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Implementation of the projek penguatan profil pelajar pancasila (p5) integrated into fourth-grade natural and social sciences (ipas) learning in elementary schools within the raflesia school cluster

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Keywords:	Abstract
projek penguatan profil pelajar pancasila; natural and social sciences (ipas); elementary school	<i>Through the Merdeka Curriculum, the Projek Penguatan Profil Pelajar Pancasila (P5) is integrated into Natural and Social Sciences (IPAS) learning to support the development of students' character and competencies. However, its implementation in elementary schools continues to face various challenges. This study aimed to analyse the implementation of P5 in IPAS learning, identify the challenges encountered, and describe the efforts made to overcome these challenges in public elementary schools within the Raflesia Cluster, Borobudur District. This study employed a descriptive qualitative approach involving principals and fourth-grade teachers from SD Negeri Tuksongo 1 and SD Negeri Tanjungsari as the research participants. The research utilised semi-structured interviews, non-participant observations, and document reviews as sources of data. Analysis was conducted systematically through the stages of qualitative data processing, including data reduction, presentation of findings, and verification of conclusions. The study findings indicated that the implementation of P5 within IPAS learning was conducted through six sequential phases, including understanding P5, preparing the school ecosystem, planning and implementing projects, documenting and reporting outcomes, and conducting evaluation processes and planning subsequent follow-up actions. The main challenges included limited learning facilities and infrastructure, insufficient instructional time, teachers' limited ability to integrate Pancasila Student Profile elements embedded in IPAS learning activities, difficulties in developing project modules and assessments, and differences</i>

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in students' characteristics. To address these challenges, schools enhanced teachers' competencies through professional training, utilised the surrounding environment as a learning resource, improved learning facilities, strengthened coordination among school stakeholders, and provided continuous guidance to students during project implementation. These findings indicate that integrating P5 into IPAS learning has the potential to strengthen students' character while enhancing their competencies, provided that it is supported by competent teachers, adequate school readiness, and effective project-based learning management.

INTRODUCTION

Background of the Study

The curriculum serves as a central element of the education system, as its implementation in educational institutions shapes the direction and effectiveness of national educational policies. In addition, the primary objective of national education is to foster students' competencies while promoting the character and dignity of the nation as a means of improving the quality of society. National education also seeks to support learners in developing their full potential by nurturing faith and devotion to Almighty God, strengthening moral values and integrity, promoting physical well-being, expanding knowledge, encouraging creativity and independence, and preparing them to become responsible and democratic citizens.

Character development can be promoted through instructional practices as well as the continuous habituation of positive values throughout the educational process, especially at the elementary school level. During this stage, character education serves as a fundamental basis for nurturing students who demonstrate responsibility, empathy, tolerance, and the ability to apply national values in their daily interactions. Betari and Rusman (2024) highlighted that elementary education has a significant role in developing students' moral character through the integration of value-based learning within the curriculum. In line with this effort, the Merdeka Curriculum introduced the P5 as a strategic initiative to strengthen students' character through contextual, collaborative, and meaningful learning activities. Further explained that P5 provides schools with practical directions for implementing character education grounded in Pancasila values (Maharani et al., 2023)

Natural and Social Sciences (IPAS) provides an appropriate context for integrating P5. Under the Merdeka Curriculum, IPAS learning emphasizes not only students' understanding of scientific and social concepts but also the development of essential competencies through inquiry-oriented activities. Through the exploration

of real-world phenomena in their surrounding environments, IPAS instruction provides opportunities for students to enhance critical reasoning, creative thinking, collaboration, and problem-solving competencies (Rahmawati et al., [2023](#)). These features make IPAS well suited to the objectives of P5, as both prioritize contextual, learner-centered, and experience-based learning. Consequently, the integration of P5 into IPAS instruction is expected to improve students' academic achievement while simultaneously promoting character development aligned with the values of the Pancasila Student Profile (Julianto et al., [2025](#)).

P5 is implemented as a co-curricular initiative within the Merdeka Curriculum that utilizes project-based activities to cultivate students' character and competencies in accordance with Pancasila principles and the National Graduate Competency Standards (Syaharani & Fatoni, [2023](#); Lestari & Ihlilawati, [2023](#)). Rediyono ([2024](#)) stated that P5 provides students with opportunities to comprehend, embody, and practice Pancasila values in their everyday contexts. This program is structured around six essential dimensions, namely faith and devotion to Almighty God with noble character, global diversity, mutual cooperation, independence, critical reasoning, and creativity. Moreover, Prasetyo et al. ([2024](#)) and Nunung and Indriani ([2024](#)) emphasized that P5 contributes to the preparation of students who are academically capable while possessing character strengths and integrity needed to respond to the challenges of the twenty-first century.

Within IPAS learning, these six dimensions can be developed through observation, experimentation, discussion, problem-solving, and project-based activities related to authentic issues in students' surroundings. P5 provides students with opportunities to engage in flexible, active, and interactive learning while directly interacting with their environment. The implementation of P5 is guided by comprehensive, contextual, student-centered, and exploratory learning principles. Accordingly, teachers are encouraged to continuously strengthen their professional competencies by participating in training and ongoing professional development programs. Such efforts are essential for effectively integrating P5 into classroom instruction, particularly in IPAS learning, and for contributing to the effective implementation of the Merdeka Curriculum (Allutfia, [2023](#)).

