


DEVELOPMENT OF A DEEP LEARNING MODEL: CONTEXTUAL STRATEGIES FOR IMPROVING THE PROFILE OF PANCASILA HIGH SCHOOL STUDENTS

Samsul Bahri¹ , Wan Nor Jazmina Wan Arifin² , Sutikno¹ , Hadi Widodo¹

¹ Post Graduate Faculty, Universitas Muslim Nusantara Al-Washliyah, Medan, Indonesia

² Faculty of Social and Applied Sciences, Sultan Zainal Abidin University, Terengganu, Malaysia

Corresponding author email: samsulbahri@umnaw.ac.id

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Abstract

A deep learning-based learning model was developed to enhance students' reflective and contextual understanding of learning materials while internalizing the values of the Pancasila Student Profile. This study aimed to create a contextual learning model for high school students in science class, employing a quasi-experimental design with a non-equivalent control group. Data were collected via questionnaires and analyzed using descriptive statistics and inferential tests, including the Independent Samples t-Test and Paired Samples t-Test, to evaluate the model's effectiveness in improving student learning outcomes. The results revealed a significant difference in the experimental group, as the Paired Samples t-Test indicated a notable difference between the pre-test score (68.47) and the post-test score (83.20), with a t-value of -9.127 and $p = 0.000$ ($p < 0.05$). Additionally, the Independent Samples t-Test demonstrated that the average post-test score of the experimental group (83.20) was significantly higher than that of the control group (74.13), with a t-value of 4.213 and $p = 0.000$ ($p < 0.05$). These findings indicate that the local wisdom-based model effectively improves student learning outcomes compared to the conventional approach. This study highlights the importance of implementing an immersive learning model in high schools, emphasizing contextual strategies that engage students in critical and reflective thinking to internalize the values of the Pancasila Student Proficiency Profile. However, the limitations of this model, such as time and space constraints, suggest the need for further longitudinal research across various educational settings to comprehensively evaluate its effectiveness and adaptability.

Keywords: Contextual Strategies, Deep Learning, Local Values, Pancasila Student Profile.



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INTRODUCTION

In developing immersive learning models, contextual strategies play a crucial role in creating relevant and meaningful learning experiences for students. This is in line with findings that educational approaches that link subject matter to students' real-life experiences not only increase learning interest

but also facilitate a deeper understanding of the concepts taught (Naylor et al., 2023; Harisha, S. et al., 2024; Lan, Y. et al., 2024; Ariyani et al., 2025). In this context, learning that integrates local wisdom, such as that conducted within the community or at school, can help students better understand the values of Pancasila and apply them in their daily lives (Holdsworth et al., 2023; Tan et al., 2024; Ren et al., 2024; Afriani & Widodo, 2025).

Inclusive and locally context-based education is crucial for building a national identity aligned with the values of Pancasila. For example, in communities with a tradition of mutual cooperation, learning that emphasizes the importance of cooperation and mutual assistance will strengthen students' understanding of the values of unity and social justice. This can be seen in various educational programs that have successfully created an atmosphere of safety and mutual respect among students, where they are taught to apply Pancasila principles in everyday interactions (Wu & Li, 2025). Pancasila education serves not only as a means of imparting knowledge but also as a tool for building social awareness and national identity among students (Vass et al., 2023; Beltran, 2025; Dzulfikar et al., 2025). The local context, as outlined in previous studies, demonstrates that context-based learning can have a positive influence in instilling aspects of local culture and wisdom into everyday education, thus producing graduates who are not only academically intelligent but also ethical and possess a strong sense of social responsibility (Gothe et al., 2022; Budiman & Oue, 2025; Cortés et al., 2025).

By understanding and appreciating local traditions and culture, students are expected to develop a strong identity as good and responsible citizens, in accordance with the values of Pancasila (Tilot et al., 2021). Therefore, it is important to examine in more depth how this learning model can be applied in each local context, as well as the benefits and challenges it will face in practice (Gominski et al., 2019; Demelash & Derb, 2025). This is connected to the importance of education that is responsive to local contexts and cultures, which not only meets national education standards but also enriches students' learning experiences (Singh, 2022; Waluya et al., 2023). Furthermore, the development of immersive learning models with contextual strategies focuses on creating learning environments that encourage social interaction and collaboration among students. Project-based and research-based learning has been shown to be effective in increasing student engagement and strengthening their critical and creative thinking skills (Jufrida et al., 2024; Endra & Villaflor, 2024; Ikhsan et al., 2025).

