through these projects, students not only acquire academic knowledge, but also develop social skills and character. According to research by Gusteti & Neviyarni (2022) PjBL is able to increase students' creativity and critical thinking skills, as well as instill character values more deeply.

Project-based character education also allows students to learn contextually and applicatively. They not only learn theory, but also how to apply it in real life. This is very relevant to the concept of character education proposed by Ki Hajar Dewantara, namely olah hati (ethics), olah pikir (literacy), olah karsa (aesthetics), and olah raga (*kinesthetic*) (Riantika et al., 2024). These four aspects must be developed in a balanced manner so that students can grow into a whole and characterized individual.

Wayang as a character learning medium offers many advantages. Puppets not only teach moral values but also have a strong cultural appeal. According to Riantika et al. (2024), puppets are able to teach important life values such as

religiosity, nationality, honesty, hard work, and perseverance. The wayang performance project from used items, for example, can be an interesting and effective form of character education implementation.

In this study, we examined the implementation of project-based character education at SD Negeri 1 Sarirejo. This research used a descriptive qualitative method with a case study approach. Data were collected through observation, interviews and documentation. The focus of this research is on the project of making and performing puppets from used goods. The project not only aims to teach character values but also to develop students' creativity and social skills.

Based on observations at SD Negeri 1 Sarirejo, there is an urgent need to develop effective learning methods in instilling character education. One method that can be applied is Project Based Learning (PjBL) using puppets as learning media. This project involves students actively in the entire learning process, from planning, implementation, to evaluation. Thus, students not only learn about character values but also how to apply them in everyday life.

Ramadhani & Muhroji (2022) emphasizes the importance of introducing local cultural values early on to the next generation so that they have an identity based on national culture. In school learning, these cultural values can be integrated into various subjects through an approach that is appropriate to the environment where students live. The use of wayang as a character learning media is one way to integrate local cultural values in education.

In addition, project-based character education also allows students to learn collaboratively. They learn to work together in teams, respect the opinions of others and resolve conflicts in a constructive way. This is very important in shaping students' democratic and responsible character. According to Wahidah et al. (2023) character education should be able to equip students with the social skills needed to interact in a diverse society.

The second-hand puppet show project at SD Negeri 1 Sarirejo involved students in a variety of challenging and fun activities. They learn how to collect used materials, design puppet characters, create story scenarios, and perform the show in front of their friends. During this process, students learn about the importance of hard work, perseverance and creativity. They also learn how to appreciate the results of their and others' hard work.

Fajrie (2012) states that puppet shows can reveal the values of life in society and have an important role in growing and developing one's personality. The plays in puppet stories depict real life that can influence people's attitudes and behaviors in actualizing the values that exist in everyday life. Thus, wayang can be an effective tool to instill character education in elementary schools.

In the context of education in Indonesia, character education is one of the main focuses of the government in an effort to build a young generation with noble character and high morals. The government has issued various policies to support character education, including through a curriculum based on Pancasila values. Character education is not only taught through specialized subjects but also integrated into all subjects and school activities.

The implementation of project-based character education at SD Negeri 1 Sarirejo is expected to serve as a model for other schools in instilling character education. The project shows that character education can be taught in an interesting and fun way, and can develop students' social and academic skills. Character education is not only about teaching values but also about how those values can be applied in daily life.

This study aims to explore the role of the puppet show project from used goods in instilling character education at SD Negeri 1 Sarirejo. The project is expected to improve students' academic excellence and develop superior character in accordance with Ki Hajar Dewantara's character education philosophy, namely olah hati (ethics), olah pikir (literacy), olah karsa (aesthetics), and olah raga (kinesthetics). (Riantika et al., 2024).

The second-hand puppet show project engages students in a range of challenging and fun activities. They learn how to collect used materials, design puppet characters, create story scenarios, and perform the show in front of their friends. During this process, students learn about the importance of hard work, perseverance and creativity. They also learn how to appreciate the results of their and others' hard work.