The Problem of The Study

Findings from the initial observation phase showed that in public elementary schools within the Rafflesia Cluster, one of the main issues identified was the occurrence of miscommunication and misinformation from the Magelang Regency

Government, particularly in Borobudur District, regarding the implementation of the Merdeka Curriculum and P5. In addition, changes in government policies concerning the implementation of P5 have resulted in varying interpretations and practices across schools. The findings revealed that P5 has been implemented in all elementary schools within the Rafflesia Cluster; however, its implementation has not yet been optimal and has not fully complied with the guidelines established by the Ministry of Education and the local Education Office. Rather than being implemented as a well-planned co-curricular program, P5 has primarily been integrated into Natural and Social Sciences (IPAS) learning activities. Consequently, project activities are often conducted after regular classroom instruction, resulting in inadequate time allocation, planning, and project implementation. Throughout the process, teachers serve as facilitators by providing guidance, supervision, and support to students during project-based learning activities in IPAS.

The observations also indicated that the integration of P5 within IPAS learning has led to several misconceptions among teachers. These misconceptions are experienced not only by teachers but also by several school principals regarding the concepts, procedures, and integration of P5 into classroom instruction. Fitriani (2024) argues that these misconceptions are not caused by teachers' lack of competence but rather by the fact that the implementation of the Merdeka Curriculum is still in its early stages, leaving many educators without a comprehensive understanding of the official P5 implementation guidelines. In fact, IPAS possesses characteristics that strongly support the implementation of P5, as it emphasizes inquiry, observation, problem-solving, and contextual learning, enabling students to cultivate the values and competencies represented in the Pancasila Student Profile through meaningful learning experiences. Therefore, teachers need sufficient knowledge and pedagogical competence to effectively integrate P5 into IPAS instruction so that character development and learning competencies can be achieved in a balanced manner. Aulia (2023) emphasizes that innovative teachers play a crucial role in effectively developing the Pancasila Student Profile through learning activities that accommodate students' characteristics and learning needs.

The strengthening of students' character and competencies based on the Pancasila Student Profile framework depends on several key enabling factors, including a sound understanding of Pancasila values, the availability of adequate learning facilities and infrastructure, effective collaboration between teachers and students, and learners' commitment to practicing these values in their daily lives

(Fitriani, [2024](#)). Character formation and competency development associated with the Pancasila Student Profile should be systematically promoted through school culture, intracurricular and co-curricular programs, and IPAS instruction that offers authentic, meaningful, and contextual learning experiences (Aulia, [2023](#)). Given these considerations, investigating the implementation P5 in Grade IV IPAS learning at public elementary schools within the Raflesia Cluster, Borobudur District, is both timely and necessary. This study seeks to examine how P5 is planned, implemented, and evaluated when integrated into elementary school IPAS instruction. Beyond supporting character development, the integration of P5 into IPAS learning is expected to foster students' critical thinking, creativity, collaboration, communication, and problem-solving abilities through project-based activities that engage them with natural and social phenomena in their local environment. As noted by Sutisnawati ([2023](#)), P5 provides students with opportunities to develop the character, competencies, perspectives, and knowledge required for successful participation in project-based learning. The results of this research are expected to contribute to a better understanding of how P5 can be integrated into IPAS learning and to serve as a reference for schools in enhancing the quality of Merdeka Curriculum implementation.

Research's State of the Art

Education in Indonesia is currently confronted with the challenges of globalization and rapid technological advancement, which require students to possess not only strong academic competencies but also character grounded in the nation's core values. Character education is a process of developing moral values encompassing moral knowing, moral feeling, and moral action, enabling students to apply ethical principles in their daily lives (Az-Zauri et al., [2026](#)). At the elementary school level, character education serves as a fundamental basis for nurturing responsible, tolerant, and empathetic learners who are capable of responding to various social challenges in the era of globalization (Anugrah, [2025](#)).

To address these educational challenges, the Indonesian government implemented the Merdeka Curriculum, which incorporates the *Projek Penguatan Profil Pelajar Pancasila* (P5) as a strategic initiative to enhance students' character formation. The Pancasila Student Profile refers to a framework of competencies and character values derived from Pancasila principles that serves as a guide for students' personal growth and participation in social life (Nurmala, [2025](#)). According to Li ([2023](#)) and Lopez ([2021](#)), the Pancasila Student Profile contributes to students'

character formation by encouraging responsibility, self-discipline, and sensitivity toward moral and social values. Its implementation is guided by six interconnected dimensions comprising faith in and devotion to Almighty God with noble character, global diversity, mutual cooperation, independence, critical reasoning, and creativity (Kemendikbudristek, [2022](#)).

The cultivation of these six dimensions extends beyond co-curricular programs and can be effectively incorporated into intracurricular learning, particularly in Natural and Social Sciences (IPAS). Within the Merdeka Curriculum, IPAS is designed to enable students to explore natural and social phenomena through observation, inquiry, experimentation, problem-solving, and authentic contextual learning. This learning approach creates meaningful opportunities for students to cultivate essential competencies, such as critical reasoning, creative thinking, communication, collaboration, and sensitivity toward environmental issues. Accordingly, IPAS serves as a relevant subject area for the integration of the P5, since both academic competence and character formation can be developed concurrently in accordance with the principles of the Pancasila Student Profile.