The implementation of an immersive learning model has the potential to enhance the profile of Pancasila learners. This profile encompasses character development, critical thinking skills, and the ability to interact cross-culturally. This is linked to the importance of education that is responsive to local and cultural contexts, which not only meets national education standards but also enriches students' learning experiences (Hong et al., 2022; Singh, 2022; Waluya et al., 2023). The process of developing these competencies must involve collaboration between teachers, parents, and the community to create a strong and supportive educational ecosystem. The proposed approach is not only based on existing educational theory but also rooted in practical considerations observed in the Indonesian educational context (Cao & Cao, 2023; Hou et al., 2023; Fernandez et al., 2025). Therefore, input from good practices in the field will be invaluable in formulating an effective model. However, there are significant gaps in the implementation and teaching of these values in the current curriculum, which indicates the need for more in-depth research on contextual and innovative learning strategies to address this issue (Lee et al., 2022; Luo et al., 2022; Yee et al., 2024).

To date, there remains a significant gap in scientific research specifically addressing the development of contextualized deep learning models to enhance the Pancasila Student Profile at the senior high school level especially in science class. Kula and Haynes's study demonstrated that students' lack of engagement in learning that emphasizes local social and cultural contexts results in a poor understanding of national values and social ethics (Kula et al., 2021; Haynes et al., 2022; Nwune et al., 2023; Julianti et al., 2025). Highlighted the importance of understanding local wisdom in environmental education, but this research was limited to the ecological-cultural context and did not comprehensively cover how Pancasila values can be internalized in a broader educational context (Waluya et al., 2023). Alluded to the importance of understanding context in educational practice but did not explicitly link it to the application of Pancasila values in teaching (Mughal, 2020). Furthermore, although several studies have underscored the urgency of cultural integration in the curriculum, as described, this research still needs to be further explored in terms of practical implementation that directly links teaching strategies with student character outcomes in accordance with the demands of Pancasila (Burgess et al., 2022; Mansyuarna et al., 2023; Nou et al., 2025; Nwoji et al., 2025).

Explain that knowledge rooted in sociocultural context can facilitate a deeper understanding of historical trauma, providing individuals with tools to build resilience and mental health within communities (Stone et al., 2021; Coffin et al., 2024; Somantri, 2024; Sigar et al., 2025). This aligns with learning objectives that prioritize the values of Pancasila, which reflect the nation's character. Emphasize qualitative methods that encourage productive dialogue in intercultural spaces (Haynes et al., 2022; Williams, 2024). This method is relevant in educational contexts where students from diverse cultural backgrounds can learn from and respect one another. In this study, students were not only taught academic material but also engaged in the process of developing social and cultural values essential to their identity as Indonesian citizens. Illustrate how education focused on cultural competency has the potential to improve students' abilities to cope with emergencies (Kula et al. 2021). This shows that an educational approach that pays attention to practical and cultural skills can strengthen students' competitiveness in an increasingly complex global era (Wardhani et al. 2024; Putri et al., 2025; Roath et al., 2025).

Astutik et al. (2023) in their study on the application of Contextual Teaching and Learning (CTL) in learning the Pancasila principles showed that this approach is effective in improving students' conceptual mastery. However, this study was conducted at the elementary school level and emphasized basic cognitive understanding without addressing the in-depth character development mandated by the Pancasila Student Profile. On the other hand, Safitri et al. (2023) examined the strengthening of local wisdom values to support the Pancasila Student Profile in science learning. Although relevant to the context of values and character, this study was still limited to a thematic approach and did not develop a complete in-depth learning model, and did not target the high school level. Similarly, the study by Sijabat et al. (2025) conveyed that an approach that emphasizes active participation and critical reflection from students has been proven to improve their understanding of moral and social values.

Other studies attempting to combine contextual strategies with deep learning approaches are also scarce. One notable exception is a study by Herliani (2025), which developed a deep learning-based contextual learning strategy for negotiation texts in vocational high schools. This study demonstrated success in improving students' analytical skills. However, because it was conducted at the vocational high school level and limited to a single topic, the findings cannot be generalized to a holistic learning context encompassing the Pancasila Student Profile dimensions in high schools. On the other hand, Lee et al., (2022) and Putri et al., (2022) have developed a conceptual framework for deep learning in Indonesian education. They emphasize the importance of mindful, meaningful, and joyful learning as the foundation of the deep learning approach. However, this research is theoretical in nature and does not specifically link the framework to learning practices in secondary schools or the character values expected in the Pancasila Student Profile.