Riantika et al. (2024) emphasized that wayang can be used as a medium for character education in elementary schools because it is able to teach important life values, such as religiosity, nationality, honesty, hard work, and an unyielding attitude. Their research showed that the wayang performance project from used goods was effective in instilling character education in grade VI students in Sleman.

Based on the results of this study, we hope to make a meaningful contribution to the development of character education in Indonesia. The implementation of project-based character education at SD Negeri 1 Sarirejo can be a model that can be adapted by other schools. The project not only provides benefits for students but also for teachers and parents. Teachers can develop their teaching skills through the PjBL approach, while parents can be actively involved in their children's learning process.

In addition, the use of puppets as learning media can also help preserve local culture. Wayang is an important part of Indonesia's cultural heritage that must be maintained and preserved. Through this project, students not only learn about character values but also about the importance of keeping and preserving their culture.

In closing, project-based character education is an effective approach in instilling character values in students. Using wayang as a learning medium provides many advantages, including teaching moral values, enhancing creativity, and preserving local culture. We hope this research can provide inspiration for other schools in developing effective and engaging character education programs.

2.   Methodology

This research uses a narrative qualitative method with a case study approach. This method was chosen because it allows researchers to explore in depth the processes and dynamics that occur in the implementation of project-based character education at SD Negeri 1 Sarirejo. Data collection techniques included observation, interviews and documentation. The data obtained were analyzed using an interactive analysis model consisting of data reduction, data presentation, and conclusion drawing or verification (Miles and Huberman, 1994). The research subjects were grade VI students of SD Negeri 1 Sarirejo, totaling 27 children.

Observations were made to directly observe project-based learning activities carried out by students. This observation aims to get an overview of how the puppet project from used goods is implemented, the interaction between students, and how character values are instilled during the activity. Observations were conducted during the planning, implementation, and evaluation process of the project.

Interviews were conducted with various parties involved in the research, including teachers, students and principals. The interviews aimed to obtain in-depth information regarding their experiences, perceptions and views on the implementation of project-based character education. Semi-structured interviews were used to allow flexibility in exploring broader information.

Documentation includes collecting various documents related to the project, such as lesson plans, student work, photos of activities, and teacher notes. This documentation is used to complement the data obtained from observations and interviews and to provide tangible evidence of the project implementation.

The data analysis technique used in this research is an interactive analysis model consisting of three main components, namely data reduction, data presentation, and conclusion drawing or verification (Miles and Huberman, 1994). The following are the stages in data analysis:

Data reduction is a process of selection, focusing on simplification, abstraction, and transformation of rough data that emerges from written notes in the field. Data obtained from observations, interviews, and documentation are organized and simplified to make them easier to interpret. Data reduction is done by selecting data that is relevant to the research objectives and discarding irrelevant data.

Data presentation is done in the form of structured narrative text, tables, or matrices. Data presentation aims to make it easier for researchers to understand the data that has been reduced and to see patterns or relationships between data. Good data presentation will assist researchers in drawing temporary conclusions which are then further verified.

Drawing conclusions or verification is done by formulating temporary conclusions which are then verified by comparing them with existing data. This verification aims to ensure that the conclusions drawn are valid and can be accounted for. The verification process is carried out through data triangulation, namely comparing data obtained from various sources and methods to ensure data consistency and accuracy.

The research subjects were grade VI students of SD Negeri 1 Sarirejo, totaling 27 children. The selection of research subjects was carried out using purposive sampling technique, namely selecting subjects who were considered to have relevant and in-depth information on the research topic. In addition to students, teachers and principals also became informants in this study to provide a more comprehensive perspective on the implementation of project-based character education at the school.

To ensure the validity and reliability of the data, this study used several strategies, including triangulation of data sources and methods, member check, and audit trail. Triangulation was done by comparing data obtained from observations, interviews, and documentation to ensure data consistency. Member check was conducted by asking informants to verify the interview results and the researcher's interpretation. Audit trail is done by documenting the entire research process in detail so that it can be traced back by other researchers.