P5 is implemented as part of the Merdeka Curriculum through co-curricular, project-oriented activities that integrate the values of the Pancasila Student Profile with the National Graduate Competency Standards to support students' character formation and competency growth (Penciptaan et al., [2022](#); Rachmawati et al., [2022](#)). By engaging in project-based learning, students not only deepen their understanding of academic content but also develop essential competencies, including collaboration, responsibility, communication, and problem-solving in authentic contexts. When integrated into IPAS learning, P5 projects encourage students to investigate natural and social phenomena, providing meaningful learning experiences that simultaneously support the cultivation of students' competencies and character across the six Pancasila Student Profile dimensions.

Previous studies have demonstrated that the implementation of P5 contributes positively to students' character development. Reported that project-based learning within P5 improves students' responsibility and collaborative skills through contextual learning activities. Similarly, Rahmawati ([2023](#)) found that thematic projects in P5 enhance students' creativity and independence by actively involving them in planning, implementing, and reflecting on learning activities. These results suggest that P5 has significant potential to facilitate the development of the six dimensions of the Pancasila Student Profile.

Despite these benefits, the implementation of P5 in elementary schools continues to face several challenges. Fitriani (2024) reported that misconceptions regarding the concepts, objectives, and implementation procedures of P5 remain prevalent among teachers and school principals. These misconceptions are not primarily caused by limited teacher competence but rather by the relatively recent implementation of the Merdeka Curriculum, which has resulted in an incomplete understanding of the official P5 implementation guidelines. Successful implementation of P5, particularly within IPAS learning, requires teachers to possess adequate competencies in planning, implementing, and evaluating project-based learning. Furthermore, teachers must be capable of designing innovative learning experiences that effectively integrate the dimensions of the Pancasila Student Profile with the intended learning outcomes of IPAS (Aulia, 2023). Other supporting factors, including a comprehensive understanding of Pancasila values, adequate learning facilities, effective collaboration between teachers and students, and a supportive school culture, are also essential for the successful implementation of P5 (Fitriani, 2024).

Novelty, Research Gap, & Objective

The novelty of this research is reflected in its in-depth examination of the implementation of the P5 integrated into IPAS learning among fourth-grade elementary school students. Existing studies have largely explored how P5 influences students' character formation and assessed students' attainment of the competencies and character dimensions outlined in the Pancasila Student Profile. In contrast, this study provides a more comprehensive analysis by examining the processes of P5 planning, implementation, and evaluation within IPAS learning. Furthermore, this research explores the extent of teachers' and school principals' understanding of P5, the approaches used to integrate P5 into IPAS activities, and the collaborative involvement of principals, teachers, and students in supporting its implementation. Through these investigations, this study expands the understanding of P5 implementation in elementary school IPAS learning and contributes to discussions on character education integration within the framework of the Merdeka Curriculum.

The analysis of prior research identifies several unresolved issues that provide a rationale for this study. In particular, earlier studies have mainly investigated the contribution of P5 to students' character formation, while investigations into the implementation of P5 integrated within Natural and Social Sciences (IPAS) learning are still limited. Second, research exploring how teachers

and school principals understand the concepts, objectives, and procedures for implementing P5 in IPAS learning remains insufficient, even though this understanding represents an essential factor in determining the effectiveness of P5 implementation. Third, research investigating the factors that facilitate or hinder P5 implementation in IPAS learning is still limited, particularly with regard to planning, instructional practices, school culture, resource availability, and collaboration among key stakeholders. Finally, only a small number of studies have provided a comprehensive description of P5 implementation in elementary school IPAS learning, especially in fourth-grade classrooms within the context of a school cluster.

Considering the limitations identified in previous studies, this research focuses on exploring how the P5 is implemented in IPAS learning among fourth-grade students in public elementary schools within the Raflesia School Cluster, Borobudur District. This study also identifies the challenges emerging in the implementation of P5 and describes the strategies developed by school principals and teachers to manage and address these challenges. This research is expected to contribute to a broader understanding of how P5 can be integrated into IPAS learning. The results may also serve as a reference for schools in reviewing and refining their implementation practices, while providing policymakers with practical considerations for advancing the Merdeka Curriculum and reinforcing character education in elementary schools.

METHOD

Type and Design

A descriptive qualitative methodology was utilized in this study to explore the implementation process of the P5 in IPAS learning among fourth-grade elementary school students. Descriptive qualitative research is intended to provide a rich and comprehensive account of a phenomenon by exploring participants' experiences and perspectives through data collected from interviews, observations, and document analysis (Hall & Liebenberg, [2024](#)). The use of this approach was deemed appropriate because it allowed the researcher to examine the processes involved in planning, implementing, and evaluating P5, as well as to identify the challenges and school-based strategies associated with its integration into IPAS learning.

