

Deep Learning in Pancasila Education: Fostering Students' Awareness and Internalization of Pancasila Values

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Abstract: This research is motivated by the importance of reinforcing Pancasila values among students amidst the evolution of the digital era and the challenges of modern education. The Merdeka Curriculum emphasizes learner-centered instruction and the development of the Pancasila Student Profile; however, in practice, obstacles remain in fostering a deep awareness of Pancasila principles. The deep learning approach is considered relevant for supporting meaningful, reflective, and contextual learning, thereby enabling students to internalize Pancasila values. This study examines the deep learning approach in Pancasila Education and its application in fostering Pancasila awareness among students at SMA Negeri 9 Tangerang City. The study uses a qualitative, descriptive approach and collects data through observation, interviews, and documentation. The findings indicate that the deep learning approach within the Merdeka curriculum framework effectively fosters Pancasila awareness among students. Learning experiences characterized by depth, active engagement, and contextual relevance encourage students not only to understand Pancasila values theoretically but also to internalize and practice them in their daily lives. Consequently, teachers and schools play a crucial role in creating a meaningful learning process that allows students' awareness of Pancasila to develop optimally.

Keywords: Deep Learning Approach; Merdeka Curriculum; Pancasila-Based Awareness; Pancasila Education; Pancasila Awareness; Character Education; Meaningful Learning.

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1. Introduction

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The rapid development of digital technology has transformed various sectors, including education. One emerging approach is deep learning, which in education emphasizes meaningful, reflective, student-centered learning experiences rather than merely applying artificial intelligence [5]. This approach helps students develop conceptual understanding, critical thinking, and the ability to connect knowledge to authentic real-life situations. Previous studies show that deep learning supports adaptive learning systems, intelligent tutoring, personalized instruction, and improved learning outcomes by accommodating individual learning needs [1]. In the era of digital transformation, education is expected not only to equip students with academic knowledge but also to foster higher-order thinking skills, creativity, digital literacy, collaboration, and character development. Consequently, meaningful learning has become a fundamental principle of contemporary education because it encourages students to understand concepts deeply, integrate interdisciplinary knowledge, and apply learning outcomes in real-life contexts [9]. In this regard, the deep learning approach has been recognized as an effective pedagogical strategy for promoting meaningful, reflective, and contextual learning experiences that prepare students to face twenty-first-century challenges [2]. In Indonesia, educational transformation has been promoted through the implementation of the Merdeka Curriculum (Kurikulum Merdeka), which emphasizes student-centered learning and aims to develop the Pancasila Student Profile (Profil Pelajar Pancasila). The curriculum encourages students to become faithful, independent, creative, collaborative, critical thinkers, and globally competent citizens.

These objectives are closely aligned with the principles of deep learning, which emphasize meaningful learning, reflection, contextual understanding, and authentic problem-solving. Therefore, integrating deep learning into the Merdeka Curriculum can strengthen the internalization of Pancasila values through active, contextual learning experiences [3]. Despite its potential, implementing the Merdeka Curriculum remains challenging. Many teachers still struggle to integrate Pancasila values into classroom instruction in ways that are engaging, meaningful, and relevant to students' everyday lives. Traditional teaching approaches that emphasize memorization and one-way knowledge transmission remain prevalent, limiting students' opportunities to develop critical reflection and internalize national values. Furthermore, disparities in technological infrastructure and teachers' digital competencies have constrained the implementation of innovative learning approaches in many schools [4]. These challenges become increasingly important considering current social conditions. Indonesia has one of the highest levels of internet and social media usage, with approximately 167 million active users [6]. Digital platforms have become an inseparable part of students' daily lives, yet high digital engagement has not necessarily been accompanied by stronger national awareness [7]. Previous surveys reported that only a small proportion of students demonstrated adequate understanding of national values, while many learned about Pancasila primarily through classroom instruction and social media. In addition, recent findings revealed growing concerns about tolerance, social participation, and the internalization of Pancasila values among Indonesian students, suggesting that character education has not yet achieved its intended outcomes [5].