The implementation of project-based character education at SD Negeri 1 Sarirejo is focused on the project of making and performing puppets from used goods. This project was chosen because it has strong cultural values and is able to teach various character values such as hard work, creativity, cooperation and responsibility. The implementation process of this project includes several stages, namely:

In the planning stage, the teacher and students discuss the project idea, objectives, and steps to be taken. Students are invited to actively participate in planning the project so that they feel responsible for the success of the project. The teacher provides guidance and direction, but students determine many aspects of the project.

The implementation stage involves students in various activities related to the project, such as collecting used materials, designing puppet characters, creating story scenarios, and performing puppet shows. During this process, the teacher acts as a facilitator who helps and guides the students, but the students are in ultimate control of the project.

Evaluation is carried out after the project is completed. Students and teachers together evaluate the process and results of the project. This evaluation includes reflections on what has been learned, challenges faced, and how character values have been applied during the project. The results of the evaluation are used to improve and enhance the implementation of the project in the future.

The project of making and performing puppets from used goods at SD Negeri 1 Sarirejo aims to develop various important character values for students, including:

1. **Religious** Students are taught to always remember God in every activity they do. Religious values are instilled through prayers before and after activities and through puppet stories that contain moral and religious messages.

2. **Love for** the Country Through this project, students learn about wayang culture which is part of Indonesia's cultural heritage. They are invited to appreciate and preserve local culture.
3. **Honesty The** process of making puppets involves honesty in working together and dividing tasks. Students are taught to always speak honestly and act honestly in every step of the project.
4. **Hard Work** Puppet making requires perseverance and hard work. Students learn not to give up easily and keep trying until the project is completed well.
5. **Creativity** This project encourages students to think creatively in using used items into beautiful works of art. They are also encouraged to develop creative ideas in creating puppet stories.
6. **Teamwork** This project involves teamwork. Students learn to cooperate with their friends, help each other, and value the contribution of each team member.
7. **Responsibility** Students are given responsibility for specific tasks in the project. They learn to take responsibility for their work and complete it well.

This narrative qualitative research method with a case study approach allows researchers to explore in depth how the implementation of project-based character education at SD Negeri 1 Sarirejo. Data collection techniques including observation, interviews and documentation provided a comprehensive picture of the processes and dynamics that occurred during the project. Data analysis using an interactive analysis model helped in identifying and understanding the character values developed through the project. The results of this study are expected to make a meaningful contribution to the development of character education in elementary schools.

3. Results

The results showed that the planning stage in the implementation of project-based character education at SD Negeri 1 Sarirejo had a significant positive impact on the development of various student skills. Through group discussions in determining the type of puppets, the materials needed, and the steps of the process, students not only learn about the subject matter, but also develop social skills, such as cooperation, communication, and leadership. Furthermore, students' active involvement in the planning process stimulates their creativity in designing puppets from used items, as well as their decision-making skills. This is in line with the research of Arini (2024) which showed that PjBL-based project planning can improve students' collaborative and creative skills by involving them directly in the process of project planning and implementation.

In addition, this planning stage also provides an opportunity for students to learn about the importance of resource and time management, as they have to consider the availability of materials and the time needed to complete the project. Thus, the planning stage in PjBL not only provides benefits in the development of academic skills, but also social and practical skills that are very important for students in the future.

The implementation stage in this study, where students were actively involved in collecting scrap materials, designing puppets, and creating story scenarios, proved to be very effective in fostering not only technical skills, but also deep character values. Hard work, perseverance, and responsibility become the foundation that is firmly embedded in students through this student-centered learning process. The teacher's role as a facilitator, providing guidance and direction as necessary, ensures that students remain the main owners of this project, encourages independence, and fosters confidence in making decisions.

Research Riantika et al. (2024) further reinforces these findings, showing that students' active involvement in PjBL projects is positively correlated with increased critical thinking ability and a sense of responsibility for the assigned tasks. Students not only learn how to complete tasks, but also learn how to learn, developing valuable metacognitive skills. Furthermore, collaboration in groups during this implementation stage teaches students the importance of cooperation, effective communication, and leadership, skills that are highly needed in the 21st century.