Data and Data Sources

This study involved school principals and fourth-grade teachers from public elementary schools within the Raflesia School Cluster, Borobudur District, Magelang

Regency, as key participants who were directly engaged in the implementation of P5 in IPAS learning. A purposive sampling strategy was applied to select research participants who possessed relevant knowledge and experience related to the implementation of P5 in IPAS learning, ensuring alignment with the aims of the study. From the six elementary schools within the Raflesia School Cluster, two schools were selected, namely SD Negeri Tuksongo 1 and SD Negeri Tanjungsari. These schools were selected because they have received an A accreditation rating, have implemented the Kurikulum Merdeka, are designated as Sekolah Penggerak (Driving Schools), and have implemented P5 integrated into IPAS learning. These characteristics were considered capable of providing relevant information regarding P5 implementation in accordance with the focus of the research.

Data Collection Technique

1. Interviews

Interviews were conducted in a structured manner using interview guidelines that had been prepared based on the research focus. Interviews were conducted with principals and fourth-grade teachers to obtain information regarding the planning, implementation, evaluation, supporting factors, inhibiting factors, and strategies undertaken by schools in implementing the Project for Strengthening the Profile of Pancasila Students (P5) in IPAS learning.

2. Observation

Observation is a data collection method that requires researchers to directly observe the context involved in the research phenomenon (Jailani, [2023](#)). The observation technique was used to examine the implementation process of the Project for Strengthening the Profile of Pancasila Students (P5). The object of observation was the implementation of P5 activities carried out during the learning process, particularly those related to students' activeness and participation in learning activities. This study employed a non-participant observation technique. In non-participant observation, the researcher does not directly interact with the research subjects (Evitasari et al., [2025](#)), allowing the researcher to naturally observe the implementation P5. The observation process was conducted to identify how P5 was implemented in IPAS learning by analyzing teacher roles, student engagement, project-based activities, learning interactions, and the development of the Pancasila Student Profile dimensions demonstrated during classroom practices.

3. Documentation

Document analysis was conducted to complement and validate the data obtained through interviews and observations. The reviewed documents consisted of teaching modules, P5 project plans, Learning Objectives Flow (Alur Tujuan Pembelajaran/ATP), IPAS instructional materials, assessment instruments, records of P5 activities, project reports, photographs of learning activities, and other relevant documents associated with the implementation P5 in IPAS learning.

Data Analysis

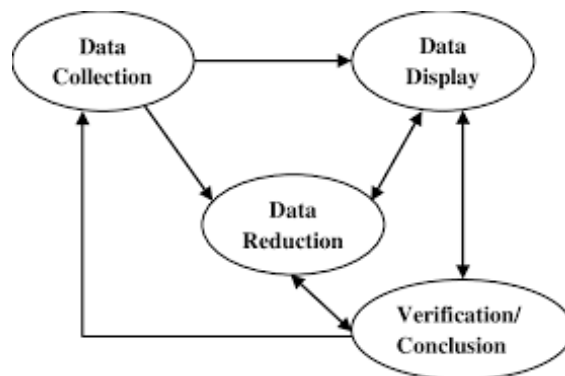


Figure 1. Miles and Huberman's Interactive Model of Data Analysis

This analysis consists of three main interrelated stages, namely:

1. Data Collection

Data collection refers to the process of recording all findings and phenomena identified in the research field through observation, interviews, and documentation. In this study, data were collected through interview and documentation techniques. The purpose of data collection was to enable researchers to gain an understanding of the phenomena occurring in the field and to determine the appropriate steps for subsequent analysis and actions.

2. Data Reduction

Data reduction is the process of organizing data by focusing attention on relevant information through simplifying, abstracting, and transforming the raw data obtained during field research. It is a form of analysis that involves selecting, organizing, classifying, discarding unnecessary data, and systematically arranging the data so that valid conclusions can be drawn and verified.

3. Data Display

Data display refers to the process of presenting organized information in a systematic manner to facilitate the drawing of conclusions. The purpose of data display is to identify meaningful patterns, facilitate data interpretation, and

provide a basis for drawing conclusions and formulating recommendations. According to (Sugiyono, [2022](#)), displaying data enables researchers to better understand the phenomena under investigation and to plan subsequent research activities based on the insights gained.

4. Conclusion Drawing and Verification

Conclusion drawing is an integral part of the data analysis process. The conclusions drawn are continuously verified throughout the research to ensure their credibility and consistency. Researchers formulate conclusions by identifying patterns, relationships, themes, configurations, causal links, and propositions that emerge from the data. Through this process, the study provides answers to the research questions based on the findings obtained during the investigation.

RESULTS

The findings of this study are presented in a descriptive narrative format, drawing upon evidence obtained from multiple sources, including interviews, classroom observations, and relevant document reviews. To protect participants' confidentiality, fourth-grade teachers are referred to using the code GK, while school principals are identified with the code KS. The presentation of the findings is organized around three major themes: (1) the implementation P5 within IPAS learning, (2) the challenges encountered during the integration of P5 into IPAS instruction, and (3) the strategies employed by schools to overcome these challenges. Exploring these three themes enables a deeper understanding of the processes involved in implementing P5 in fourth-grade IPAS learning at public elementary schools within the Raflesia School Cluster, Borobudur District.

1. The Implementation of P5 Integrated into IPAS Learning

According to (Kemendikbudristek, [2022](#)), the implementation of P5 is carried out through six sequential stages: (1) developing an understanding of P5; (2) establishing a supportive school ecosystem; (3) planning and designing the P5 project; (4) organizing and managing project activities; (5) documenting and reporting project results; and (6) conducting evaluation and follow-up actions for future implementation. Data regarding the implementation of the P5 project were obtained through interviews and observations. The findings on the implementation of P5 are presented in Table 1.