Furthermore, several countries have increasingly adopted meaningful learning approaches to prepare students for the demands of the twenty-first century. Educational systems in countries such as Finland and Singapore emphasize project-based learning, inquiry-based learning, and the development of critical thinking, collaboration, creativity, and problem-solving skills [15]. These approaches encourage students to actively construct knowledge through authentic experiences rather than relying solely on memorization. These international practices show that meaningful learning is an essential foundation for developing both academic competencies and character education, offering valuable insights for implementing the Merdeka Curriculum in Indonesia [6]. Although previous studies have discussed the implementation of the Merdeka Curriculum and the application of deep learning separately, most research has focused on technological innovation, adaptive learning systems, or general pedagogical practices. Comparatively fewer studies have examined how the deep learning approach can strengthen students' awareness of Pancasila values within the implementation of the Merdeka Curriculum, particularly in Pancasila Education at the senior high school level [14]. This limitation highlights the need for empirical evidence regarding the contribution of meaningful learning in developing students' national character and strengthening Pancasila awareness in Indonesian schools [13]. The deep learning approach offers a promising solution to address these educational challenges. Rather than positioning teachers solely as knowledge transmitters, this approach encourages teachers to become facilitators who guide students through inquiry, reflection, collaboration, and authentic problem-solving. Students are encouraged not only to understand concepts cognitively but also to connect learning experiences with social realities and apply Pancasila values in everyday life [12].

Consequently, integrating deep learning into the Merdeka Curriculum is expected to enhance both students' academic competencies and their awareness of Pancasila as the moral and ideological foundation of Indonesian society [7]. The integration of deep learning should not be interpreted as replacing teachers with artificial intelligence but rather as utilizing technology and meaningful pedagogical approaches to support more personalized, adaptive, and contextual learning [8]. Through learning experiences that emphasize reflection, collaboration, inquiry, and authentic problem-solving, students are expected to develop stronger critical thinking, social responsibility, and awareness of Pancasila values [9]. Preliminary observations conducted at SMAN 9 Kota Tangerang also indicated that although students generally demonstrated positive disciplinary behavior and respect toward teachers, strengthening Pancasila awareness through meaningful learning approaches remains necessary to optimize the implementation of the Merdeka Curriculum. Based on these considerations, this study examines the implementation of the deep learning approach within the Merdeka Curriculum and its contribution to fostering

students' Pancasila awareness at SMAN 9 Kota Tangerang [10]. The findings are expected to enrich the literature on meaningful learning and provide practical recommendations for strengthening character education in implementing the Merdeka Curriculum in Indonesian secondary schools [11].

1.1. Objective

- To examine the implementation of the deep learning approach within the Merdeka Curriculum in fostering students' Pancasila awareness at SMAN 9 Kota Tangerang.
- To analyze the implementation of the mindful, meaningful, and joyful learning principles in Pancasila Education learning activities.
- To identify how learning environments, digital technology, and collaborative learning partnerships support the implementation of the deep learning approach.
- To explore the contribution of the deep learning approach to strengthening students' understanding, attitudes, and awareness of Pancasila values.
- To provide empirical evidence and practical recommendations for implementing the deep learning approach to strengthen character education within the Merdeka Curriculum, addressing the limited research on its role in fostering students' Pancasila awareness.

2. Literature Survey

This study aims to investigate the application of the deep learning approach in the Merdeka Curriculum to develop students' awareness of Pancasila values at SMAN 9 Kota Tangerang. The study focuses on integrating the principles of mindful, meaningful and joyful learning into classroom practices to create learning experiences that support students' cognitive, social and character development [5]. These principles are key elements of deep learning because they help students actively engage with learning materials, reflect on their experiences, and connect new knowledge to real-life situations. "The students are encouraged to have a greater awareness of Pancasila values through meaningful and contextual learning activities, not memorizing principles. Therefore, the deep learning approach gives students opportunities to develop knowledge, attitudes, reflection, and practical competencies that support the internalization of Pancasila values in everyday life [8]. The study also discusses how implementing the Merdeka Curriculum enhances students' awareness and practice of Pancasila values. The curriculum focuses on learner-centered learning, flexible and active learning orientations, and developing the Pancasila Student Profile as a critical element in building students' character and competency [4]. This educational framework offers teachers more opportunities to design learning activities that connect academic knowledge with social, cultural, ethical and community-based experiences. Teachers can incorporate Pancasila values into classroom activities to promote students' understanding of concepts like cooperation, responsibility, tolerance, independence, critical reasoning, and respect for diversity.