Existing research has focused only on aspects of the implementation of the independent curriculum, character building, or contextual learning in science class. Although the concept of contextual learning has been widely studied and applied, particularly in elementary and secondary schools, this approach has not been explicitly directed at supporting the dimensions of the Pancasila Student Profile through a more in-depth and reflective pedagogical approach at the high school level.

Based on the research results, it can be seen that there are not many studies that fully integrate in-depth learning models and contextual strategies rooted in local culture in an effort to improve the dimensions of the Pancasila Student Profile in high schools. This gap indicates an urgent need to develop innovative learning models that are not only theoretical, but also applicable and contextual, and capable of deeply touching the affective, cognitive, and social aspects of students. Therefore, the urgency of this research will develop an in-depth learning model based on contextual strategies that is not only theoretically relevant, but also practically effective in shaping student character. This model is expected to be able to fill the gap in pedagogical approaches that are able to align curriculum demands with students' psychological and sociocultural needs, while also making a significant contribution to strengthening student-centered learning and oriented towards the formation of a Pancasila Student Profile in a real and sustainable manner.

RESEARCH METHOD

This study employed a quantitative approach with a quasi-experimental pretest-posttest control group design, which allows researchers to evaluate the impact of learning interventions on student learning outcomes. This design is considered relevant when random subject assignment is not feasible, but control over the treatment variable is maintained. Using two parallel groups, an experimental group

and a control group, this study aimed to assess the effectiveness of a contextual strategy-based in-depth learning model on strengthening the Pancasila Student Profile.

This research instrument was designed in an integrated manner to measure the effectiveness of developing a contextual strategy-based in-depth learning model in improving the Pancasila Student Profile in high school students. Data collection was conducted through classroom observations to identify relevant learning practices, semi-structured interviews to explore teacher and student perceptions of local values and learning needs, and a Likert-scale questionnaire measuring cognitive engagement, conceptual understanding, and the six dimensions of the Pancasila Student Profile. Model validation was conducted through expert assessment of the model's structure, coherence, and feasibility of implementation. During the trial phase, evaluation instruments used were learning outcome tests, student activity sheets, and attitude and skills assessment rubrics to assess the model's ability to facilitate meaningful learning and shape students' character holistically.

The competency indicators of this study focus on two main aspects. First, in the in-depth learning dimension, indicators reflect students' abilities to understand concepts meaningfully, think critically, reflect on learning experiences, relate knowledge to real-world contexts, and apply knowledge creatively. Second, in the Pancasila Student Profile dimension, competency indicators are designed to assess the internalization of six main character dimensions, such as mutual cooperation, independence, critical thinking, creativity, diversity, and faith and noble character. More details can be seen in Table 1.

Table 1. Competency Indicators

Competency Aspects	Dimensions	Competency Indicators
Deep Learning	Conceptual Understanding	Students are able to explain concepts comprehensively and meaningfully.
	Contextual Relatedness	Students are able to relate concepts to real life situations or the surrounding environment.
	Critical thinking	Students are able to analyze problems and evaluate solutions with logical arguments.
	Learning Reflection	Students are able to reflect on the learning process and identify strengths and weaknesses.
	Application of Knowledge	Students are able to use knowledge to solve problems in new contexts.
Pancasila Student Profile	Faithful and Noble	Students demonstrate ethical, empathetic, and spiritual behavior in the learning process.
	Global Diversity	Students appreciate differences and demonstrate an inclusive attitude in discussions or teamwork.
	Mutual cooperation	Students actively work together and demonstrate responsibility in group assignments.
	Independent	Students are able to manage time, learn on their own initiative, and make their own decisions.
	Critical Reasoning	Students are able to evaluate information and put forward reasons based on evidence.
	Creative	Students produce new ideas or original work in learning assignments and projects.

The subjects of this study were science eleventh-grade students from a public high school in North Sumatra. Subjects were selected purposively, considering academic grades, comparable

backgrounds and science class. The total sample consisted of 60 students, 30 in the experimental group and 30 in the control group. The experimental group received in-depth learning that integrated contextual strategies based on local wisdom, while the control group received conventional learning according to the applicable lesson plan. In addition, two subject teachers involved in the implementation process were also involved as sources of validation for the content of the tools and the implementation of the intervention.