Table 1. Implementation of P5 Integrated IPAS

Stages	Examples of Interview Findings
Developing an understanding of P5	<i>"The implementation of P5 in elementary schools can be integrated into classroom learning rather than being conducted as a stand-alone program. However, it is also allocated dedicated instructional time, providing students with opportunities to develop their knowledge, skills, and attitudes through interactions with peers, teachers, and members of the local community. At our school, P5 is integrated into Natural and Social Sciences (IPAS) learning, so it is not always implemented as a separate activity. Through IPAS learning, students have opportunities to develop their knowledge, skills, and attitudes by engaging in observation, group discussions, simple experiments, and interactions with teachers, classmates, and the surrounding community." (KS)</i> <i>"The implementation of P5 in IPAS learning is carried out flexibly in terms of content, learning activities, and implementation time. Teachers also adapt the implementation to the conditions and context of the school environment to ensure that P5 activities are conducted effectively. In addition, schools may involve members of the local community in planning and implementing P5 activities." (GK)</i> <i>"P5 activities in IPAS learning are implemented using a block scheduling system on designated days according to the IPAS timetable. Through project-based activities, students not only learn the theoretical concepts presented in IPAS but also apply them directly through various activities in their surrounding environment. The outcomes of these projects are subsequently presented during a student project exhibition (gelar karya) held at the end of each semester, where students showcase the products and achievements of their project work." (KS)</i> <i>"The implementation of P5 in IPAS learning provides students with opportunities to engage in active learning through inquiry-based activities that explore natural and social phenomena. As a result, students not only develop an understanding of IPAS concepts but also cultivate character traits aligned with the values of the Pancasila Student Profile, including collaboration, responsibility, creativity, and critical reasoning." (GK)</i>

Establishing a supportive school ecosystem	<i>"In preparing the school ecosystem for the implementation of P5 in IPAS learning, the school establishes a supportive learning environment by fostering an active learning culture, utilizing the surrounding environment as a learning resource, and encouraging students to routinely observe natural and social phenomena within the school and the surrounding community." (KS)</i> <i>"One of the ways schools prepare the school ecosystem for the implementation of P5 is by strengthening teachers' capacity to implement P5 in elementary schools. Teachers are given the flexibility and opportunities to explore and develop students' potential without unnecessary limitations. Therefore, teachers' involvement and understanding of the objectives and implementation of P5 are essential for its successful implementation. Accordingly, schools need to enhance teachers' professional capacity to effectively carry out P5 activities. This capacity building can be achieved through professional development programs and training." (GK)</i>
Planning and designing the P5 project	<i>"Before implementing the P5 project, teachers first determine a theme or topic that aligns with the IPAS curriculum. The project is then carried out through several stages, namely the introduction stage, the contextualization stage, the action stage, the follow-up stage, and the reflection stage. (GK)</i> <i>"The project theme is selected based on the conditions and context of the surrounding environment, enabling students to relate IPAS concepts to their everyday lives. Before the project begins, the teacher explains the learning objectives, project procedures, and expected outcomes to ensure that students understand the project-based learning process." (GK)</i>
Organizing and managing project activities	<i>"During the implementation of P5 projects in IPAS learning, teachers serve as facilitators who guide students through the stages of observation, discussion, information gathering, project development, and reflection. Throughout the learning process, teachers continuously monitor students' participation and engagement in project activities." (GK)</i> <i>"To optimize the implementation of P5 projects, teachers monitor students throughout the project activities to assess whether they demonstrate responsibility and collaborate effectively with their peers." (GK)</i>
Documenting and reporting project results	<i>"Assessment is conducted throughout the IPAS learning process by observing students' participation during observation activities, group discussions, project development, and project presentations. In addition, teachers document the implementation of P5 through photographs, project reports, assessment sheets, and students' project outputs as evidence of the project's implementation." (GK)</i>

Conducting evaluation and follow-up actions for future implementation	<i>"After the completion of the P5 project in IPAS learning, teachers and students jointly reflect on the entire project implementation. The evaluation is Permendikbudristek No. 262/M/2022 and serves as the basis for improving the planning and implementation of future projects, thereby enhancing the effectiveness of both IPAS learning and the development of the Pancasila Student Profile. (GK)</i>
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Based on the observations conducted at SD Negeri Teksonggo 1 and SD Negeri Tanjungsari, P5 has been integrated IPAS learning. At the beginning of each lesson, teachers introduced the project objectives, connected IPAS concepts with issues found in the surrounding environment, and explained the activities that students would undertake. The learning process began with an introductory activity, followed by observations of natural and social phenomena relevant to the IPAS content. Throughout the learning process, students actively participated in observation activities, engaged in group discussions, gathered information, and developed project outputs under the guidance of their teachers. Teachers served as facilitators, guiding students throughout the inquiry process and providing feedback on each group's work. These learning activities demonstrate that IPAS instruction focuses not only on students' mastery of subject content but also on fostering the character and competency dimensions outlined in the Pancasila Student Profile, including critical reasoning, collaborative abilities and creative thinking skills, and responsibility.