Thus, the flexibility of the Merdeka Curriculum can facilitate meaningful learning experiences in which knowledge, attitudes and values are linked to students' daily lives and social environments [9]. Previous studies have shown the usefulness of deep learning approaches in improving learning quality by promoting critical thinking, participation, reflection, problem-solving, and contextual understanding. Deep learning does not render students passive recipients of information. Rather, it involves students in knowledge building through exploration, discussion, collaboration and hands-on experiences. Similarly, research on the Merdeka Curriculum has highlighted its capacity to promote more flexible, student-centered, and adaptive practices in education [7]. These approaches can give teachers opportunities to respond to students' learning needs while building competencies that extend beyond academic achievement. However, many studies have treated deep learning and the Merdeka Curriculum as separate educational concepts. However, little attention has been paid to how these approaches can be integrated specifically in Pancasila Education to strengthen students' understanding and application of national values [10]. In addition, empirical research examining the contribution of the deep learning approach to the development of students' Pancasila awareness remains limited. Previous studies have mostly focused on individual aspects, such as learning achievement, curriculum implementation, student engagement, character education, and the development of particular competencies. These studies have provided important insights [11]. However, they do not address the role of meaningful, mindful, and joyful learning experiences in internalizing Pancasila values across the Merdeka Curriculum.

This research gap matters because awareness of Pancasila is not only theoretical; it also requires students to show values in attitudes, decision-making, relationships and everyday behavior. Such an investigation can therefore provide a more complete picture of how classroom practices contribute to character formation and value-based development among students [11]. Thus, this study aims to empirically demonstrate the application of the deep learning approach in the Merdeka Curriculum and its contribution to students' Pancasila awareness at SMAN 9 Kota Tangerang. The research is expected to contribute to the existing literature by integrating deep learning, meaningful education, curriculum implementation, and Pancasila-based character development in one educational context [12]. The findings can also offer practical suggestions for teachers in designing learning activities that promote reflection, active participation, contextual understanding, collaboration, and practical application of

Pancasila values. For schools, the findings could guide the design of learning environments that promote value internalization through educational experiences meaningful to students. More generally, the study can also provide recommendations for strengthening implementation of the Merdeka Curriculum in developing student-centered education and character.

3. Proposed Methodology

This study employed a qualitative approach with a descriptive case study design to explore the implementation of the deep learning approach within the Merdeka Curriculum in fostering students' Pancasila awareness at SMAN 9 Kota Tangerang. A qualitative approach was selected because it enables researchers to investigate social phenomena in their natural settings and to generate descriptive data through participants' experiences, perspectives, and observed behaviors rather than numerical measurements. This approach also facilitates an inductive understanding of educational practices by interpreting empirical findings within their social context [12]. The research was conducted at SMAN 9 Kota Tangerang, Indonesia. The school was purposively selected because it has implemented the Merdeka Curriculum and adopted the deep learning approach in classroom instruction. Participants included the Vice Principal for Curriculum, the Vice Principal for Student Affairs, Pancasila Education teachers, and ten Grade XI students who actively participated in learning activities using the deep learning approach. The researchers selected participants through purposive sampling based on their direct involvement in curriculum implementation and their ability to provide comprehensive information relevant to the study's objectives [13]. The researchers collected data through classroom observations, semi-structured interviews, and document analysis. Classroom observations examined the implementation of the deep learning approach, teacher–student interactions, learning activities, and students' demonstration of Pancasila values during instruction. Semi-structured interviews were undertaken with school administrators, teachers, and students to obtain in-depth information regarding the implementation process, supporting and inhibiting factors, and participants' learning experiences [14].