The research procedure involved four main stages. First, the preparation stage, which included the development of learning tools, instrument validation, and training of implementing teachers. Second, a pretest was administered to both groups to measure students' initial abilities. Third, the treatment stage was conducted over five sessions, with the experimental group receiving deep learning-based instruction linked to the local context, while the control group followed conventional methods. Fourth, students were given a posttest to assess their learning progress and completed a questionnaire assessing their perceptions of the Pancasila Student Profile dimensions.

The research instruments included a multiple-choice learning outcome test (25 items) structured based on core competency indicators and the Pancasila Student Profile dimensions, as well as a Likert-scale questionnaire to measure character aspects such as independence, mutual cooperation, and critical reasoning. The instrument was validated by three experts (a material expert, an evaluation expert, and a subject teacher) and its reliability was tested through a field trial. Data collection techniques were conducted directly in class through pretests and posttests, as well as questionnaires completed at the end of the learning session.

Competency indicators address two main aspects. First, in the in-depth learning dimension, indicators reflect students' ability to meaningfully understand concepts, think critically, reflect on learning experiences, relate knowledge to real-world contexts, and apply knowledge creatively. Second, in the Pancasila Student Profile dimension, competency indicators are designed to assess the internalization of six key character dimensions, such as mutual cooperation, independence, critical thinking, creativity, diversity, and faith and noble character.

To obtain strong reliability, researchers conducted a reliability test on the questionnaire instrument using Cronbach's Alpha coefficient analysis, which is a statistical method commonly used in educational research to measure the internal consistency of an instrument. Data were analyzed using parametric statistical techniques. A paired sample t-test was used to assess changes in scores within each group. An independent sample t-test was used to compare differences in learning outcomes between the experimental and control groups after treatment. Additionally, effect size calculations were performed using Cohen's *d* to determine the strength of the learning intervention's influence.

RESULTS AND DISCUSSION

Contextual Strategy-Based Deep Learning in High School

The implementation of in-depth learning to enhance the Pancasila Student Profile dimension at the high school level has had a significant positive impact. The average posttest score in the experimental group increased significantly compared to the control group, indicating that this approach is effective in fostering holistic student character development. The most significant improvements were seen in the dimensions of critical thinking, independence, and mutual cooperation, which are key indicators of student engagement in meaningful and reflective learning.

Based on the results of quantitative data processing, it was found that the average posttest score of the experimental group experienced a significant increase compared to the control group. The experimental group consisted of students who were taught using the Deep Learning Model with a contextual strategy approach, while the control group used conventional learning methods.

- The average pretest score of the experimental group: 68.47
 - The average posttest score of the experimental group: 83.20
 - Average score increase: 14.73 points
- Meanwhile, in the control group:
- Average pretest score of control group: 67.95
 - The average posttest score of the control group: 74.10
 - Average score increase: 6.15 points

The difference in score increase between the two groups was 8.58 points, indicating that the in-depth learning strategy was more effective in encouraging the achievement of the Pancasila Student Profile, as can be seen in table 2 below;

Table 2. Comparison of Mean Pretest and Posttest Scores

Group	Mean Pretest Score	Mean Posttest Score	Score Improvement
Experimental	68.47	83.20	14.73
Control	67.95	74.10	6.15
	Difference		8.58

The independent sample t-test statistical test showed that there was a significant difference between the posttest scores of the two groups with a sig. (p-value) <0.05, which strengthens that the difference was not caused by chance, but rather due to the influence of the learning model treatment. Quantitative data obtained through filling out the pretest and posttest questionnaires by students were analyzed using descriptive and inferential statistics. The average pretest score in the experimental group was 68.47, increasing to 83.20 in the posttest as seen in Figure 1.