The observation findings also revealed that the school environment was effectively utilized as a learning resource during project implementation. Students observed objects and phenomena within the school environment, documented their findings, and discussed them collaboratively with their group members. Teachers provided opportunities for students to share their ideas, raise questions, and communicate their project results through classroom presentations. Overall, the observation results show that the six stages of P5 implementation, including developing an understanding of P5, preparing the school ecosystem, designing the project, managing project activities, documenting and reporting project outcomes, and conducting evaluation and follow-up activities, were successfully carried out in IPAS learning.

2. Challenges in Implementing P5 in IPAS Learning

Data on the challenges associated with implementing P5 in IPAS learning were derived from interviews with participants and observations of classroom practices. The results of the analysis are summarized in Table 2.

Tabel 2. Challenges in the Implementation P5 in IPAS Learning

Stages	Examples of Interview Findings
Challenges in the Implementation of the Projek Penguatan Profil Pelajar Pancasila (P5) in IPAS Learning	<i>"One of the challenges in implementing P5 in IPAS learning at SD Negeri Tuksongo 1 is the limited availability of facilities and resources to support project-based activities, including learning media and equipment used for observation and practical activities. In addition, the allocation of instructional time for IPAS presents a challenge, as teachers must balance the delivery of subject content with the implementation of project activities." (KS)</i> <i>"One of the challenges we face is that not all teachers fully understand how to integrate the dimensions of the Pancasila Student Profile into IPAS learning. Other challenges in implementing the Pancasila Student Profile include the rapid development of educational technology, the diverse characteristics and personalities of students, and the strong influence of their surrounding environment on learning and character development." (GK)</i> <i>"The school faces several challenges in implementing P5 activities. These include teachers' limited capacity to design effective teaching modules, limited instructional time, insufficient competence in utilizing information and communication technology (ICT), and inadequate access to information and guidance regarding P5 implementation. These constraints hinder the effective implementation of P5 activities." (KS)</i> <i>"Another challenge faced by the school is that teachers' ability to design project modules integrated with the IPAS curriculum is still not optimal. Teachers continue to require guidance in selecting appropriate project themes, developing learning activities, and designing assessments that align with both the IPAS learning objectives and the dimensions of the Pancasila Student Profile. Furthermore, the implementation of P5 in IPAS learning requires active student participation. However, because students differ in their characteristics, abilities, and levels of motivation, teachers need to provide more intensive guidance and support throughout the project activities." (GK)</i>

The observation data indicated that several challenges occurred throughout the implementation of IPAS learning. During the initial phase of project activities,

teachers provided intensive guidance because some students still required assistance in understanding the project procedures and completing tasks independently. Moreover, the limited availability of learning resources and project materials caused several groups to utilize equipment alternately, which extended the time needed to complete learning activities. The researcher also identified that teachers faced challenges in assessing students' achievement of IPAS learning objectives while simultaneously evaluating the development of the Pancasila Student Profile dimensions. However, teachers continued to facilitate the learning process through group discussions, observation activities, and project presentations, ensuring that the expected learning objectives could still be accomplished.

3. School Strategies for Addressing Challenges in P5 Implementation in IPAS Learning

Data on the strategies adopted to address the challenges encountered during the implementation of the P5 in IPAS learning were derived from interviews with participants and observations of classroom practices. The findings are presented in Table 3.

Table 3. Strategies for Addressing Challenges in the Implementation of the P5 in IPAS Learning

Stages	Examples of Interview Findings
Strategies for Addressing Challenges in the Implementation of the Projek Penguatan Profil Pelajar Pancasila (P5) in IPAS Learning	<i>"One of the strategies adopted by the school to address the challenges of implementing P5 in IPAS learning is to encourage teachers to participate in training programs, seminars, and other professional development activities related to the implementation of the Merdeka Curriculum, particularly the integration of the Project for Strengthening the Profile of Pancasila Students (P5) into IPAS learning. Through these activities, teachers are expected to develop a deeper understanding of how to design and implement project-based learning effectively." (KS)</i>

"Teachers strive to design more engaging and contextualized project-based IPAS learning by utilizing the surrounding environment as a learning resource. In addition, they provide motivation, clear and accessible explanations, and continuous guidance throughout the project activities, enabling students to participate more actively and enthusiastically in the learning process." (KS)

"Teachers provide continuous guidance and assistance to students throughout every stage of the IPAS project, including project planning, implementation, and the presentation of project outcomes. They also foster effective communication and collaboration with students to promote an active and participatory learning environment while supporting character development aligned with the dimensions of the Pancasila Student Profile. (GK)

Evidence from classroom observations showed that the strategies introduced by the school were applied during project-based IPAS instruction. One of the approaches adopted by teachers was the use of the school environment as an authentic learning resource to facilitate project activities, provided guidance to each group throughout the inquiry process, and facilitated discussions and presentations of project outcomes. In addition, the principal's leadership supported P5 implementation through the provision of necessary learning resources, facilitation of teacher coordination, and encouragement for educators to participate in training and professional development activities associated with the Merdeka Curriculum and project-based learning. Such support facilitated teachers in embedding the Pancasila Student Profile dimensions within IPAS instruction and contributed to the effective implementation of project-based learning activities.