Ferrero et al. (2021) also emphasized the importance of collaboration in PjBL, stating that students are encouraged to work in groups to solve real-world problems. Skills such as communication, teamwork, problem solving, and critical thinking, all of which are enhanced through the PjBL experience, are highly valued by employers (Vasiliene-vasiliauskiene et al., 2020). Thus, the implementation stage in PjBL not only prepares students for academic success, but also equips them with the necessary skills to thrive in the professional world.

The end result of this project, a puppet show performed by the students, proved to be an effective culmination in measuring the success of the implementation of project-based character education (PjBL). The performance was not only a showcase of students' work and creativity, but also a tangible proof of the hard work, collaboration, and character development they had gone through during the learning process.

Through puppet shows, students learn to express themselves creatively, increase self-confidence, and develop effective communication skills. Research results Wahidah et al. (2023) support this claim, showing that performing arts, such as wayang performances in this context, can be an effective means of developing students' characters and increasing their self-confidence.

Moreover, wayang performances also provide a platform for students to learn about the cultural values and local wisdom contained in wayang. This enriches their understanding of the nation's cultural heritage, while fostering a sense of pride in their cultural identity. Thus, puppet shows in PjBL not only have an impact on students' academic and character development, but also on the formation of their cultural identity.

Research Lazić et al. (2021) also highlighted the importance of project-based learning in improving student learning achievement and found that students learning in a project-based model showed greater intrinsic motivation to learn, expressed greater autonomy in learning, were more independent, and had more developed metacognitive skills compared to students working in a traditional teaching model.

Ferrero et al. (2021) also emphasized that PjBL can help students improve academic achievement and build flexible knowledge. Skills such as communication, teamwork, problem-solving, and critical thinking, all of which are enhanced through PjBL experiences, are highly valued by employers (Vasiliene-vasiliauskiene et al., 2020). Thus, the puppet show was not only the culmination of the project, but also a springboard for students to apply the skills and knowledge they had acquired in a broader context.

The joint evaluation between students and teachers after the puppet show is a crucial stage in the implementation of project-based character education (PjBL). This evaluation stage is not just a final assessment, but a process of deep reflection that involves students and teachers to dig deeper into the learning that has occurred. Students are invited to reflect on what they have learned, both in terms of knowledge and skills, and how they have applied character values such as cooperation, responsibility and creativity during the project.

Challenges faced during the learning process are also the focus of this evaluation. By identifying the barriers and difficulties that arise, students and teachers can jointly seek solutions and strategies to overcome similar problems in the future. This process not only improves students' understanding of the subject matter, but also develops their problem-solving skills and critical thinking ability.

Ferrero et al. (2021) emphasized the importance of using adequate assessment tools to measure student progress in PjBL. This joint evaluation between students and teachers is in line with that recommendation, as it allows for a more holistic and meaningful assessment. In addition, Gusteti & Neviyarni (2022) also highlighted the importance of evaluation in PjBL to ensure that students understand and apply the character values taught. In their study, project evaluation contributed to the improvement of students' reflective and critical skills, which are important aspects in character development.

Thus, co-evaluation in PjBL serves not only as a measure of project success, but also as a means of continuous learning. This process empowers students to become more independent, reflective and critical learners and prepares them for future challenges.

4. Discussion

Through the puppet project, students not only learn about religious values, but also experience the process of internalizing these values. Every step in the making and performance of the puppets, from the selection of meaningful stories to the prayer together before and after the show, is a reminder of God's presence in every aspect of their lives. Research Riantika et al. (2024) shows that the use of traditional media, such as wayang, can be a very effective means of instilling religious values in students. Wayang, with all its symbolism and philosophy, is able to convey moral and religious messages in a deep and interesting way to students.

Furthermore, the wayang project also encouraged students to dig deeper into their own religious values. Group discussions and joint reflections provide space for students to share their experiences and views on these values. This process not only strengthens their understanding of religious values, but also fosters an attitude of tolerance and mutual respect for different beliefs.