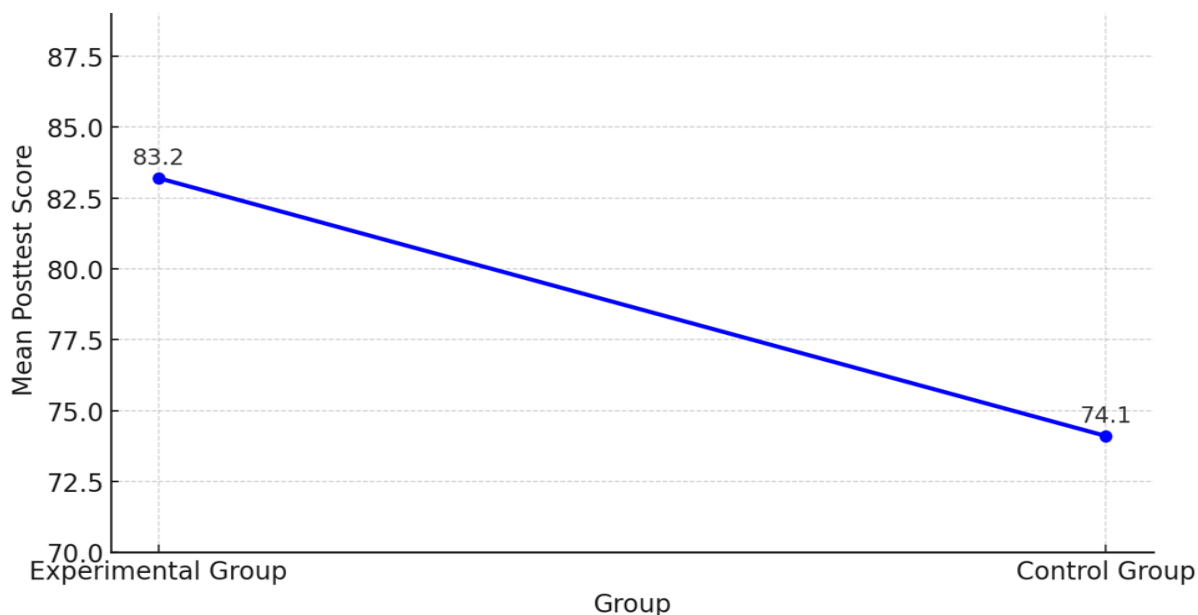


Figure 1. Independent sample statistical test

Figure 1 above shows that the average student pretest score was 68.47, which increased to 83.20 in the posttest. This increase reflects the effectiveness of the learning model in improving learning outcomes and developing character values in accordance with the Pancasila Student Profile.

These results are in line with the fact that immersive learning approaches based on real contexts and authentic experiences can increase student engagement and promote higher conceptual understanding (Hu et al., 2020, Dildar et al., 2021 and Chamier et al., 2021). By using immersive learning techniques integrated with real case studies, students can build connections between historical, social, or scientific theories and applications, thereby strengthening their understanding (Hussain et al., 2021 Biancalani et al., 2021 and Loey et al., 2021; Yulisman et al., 2025).

The Paired Sample t-Test produced a value of $t = -9.127$, $df = 29$, and $p = 0.000$, which indicates a statistically significant increase ($p < 0.05$) as seen in Figure 2.