DISCUSSIONS

The discussion focuses on three main aspects: the implementation P5, the challenges encountered in the implementation of P5, and the strategies employed to address these challenges.

1. The Implementation of P5 Integrated into IPAS Learning

The implementation of P5 in this study followed the six stages proposed by Kemendikbudristek (2022), consisting of building an understanding of P5, preparing the school ecosystem, designing and implementing projects, documenting and reporting outcomes, and carrying out evaluation and follow-up processes. The findings from SD Negeri Tuksongo 1 and SD Negeri Tanjungsari

indicate that the integration of P5 into Natural and Social Sciences (IPAS) learning has been implemented effectively overall, despite the persistence of several challenges. Teachers and school principals demonstrated a clear understanding that P5 can be incorporated into IPAS instruction through contextual learning activities, such as observations, simple experiments, discussions, inquiry-based learning, and problem-solving related to natural and social phenomena in the local environment. The results of this study support the findings reported by Aulia et al. (2023), who emphasized that teachers' understanding of P5 implementation represents an important determinant of successful Merdeka Curriculum implementation. Consistent with the present findings, (Rahmawati et al., 2023) highlighted that contextual IPAS learning creates meaningful opportunities for students to strengthen their knowledge, skills, and character in an integrated manner.

In the stages of preparing the school ecosystem and designing the project, schools have established a supportive learning culture for P5 implementation through teacher capacity strengthening, the utilization of the school environment as a learning resource, and the development of projects that are aligned with IPAS content and the surrounding environmental conditions. The selection of project themes was guided by students' learning needs. Their implementation followed a structured sequence comprising the introduction, contextualization, action, reflection, and follow-up phases. These stages provided opportunities for students to establish connections between IPAS concepts and their daily experiences. Based on the observation data, the school environment served as a contextual learning medium through which students were encouraged to analyze phenomena, generate creative ideas, and develop problem-solving abilities. This finding supports Lathif (2023), who stated that effective project planning is an important factor in successful P5 implementation. It is also supported by Pramesti et al. (2023), who explained that project-based IPAS learning can enhance student engagement through direct learning experiences.

Classroom observations revealed that students actively participated throughout every stage of the learning process, demonstrating that IPAS instruction extended beyond the acquisition of conceptual knowledge to support the development of the Pancasila Student Profile dimensions, including collaboration, responsibility, creativity, and critical reasoning. Teachers created opportunities for students to share their ideas, work collaboratively with their

peers, and address problems related to their surrounding environment. These findings are in line with those reported by Utomo et al. (2024), who found that project-based learning in IPAS enhances students' critical thinking, communication, collaboration, and problem-solving abilities.

The documentation, reporting, evaluation, and follow-up phases were carried out by assessing both the learning process and project outcomes through observation checklists, activity documentation, project reports, presentations, and students' final project products. Teachers and students also engaged in reflective activities to evaluate the overall learning experience and identify improvements for future project implementation. The assessment process extended beyond measuring cognitive achievement by emphasizing the development of students' attitudes, responsibility, collaboration, creativity, and critical reasoning demonstrated throughout the IPAS project activities. These findings are consistent with (Budiman et al., 2025), who emphasized that evaluation in IPAS learning under the Merdeka Curriculum should be conducted continuously to enable teachers to comprehensively monitor students' competency and character development.

Overall, the findings indicate that the implementation P5 in IPAS learning has successfully integrated character strengthening with academic competency development through contextual, active, and student-centered learning. Observation, experimentation, discussion, inquiry, and problem-solving activities provided meaningful learning experiences while supporting the achievement of Pancasila Student Profile dimensions. Nevertheless, improvements are still needed in teacher competency development, project planning optimization, and strengthening collaboration with the community to ensure that P5 implementation in IPAS learning can be carried out more effectively and sustainably. Rahmawati et al., (2023) and Utomo et al., (2024) that IPAS learning serves as an appropriate platform for integrating the Project for Strengthening the Profile of Pancasila Students in achieving the objectives of the Merdeka Curriculum.

2. Challenges in Implementing P5 in IPAS Learning

Based on interviews and observations conducted with fourth-grade teachers and school principals at SD Negeri Teksonggo 1 and SD Negeri Tanjungsari, it was found that the implementation of the Project for Strengthening the Profile of Pancasila Students (P5) in IPAS learning has not yet

been fully optimized. At SD Negeri Teksonggo 1, the main challenges identified were the limited availability of supporting facilities and infrastructure for project activities, including learning media, observation tools, and practical materials required for IPAS learning. In addition, limited instructional time caused difficulties for teachers in balancing the delivery of IPAS content with project implementation. The interview results revealed that teachers' understanding of integrating the Pancasila Student Profile dimensions into IPAS learning was not yet uniform. Several teachers encountered challenges in preparing teaching modules, formulating project themes, and developing assessment strategies that were aligned with learning objectives. Other challenges included the development of educational technology, differences in students' characteristics, and diverse environmental influences, which required teachers to provide more intensive guidance throughout the project implementation.