This project-based learning (PjBL) approach is in line with the findings of Ferrero et al. (2021) who stated that PjBL can help students improve academic achievement and build flexible knowledge. In the context of the wayang project, students not only learn about religious values theoretically, but also apply them practically in each stage of the project. This encourages them to be active, independent, and responsible learners.

Thus, the puppet project in the implementation of project-based character education at SD Negeri 1 Sarirejo succeeded in creating a conducive learning environment for students' character development, especially in terms of religious values. Through this meaningful learning experience, students not only become more religious, but also more knowledgeable, skilled and characterized.

This puppet project is not only a means of learning religious values, but also a window for students to understand and appreciate the richness of local culture. Wayang, as an integral part of Indonesia's cultural heritage, contains noble values that have been passed down from generation to generation. Through this project, students are invited to dig deeper into the meaning and philosophy behind each puppet character and story, thus fostering a sense of pride and love for their own culture.

More than just an art performance, this puppet project also teaches students about the importance of preserving local culture. In an era of globalization that is increasingly blurring cultural boundaries, understanding and appreciating one's own culture is crucial. Students learn that local culture is not just a tradition, but also an identity that distinguishes them from others.

Findings Solissa et al. (2024) further strengthen the importance of integrating local cultural values in character education. This research shows that understanding and appreciation of local cultural values can shape students' strong national identity. Thus, the wayang project is not only a means of learning art and religious values, but also a tool to foster a sense of patriotism and strengthen students' national identit

Vasiliene-vasiliauskiene et al. (2020) also highlighted the importance of PjBL in equipping students with skills needed in the 21st century, such as communication, teamwork, problem solving and critical thinking. Through the puppet project, students not only learn about local culture, but also develop these skills through the collaborative process of creating and performing puppets. Thus, the wayang project in PjBL not only enriches students' knowledge of local culture, but also equips them with relevant skills for their future.

Throughout the project, the emphasis on honesty and responsibility is key in shaping students' character. Students are not only taught to always tell the truth, but also to internalize the value of honesty in their every action. They learn that honesty is not only about not lying, but also about integrity, openness, and trust.

Assigning responsibility for specific tasks in the project also plays an important role in shaping students' character. By having responsibility, students learn to appreciate the trust placed in them, as well as understand the consequences of their actions. This encourages them to work earnestly, conscientiously, and be disciplined in completing the assigned tasks.

Research Ramadhani & Muhroji (2022) emphasized the importance of honesty in character education. Honesty not only shapes moral individuals, but also creates a positive and conducive learning environment. Honest students tend to be more trusted, respected and have better relationships with their peers and teachers.

Ferrero et al. (2021) also highlighted the importance of PjBL in promoting student independence. In puppet projects, students are given autonomy to make decisions and take responsibility for their choices. This strengthens their sense of ownership of the project, increases motivation, and encourages them to learn independently.

Thus, the emphasis on honesty and responsibility in the puppet project not only shapes students' character, but also equips them with important life skills. Students learn to be honest, responsible, independent and able to cooperate with others, which are valuable assets for their future success.

Puppet making, which requires perseverance and hard work, is an effective learning medium for students. In this process, they learn not to give up easily and keep trying until the project is completed well. These values, namely hard work and perseverance, are very important in shaping students' resilient and persistent characters.

Fajrie, 2012 research also emphasizes the importance of hard work in character education. Hard work not only encourages students to achieve optimal results, but also forms a good work ethic and a positive attitude towards challenges. Students learn that success does not come instantly, but through consistent effort and never giving up.

In addition, Lazić et al. (2021) also highlighted that project-based learning (PjBL), as applied in this puppet project, can increase students' intrinsic motivation in learning. The challenges in the puppet making process actually triggered students' enthusiasm to continue learning and developing themselves.

Ferrero et al. (2021) also added that PjBL can help students build flexible knowledge. In the context of puppet making, students not only learn about art and culture, but also about problem solving, creativity, and collaboration.

Thus, the puppet project not only teaches students the values of hard work and perseverance, but also provides meaningful learning experiences that are relevant to their lives. It encourages students to be resilient, persistent and highly motivated individuals in achieving their goals.