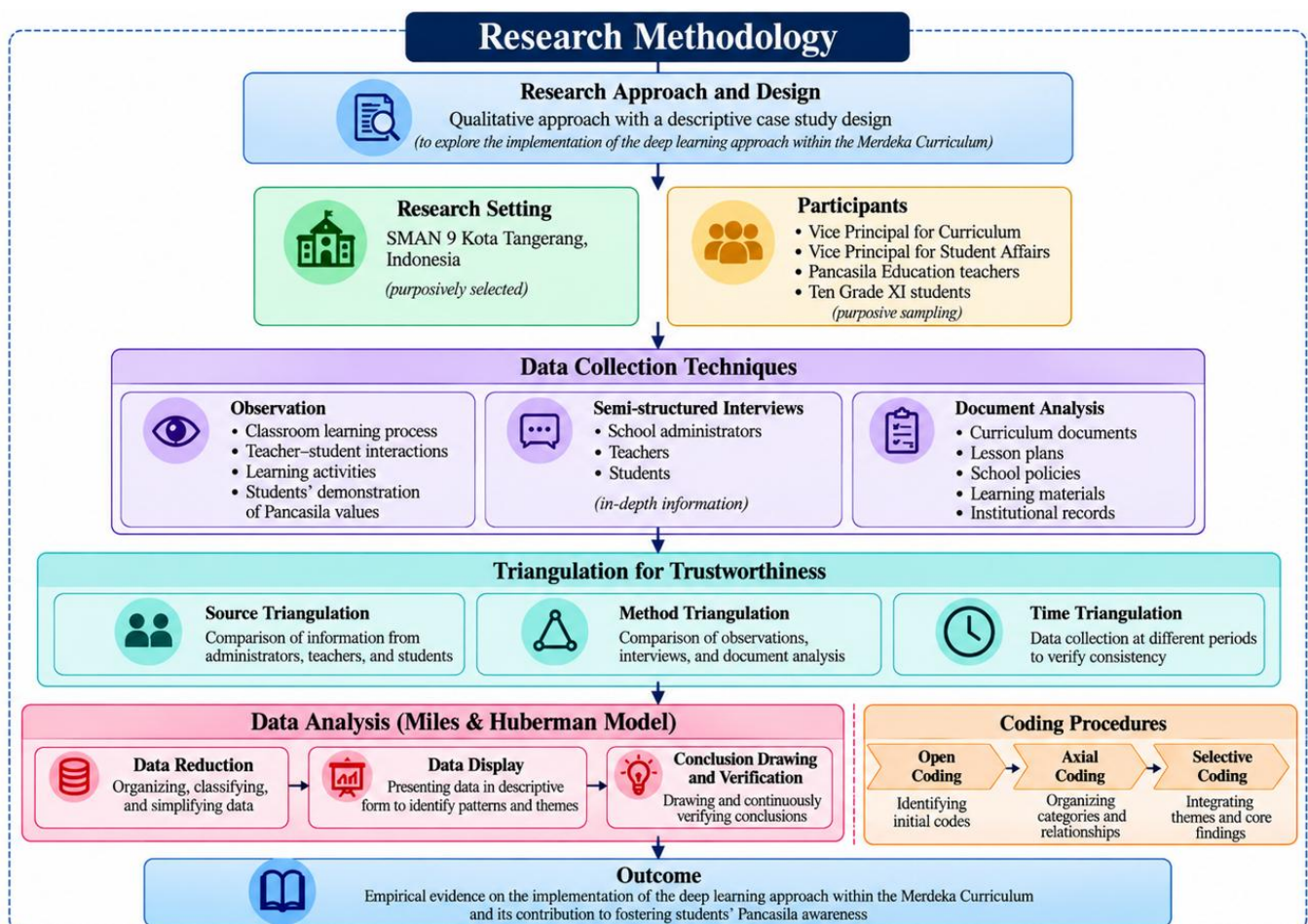


Figure 1: Research methodology framework

Document analysis complemented these findings by examining curriculum documents, lesson plans, school policies, learning materials, and other institutional records related to implementing the Merdeka Curriculum. Together, these data collection

techniques enabled the researcher to obtain comprehensive, contextual evidence of the research phenomenon. To ensure the trustworthiness of the findings, this study used triangulation through multiple data sources, data collection techniques, and collection periods. Source triangulation involved comparing information from school administrators, teachers, and students. Method triangulation involved comparing evidence from observations, interviews, and document analysis. The study also used time triangulation by collecting data at different periods to verify the consistency of participants' responses and observed practices. These procedures enhanced the credibility and trustworthiness of the research findings while minimizing potential researcher bias [15]. Data analysis followed the interactive model proposed by Miles and Huberman, consisting of data reduction, data display, and conclusion drawing. During data reduction, the researcher organized, classified, and simplified interview transcripts, observation notes, and documentary evidence according to the research objectives. The organized data were then presented descriptively to identify relationships, patterns, and emerging themes before drawing conclusions and continuously verifying them throughout the research process. To interpret the findings comprehensively, the analytical process incorporated three coding procedures: open coding, axial coding, and selective coding.