Similar findings were also identified at SD Negeri Tanjungsari. Based on observation results, teachers still provided dominant guidance during the initial stages of project activities because some students were not yet able to independently carry out the project stages. Limited learning media required students to use tools and materials alternately, resulting in longer project implementation time. Furthermore, teachers still experienced difficulties in integrating the assessment of IPAS learning outcomes with the dimensions of the Pancasila Student Profile simultaneously. Nevertheless, teachers continued to facilitate students through observation activities, group discussions, project presentations, and reflection activities, allowing the learning objectives to be achieved. These findings are consistent with those reported (Amalia, [2024](#)), who highlighted that the implementation of IPAS learning under the Merdeka Curriculum continues to encounter several challenges, including teachers' limited preparedness to design innovative learning activities, insufficient learning resources and media, and variations in students' learning motivation that affect the effectiveness of the instructional process. The evidence demonstrates that the quality of IPAS learning is shaped by various interconnected factors, such as teachers' preparedness, resource availability, and the application of effective teaching strategies, in addition to curriculum-related aspects.

According (Wardhani and Utaminingsih, [2026](#)) who explained that the utilization of IPAS learning media is strongly influenced by teachers' Pedagogical

Content Knowledge (PCK). Teachers who are capable of designing learning activities, selecting appropriate learning media, and connecting IPAS concepts with real-life contexts are more likely to successfully integrate Pancasila Student Profile values into project-based learning activities. Conversely, limited pedagogical competence and inadequate learning media can become barriers to the implementation of P5 in IPAS learning.

3. School Strategies for Addressing Challenges in P5 Implementation in IPAS Learning

Findings from interviews, classroom observations, and document analysis conducted at SD Negeri Teksonggo 1 and SD Negeri Tanjungsari revealed that the challenges encountered in implementing P5 within Natural and Social Sciences (IPAS) learning were addressed through a range of collaborative strategies involving school principals, teachers, and students. These initiatives were intended to ensure that P5 implementation remained consistent with the principles of the Merdeka Curriculum while promoting a balanced development of students' academic competencies and character. Through project-based IPAS learning, students not only strengthened their conceptual understanding but also enhanced essential competencies, including critical thinking, creativity, collaboration, communication, and responsibility toward their surrounding environment.

The findings suggest that enhancing teachers' professional competence was one of the primary strategies adopted by the schools. This was achieved through participation in training programs, seminars, workshops, and other professional development activities related to the implementation of the Merdeka Curriculum, particularly the P5 into IPAS learning. Through these initiatives, teachers were supported in improving their competence to design project modules, incorporate the Pancasila Student Profile dimensions into IPAS learning objectives, and implement assessment practices suited to project-based instruction. In addition, the schools sought to support project implementation by providing a variety of learning resources, including reference materials, instructional media, practical equipment, learning materials, and internet access tailored to instructional needs. Classroom observations further revealed that school principals played an active role by improving learning facilities, coordinating teachers' collaborative efforts, and encouraging the joint

development of project-based instructional materials. These measures contributed to a more effective implementation of P5 within IPAS learning.

Another strategy implemented by teachers was designing engaging, contextual, and project-based IPAS learning by utilizing the surrounding environment as a learning resource. Teachers provided motivation, clear explanations, and intensive guidance throughout the stages of project implementation, including planning, observation activities, group discussions, report preparation, and project presentations. Based on observation results, teachers established effective communication with students, enabling the learning process to become more active, collaborative, and supportive of students' participation according to their individual abilities.

Evidence from this study suggests that the strategies adopted by the schools have helped mitigate the challenges associated with implementing the P5 in IPAS learning, although continuous improvement remains necessary. Strengthening teachers' professional capacity, improving learning resources, maximizing the use of the surrounding environment, and providing sustained guidance for students were identified as important efforts that supported the effective implementation of P5 in IPAS learning and facilitated the development of students' character based on the Pancasila Student Profile dimensions. These results are consistent with (Afandi et al., [2025](#)), who argued that the successful implementation of the Merdeka Curriculum depends on teachers' readiness, strong institutional support, the availability of adequate learning facilities, and continuous professional development opportunities for educators.

CONCLUSION

Drawing on the findings from SD Negeri Teksonggo 1 and SD Negeri Tanjungsari, both located within the Raflesia Public Elementary School Cluster in Borobudur District, this study concludes that the implementation P5 in Natural and Social Sciences (IPAS) learning follows six key stages: understanding P5, preparing the school ecosystem, designing projects, managing project implementation, documenting and reporting project outcomes, and conducting evaluation and follow-up activities. Integrating P5 within IPAS learning creates meaningful learning experiences that support the development of the Pancasila Student Profile dimensions and foster students' competencies in critical thinking, creativity, collaboration, responsibility, and problem-solving through project-based activities.

Despite these positive outcomes, several challenges remain, such as inadequate facilities and infrastructure, limited instructional time, teachers' capacity to design project modules and integrate the Pancasila Student Profile dimensions into IPAS instruction, and variations in students' characteristics and learning needs. To overcome these challenges, the participating schools adopted several improvement strategies, including strengthening teachers' professional competence through training and seminars, maximizing the use of the surrounding environment as a learning resource, improving the availability of learning facilities, reinforcing collaboration among school stakeholders, and providing continuous guidance and support to students throughout project implementation. Collectively, these initiatives have enhanced the effectiveness of integrating P5 into IPAS learning and supported the effective implementation of the Merdeka Curriculum at the elementary school level.

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