The puppet project not only encourages creativity in the use of used items and story development, but also stimulates innovation in the learning process. Students are challenged to think outside the box, seek original solutions and generate new ideas at every stage of the project. This is in line with the view of Lazić et al. (2021) that project-based learning encourages students to think creatively and innovatively.

Research Gusteti & Neviyarni (2022) also revealed that PjBL significantly increased students' creativity in solving problems and generating new ideas. In the context of the puppet project, this creativity is reflected in various aspects, from the selection of materials and puppet design to the development of stories and delivery of moral messages.

Ferrero et al. (2021) also emphasized that PjBL encourages students to work in collaborative groups to solve real-world problems. In puppet projects, students learn to collaborate, share ideas, and value the contributions of each team member. This process not only enhances creativity, but also develops important social skills and teamwork abilities.

This puppet project not only provides a platform for students to learn about religious values and local culture, but also instills the importance of solid teamwork. Through collaboration in every stage of the project, from planning, material collection, puppet making, to performance, students learn to work together, support each other, and value the contribution of each team member.

More than just completing a task together, teamwork in this puppet project teaches students to respect different opinions, communicate effectively and resolve conflicts constructively. This is in line with the findings of Wahidah et al. (2023) who stated that cooperation in PjBL projects can improve students' social and interpersonal skills.

Ferrero et al. (2021) also emphasized the importance of group work in PjBL, where students are encouraged to work together in groups to solve real-world problems. Through this cooperation, students learn to value the contribution of each team member, develop leadership skills, and improve their ability to collaborate.

Vasiliene-vasiliauskiene et al. (2020) also stated that new competencies in teamwork and collaborative problem-solving are increasingly in demand by employers. Thus, the wayang project not only teaches students about art and culture, but also equips them with teamwork skills that are invaluable for their future.

In comparison, research conducted at SDN Bogor Regency also showed the successful implementation of project-based character education. (Arini, 2024). This research shows that the use of PjBL in learning can improve students'

creative and collaborative skills. Through learning projects designed to stimulate students' creativity and promote collaboration, students not only hone academic skills but also develop social skills that are essential for their success.

Research at SDN Bogor Regency showed that students who engaged in project-based learning showed a significant increase in their level of creativity and ability to work effectively in groups. This is relevant to the findings at SD Negeri 1 Sarirejo, where the puppet project also improved students' collaborative skills. (Arini, 2024).

The role of the teacher in implementing project-based character education is very important. Teachers act as facilitators who guide students in each stage of the project. They provide direction, help students overcome challenges and ensure that character values are embedded throughout the learning process. Evelyn et al. (2024) stated that teachers have an important role in internalizing character values in students, and the implementation of character education should involve teachers as models who model the values taught.

Thus, the puppet project in the implementation of project-based character education at SD Negeri 1 Sarirejo succeeded in creating a collaborative and inclusive learning environment. Students learn to appreciate differences, cooperate effectively and achieve common goals, which are essential skills for their future success.

4. Conclusion

The implementation of project-based character education at SD Negeri 1 Sarirejo has shown very positive results in developing students' character values. The project of making and performing puppets from used goods is not only a means of learning character values such as religiosity, love for local culture, honesty, responsibility, hard work, perseverance, creativity, and cooperation, but also develops students' technical and social skills. The results of this study are in line with previous studies showing that PjBL can increase students' intrinsic motivation, creativity, and cooperation, and equip them with much-needed 21st century skills.

The findings provide strong evidence that the PjBL approach can be an effective model for other schools in embedding character education. Teachers, in their role as facilitators, have a crucial role in guiding and directing students in each stage of the project, ensuring that the learning that takes place is meaningful and relevant to students' lives. Thus, the implementation of PjBL at SD Negeri 1 Sarirejo not only succeeded in improving students' character, but also made a significant contribution to the overall development of education.