During open coding, the researcher examined interview transcripts, field notes, and documentary evidence line by line to identify meaningful concepts and assign initial codes. The researcher then organized these preliminary codes through axial coding, identifying relationships among categories, contextual conditions, participants' actions, and observed consequences to explain how the deep learning approach was implemented in the learning process. Finally, the researcher conducted selective coding to integrate the identified categories into overarching themes that represented the study's core findings. Through this systematic coding process, the researcher developed coherent interpretations explaining how implementing the deep learning approach within the Merdeka Curriculum fostered students' Pancasila awareness while keeping the conclusions grounded in empirical data. Figure 1 presents a graphical illustration of the research approach used in this study. One component of this methodology is the inclusion of a deep learning strategy within the Merdeka Curriculum. Qualitative data-gathering approaches such as document analysis, semi-structured interviews, and qualitative observations were employed throughout this research endeavour. Methodologically, the research aims to conduct a qualitative descriptive case study. Triangulation is used as a verification method to increase the reliability of the findings. The research uses the Miles and Huberman model and rigorous coding techniques. To summarise, the technique provides empirical evidence of the deployment of deep learning and its role in increasing students' knowledge of the Pancasila.

4. Results and Discussions

This study involved 12 participants selected using purposive sampling, specifically, individuals directly involved in implementing the Deep Learning approach within the Merdeka Curriculum at SMAN 9 Tangerang. Participants included a vice-principal, a Pancasila Education teacher, and ten Grade XI students. The vice-principal and the teacher provided information regarding school policies, instructional strategies, and the implementation of the Merdeka Curriculum. At the same time, the students shared insights into their learning experiences and how they applied Pancasila values during the learning process. The data analysis followed open coding, axial coding, and selective coding. This process yielded four main themes describing how the school implemented the Deep Learning approach within the Merdeka curriculum to foster Pancasila awareness among students.

Table 1: Themes from coding analysis results

Theme	Key Findings	Data Source
Implementation of Deep Learning policy	The school implements awareness-raising, teacher training, learning communities, and instructional supervision to support the implementation of Deep Learning.	MN, TD
Learners' learning experiences	Learning becomes more active, enjoyable, and contextual, while fostering critical and collaborative thinking.	AG, ANS, ASW, AM, MAP, MRK, NAS, NM, PA, SM
Fostering awareness of Pancasila	Pancasila values are internalized through instruction, P5 activities, school culture, and daily habits.	MN, TD and all students
Implementation challenges	Key challenges include teacher readiness, limited technological resources, and the allocation of instructional time.	MN, TD

Research findings indicate that implementing the Deep Learning approach at SMAN 9 Tangerang began with formulating school policies aligned with Ministry of Education regulations for the Merdeka Curriculum. The school disseminated information to all teachers through staff meetings, sent teachers to training sessions, and established a learning community to share best practices. Additionally, the principal conducted periodic supervision and evaluation of the teaching process to ensure that Deep Learning implementation proceeded according to established goals. The Pancasila Education teacher explained that instruction was designed to provide students with meaningful learning experiences through discussion, reflection, problem-

solving, and active engagement in the learning process. Consequently, students do not merely receive information but construct their own understanding through contextual learning experiences. All students responded positively to the implementation of the Deep Learning approach. They noted that the learning process became more engaging compared to instruction focused solely on content delivery. Teachers increasingly encouraged students to participate in discussions, collaborate in groups, solve problems, and connect lesson material to real-life situations. Students also said the approach encouraged them to think critically, speak up confidently, and study independently before class discussions. This fostered more meaningful learning, as students gained a deep understanding of concepts rather than simply memorizing the material.