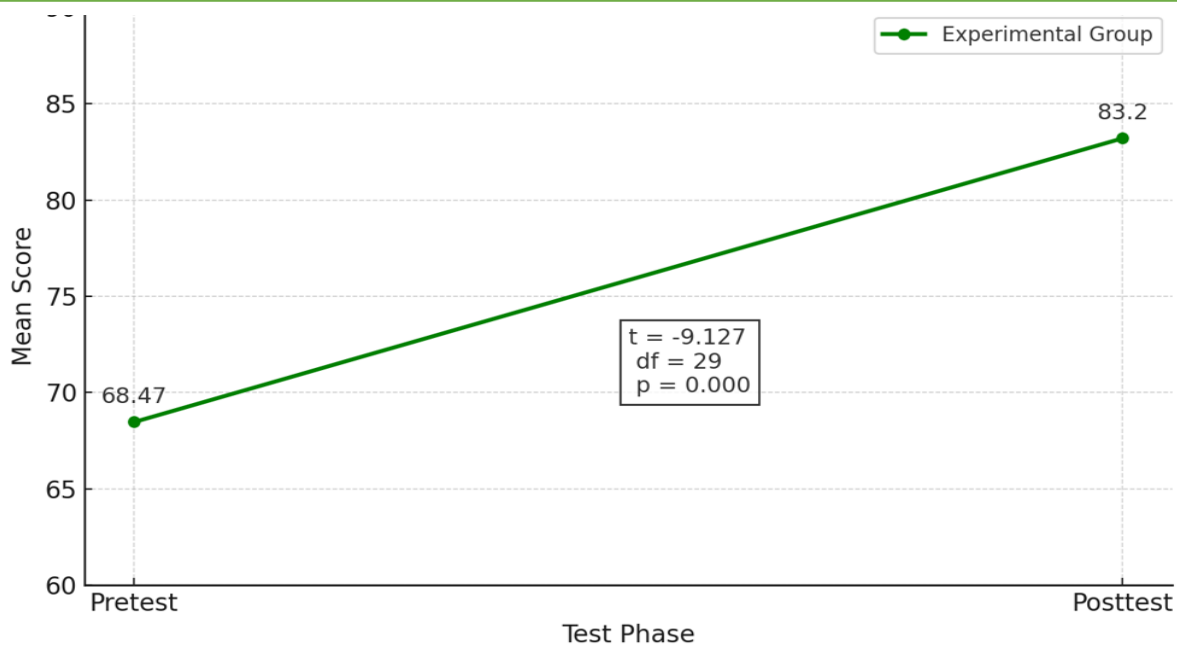


Figure 2. Paired Sample t-Test

Figure 2 shows that the experimental group, which followed the contextual strategy-based immersive learning model, achieved an average score of 83.20, while the control group only achieved 74.13. The results of the Independent Sample t-Test showed $t = 4.213$, $df = 58$, and $p = 0.000$, which confirmed that the difference was statistically significant. These findings indicate that the immersive learning model is able to provide a real impact on improving student competency, particularly in strengthening the values of the Pancasila Student Profile.

Theoretically, this finding is supported by Hu & Kuh (2020), who stated that deep learning requires deeper cognitive and affective student engagement through meaningful, reflective learning that is connected to real-life experiences. When learning is grounded in local context, students more easily interpret knowledge and relate it to the social and cultural realities they experience (Hu et al., 2020, Aggarwal et al., 2021, and Bharti, R., et al., 2021).

Furthermore, Biggs (1999) stated that the effectiveness of in-depth learning is greatly influenced by what students do during the learning process. In this context, the use of contextual strategies based on local wisdom not only strengthens academic aspects but also helps students build national identity and character. This aligns with the importance of reflection in the learning process, where students are encouraged to reflect on their learning experiences. Methods such as reflective journals and peer feedback serve to explore their understanding of the material. These practices enhance self-awareness and metacognitive skills, which are essential for the development of lifelong learning.

Multimodal content-based learning methods, including the use of various sources and learning styles, help meet the needs of diverse students (Brandes et al., 2022 and Stahlschmidt, S., et al., 2022). Through this multimodal approach, students can gain knowledge from various perspectives, further enriching their learning experience. In addition, research shows that learning with diverse approaches can increase the level of information retention (Ming et al., 2021).

With a comprehensive approach, deep learning not only provides a new way to convey information but also forms the foundation for students' personal and social development. Through deeper cognitive and affective engagement, students can develop skills that empower them to think critically, innovate, and adapt in a changing world. Effective education through deep learning supports this process by providing richer and more relevant experiences for students, preparing them for future challenges (Song et al., 2021, and Darling Hammond et al. 2020).

Substantively, these results indicate that a contextually designed, local wisdom-based, in-depth learning approach fosters more reflective conceptual understanding and internalization of the core values of the Pancasila Student Profile. The dimensions that showed the highest improvement were mutual cooperation and global diversity, which developed through collaborative activities and project-based problem-solving. This aligns with the findings of Hu and Kuh (2020), who stated that students' deep

involvement in learning processes relevant to their life contexts can simultaneously foster character development and critical thinking.

Furthermore, a contextual approach based on local culture enables students not only to understand the learning material but also to relate it to social realities and the noble values inherent in their environment. This is reinforced by research which confirms that learning based on local cultural values has a positive influence on character formation and strengthens student identity. The model developed in this study creates a learning cycle consisting of five main stages: exploration of local context, reinforcement of concepts, reflection on values, collaborative action, and meaningful evaluation. Each stage develops not only the cognitive aspects but also the affective and social aspects of students. This reinforces Trigwell et al.'s (1999) view that the deep learning approach emphasizes students' personal engagement in the meaning of what they learn, rather than simply absorbing information.

In this study, Cohen's *d* value of 1.48 indicates that the difference between the experimental and control groups is in the large effect category. This means that the applied contextual strategy-based in-depth learning model has a very strong influence on improving student learning outcomes. The difference in posttest scores between the control group (average 74.13) and the experimental group (average 83.20) is not only statistically significant ($p < 0.001$), but also practically reflects the success of the learning model in promoting deeper understanding and higher-order thinking skills.