This research also highlights the importance of collaboration between schools, parents and communities in supporting the implementation of PjBL. The active involvement of all relevant parties can create a conducive learning environment and ensure the success of the project. In addition, this study also opens up opportunities for further research to explore the impact of PjBL on other aspects of student development, such as critical thinking skills, problem solving, and adaptability.

Thus, the implementation of project-based character education at SD Negeri 1 Sarirejo is a significant step forward in education. This model is not only effective in instilling character values, but also relevant to the demands of 21st century education. It is hoped that these findings can be an inspiration and reference for other schools in developing holistic and meaningful character education for students.

References

Arini. (2024). Inovasi Sumber Belajar Berbasis Proyek (Project Based Learning) dalam Meningkatkan Keterampilan Kreatif dan Koloboratif di Salah Satu SDN Kabupaten Bogor. *Karimah Tauhid*, *3*(2), 1466–1478.

Evelyn, E., Safitri, D., & Sujarwo. (2024). Studi Literatur : Implementasi Pendidikan Karakter Untuk Mengatasi Kasus Bullying Pada Peserta Didik Ellena. *Sindoro Cendekia Pendidikan*, *3*(12), 1–15. https://ejournal.warunayama.org/index.php/sindorocendikiapendidikan/article/view/769

Fajrie, N. (2012). *Media Pertunjukan Wayang*. 218–233.

Ferrero, M., Vadillo, M. A., & León, S. P. (2021). Is project-based learning effective among kindergarten and elementary students? A systematic review. *PLoS ONE*, *16*(4 April), 1–14. https://doi.org/10.1371/journal.pone.0249627

Gusteti, M. U., & Neviyarni, N. (2022). Pembelajaran Berdiferensiasi Pada Pembelajaran Matematika Di Kurikulum Merdeka. *Jurnal Lebesgue : Jurnal Ilmiah Pendidikan Matematika, Matematika Dan Statistika*, *3*(3), 636–646. https://doi.org/10.46306/lb.v3i3.180

Lazić, B. D., Knežević, J. B., & Maričić, S. M. (2021). The influence of project-based learning on student achievement in elementary mathematics education. *South African Journal of Education*, *41*(3), 1–10. https://doi.org/10.15700/saje.v41n3a1909

Ramadhani, D. A., & Muhroji, M. (2022). Peran Guru dalam Meningkatkan Motivasi Belajar pada Peserta Didik di Sekolah Dasar. *Jurnal Basicedu*, *6*(3), 4855–4861. https://doi.org/10.31004/basicedu.v6i3.2960

Riantika, A., Susanto, M. R., Arumsari, M. D., & Selimanorita, S. (2024). Pentas Kreasi Wayang Barang Bekas Untuk Menanamkan Pendidikan Karakter Di Sekolah Dasar. *JSRW (Jurnal Senirupa Warna)*, *12*(1), 48–55.

Solissa, E. M., Hayati, A. A., Rukhmana, T., Muharam, S., Mardikawati, B., & Irmawati. (2024). Mengembangkan Pendidikan Karakter Berbasis Budaya Menuju Society 5.0. *Journal on Education*, *06*(02), 11327–11333. https://www.upy.ac.id/berita/mengembangkan-pendidikan-karakter-berbasis-budaya-menuju-society-50

Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 Tentang Sistem Pendidikan Nasional. (2003). https://doi.org/10.24967/ekombis.v2i1.48

Vasiliene-vasiliauskiene, V., Management, T., Vasiliauskas, A. V., Meidute-kavaliauskiene, I., & Sabaityte, J. (2020). World Journal on Educational Technology : Current Issues Peculiarities of educational challenges implementing project-based learning. *World Journal on Educational Technology: Current Issues*, *12*(2), 136–149. https://files.eric.ed.gov/fulltext/EJ1272854.pdf

Wahidah, N., Zubair, M., Fauzan, A., & Alqodri, B. (2023). Implementasi Profil Pelajar Pancasila di SMP Negeri 1 Mataram. *Jurnal Ilmiah Profesi Pendidikan*, *8*(1b), 696–703. https://doi.org/10.29303/jipp.v8i1b.1287