Research findings show that implementing Deep Learning helped develop Pancasila-based awareness among students. Pancasila values were not only taught in the Pancasila Education subject but also integrated into various school activities, such as the Project to Strengthen the Pancasila Student Profile [P5], flag-raising ceremonies, religious activities, community service, and various extracurricular activities. Table 1 shows the major patterns identified in the coding study on the application of deep learning. As shown in the outcomes, the school supports implementation through awareness campaigns, teacher training, learning communities, and instructional supervision. Learners are offered a learning experience that is far more engaging, pleasant and relevant and that promotes critical and collaborative thinking. The results also show that Pancasila ideals are reinforced in the classroom, in P5 students' activities, in the school culture and in children's everyday routines. However, several problems remain, most notably the lack of suitable technology resources, poor time allocation for instruction, and inadequate teacher preparation. Overall, the findings support both the educational benefits and the practical problems in adopting deep learning.

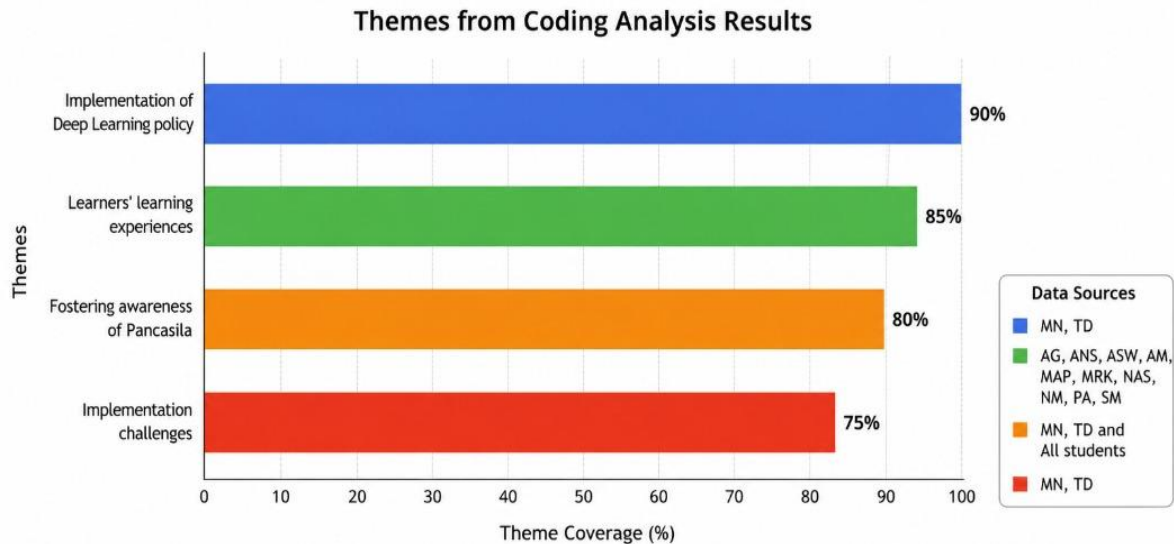


Figure 2: Themes identified from coding analysis results

Table 1 presents the main themes that emerged from the coding analysis, along with the relevant findings for each theme. The first theme, Implementation of Deep Learning policy, shows that the school supports Deep Learning implementation through awareness-raising initiatives, teacher training, learning communities and instructional supervision. This research points to the need for institutional support and teacher preparation to adopt Deep Learning approaches successfully. The second element, Learners' learning experiences, focuses on pupils' learning experiences. The results suggest that learning becomes more active, pleasurable and contextual, while also stimulating critical and collaborative thinking. The variety of data sources suggests that the study examined learners' experiences from different angles. The third theme, Fostering Awareness of Pancasila, emphasizes the need to instill Pancasila's values in education. Table 1 shows that these principles can be internalized through classroom teaching, P5 activities, school culture and students' everyday routines. It shows that character development is not only through formal teaching but also through broader school activities and routines. The fourth subject, Implementation problems, lists several variables that may limit effective implementation. They include teacher preparedness, restricted technology resources and allocation of instructional time. These obstacles suggest that successful implementation requires proper planning, resources and competent management of instructional activities.

The whole Table 1 shows that the coding analysis encompasses policy implementation, learner experiences, character development, and implementation challenges. Together, these themes provide a logical account of Deep Learning activities in the educational context and the experiences involved. The results also highlight areas that may require further attention, such as teacher preparedness, technological support, and effective use of teaching time. Students stated that they began applying

Pancasila values in their daily lives by demonstrating mutual respect, cooperation, responsibility, and tolerance for differing opinions, as well as by maintaining a clean school environment and resolving conflicts through deliberation and consensus. This demonstrates that the instruction not only enhances conceptual understanding of Pancasila but also fosters behaviors that reflect those values. Although implementing Deep Learning has positively impacted the learning process, this study also identified several challenges. The vice-principal and teachers noted that shifting teachers' mindsets presents a major challenge, as some remain accustomed to conventional teaching methods. Furthermore, limited technological facilities, internet access, and instructional time affect the implementation of project-based learning and lessons requiring in-depth exploration. To address these obstacles, the school continuously conducts training, shares best practices through learning communities, carries out academic supervision, and guides teachers in developing instructional materials aligned with the Deep Learning approach. These efforts reflect the school's commitment to continuously improving the quality of the Merdeka Curriculum implementation.

The key themes that emerged from the coding study are illustrated in Figure 2, along with the degree to which each theme was addressed. The Deep Learning Policy application has the highest coverage (90%) of all topics examined, indicating that policy implementation is the most important theme in the findings. Learners' Learning Experiences have 85%. This suggests that Deep Learning is an important part of providing learning experiences that are not only active and joyous, but also contextual, critical and collaborative. Awareness of Pancasila reached 80%, indicating that learning activities, school culture and daily practices contributed to developing students' understanding of Pancasila ideals and their ability to internalise them. The document "Implementation Challenges" is about real-world challenges that could prevent effective implementation. These issues include a lack of technology resources, limited instructional time and teacher training. Implementation Challenges reports 75% coverage. Overall, the four topics are covered to a relatively great extent (75%–90%). This shows that policy implementation, learners' experiences, understanding of Pancasila and implementation challenges are important elements to consider when understanding the use of Deep Learning in the educational environment.

5. Conclusion

Based on the research findings, SMA Negeri 9 Kota Tangerang implements the Deep Learning approach in Pancasila Education through learning activities that encourage students to think critically, participate actively, and engage in reflective learning. Teachers do not merely deliver material through one-way instruction; they give students opportunities to discuss, express opinions, solve problems, and connect learning materials to real-life situations. This approach enables students not only to memorize Pancasila values but also to understand their meaning in everyday life. For example, students understand the value of cooperation not only as a concept but also through group collaboration and helping one another complete learning tasks. Likewise, students demonstrate tolerance through mutual respect during classroom discussions and interactions with peers who hold different opinions. Deep learning is also reflected in meaningful and enjoyable learning experiences. Students find it easier to understand the learning materials because they are connected to their own experiences and social environment. As a result, Pancasila Education is no longer perceived merely as a subject focused on memorization, but as a learning process closely related to students' daily lives that helps develop their thinking and behavior. Furthermore, the findings indicate that integrating the Deep Learning approach with the Merdeka Curriculum strengthens students' awareness of Pancasila values. The Merdeka Curriculum provides teachers with greater flexibility to design learning activities that are contextual, student-centered, and responsive to students' learning needs.

In practice, teachers use this flexibility to create learning experiences that encourage students to understand, appreciate, and practice Pancasila values in their daily lives. Through interactive and project-based learning activities, students are encouraged not only to understand Pancasila's principles but also to apply them in real situations. Students demonstrate Pancasila awareness by showing mutual respect, cooperation, responsibility, and critical thinking throughout the learning process and school activities. Therefore, Pancasila is not only learned as a theoretical concept but is also reflected in students' attitudes and behaviors in everyday life. Reflection activities after the learning process further support implementation. Through reflection, students evaluate their attitudes and actions to determine whether they align with Pancasila values. This reflective process helps students gradually develop a stronger awareness of Pancasila values and encourages continuous self-improvement. Although several challenges were encountered during the implementation of the Deep Learning approach, these obstacles do not diminish its importance in Pancasila Education. Instead, they provide valuable opportunities for continuous evaluation and improvement. Schools are therefore encouraged to strengthen learning strategies, enhance teachers' competencies, and foster stronger collaboration among teachers, students, and parents to optimize the implementation of the Deep Learning approach within the Merdeka Curriculum.

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