This research presents a novelty through the development of an in-depth learning model that integrates contextual strategies based on local wisdom to strengthen the Pancasila Student Profile dimension at the high school level. This approach emphasizes not only cognitive learning outcomes but also explicitly directs learning to shape students' character through the cultural and social contexts they encounter daily. The integration of local values such as mutual cooperation, tolerance, and independence within the in-depth learning framework makes this model unique and relevant to the implementation of the Independent Curriculum.

Another novelty lies in the use of a quasi-experimental approach supported by comprehensive statistical analysis, including Paired Sample *t*-Test, Independent Sample *t*-Test, and calculation of large effects (Cohen's *d* = 1.48) in Figure 3.

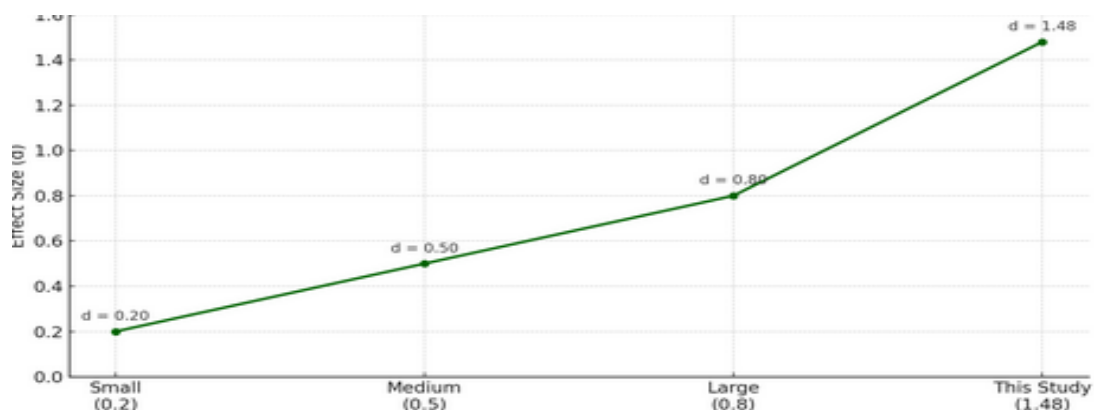


Figure 3. Line Diagram of the Resulting Cohen's D Values

Figure 3 yields a Cohen's *d* value of 1.48, obtained from the comparison of posttest scores between the experimental and control groups, indicating that the in-depth learning model based on contextual strategies has a significant impact on improving student learning outcomes. Within the framework of deep learning theory, this result is a strong indicator that students who learn through this approach experience a more meaningful increase in understanding, not simply memorizing information, but being able to relate the subject matter to real contexts close to their lives. Immersive learning emphasizes high cognitive engagement, critical reflection, and personal meaning-making of learned knowledge (Kuh, 2020). When contextual strategies are applied in immersive learning models, students not only absorb information but also develop more stable mentally models and conceptual understanding. This aligns with the principle that learning is more effective when material is presented through authentic situations that are relevant to the learner's experiences.

This large effect size also supports the finding that integrating local context and immersive teaching practices fosters the development of 21st-century skills, such as critical thinking, problem-solving, and decision-making. In other words, Cohen's *d* = 1.48 reflects that students not only achieved

improved academic scores but also experienced qualitative changes in the way they think and learn. Therefore, this finding underscores the urgency of integrating immersive learning approaches more broadly into the national curriculum, particularly in strengthening the Pancasila Student Profile.

Overall, immersive learning approaches based on real-world contexts and authentic experiences have proven highly effective in increasing student engagement and deepening conceptual understanding. Implementing these techniques in high school learning environments can help create an atmosphere that is more responsive and relevant to students' needs, preparing them for future challenges in a more integrated and meaningful way. Connecting learning to real-life situations is a fundamental element in educating future generations of students.

Design of a Deep Learning Model Based on Contextual Strategy

The in-depth learning model developed in this research is designed as a systematic and flexible framework that integrates a contextual approach with the principles of meaningful learning to foster the values and competencies within the Pancasila Student Profile. This model emphasizes not only knowledge acquisition but also character development, critical thinking, and reflective skills in students.

The designed learning model can consist of several key components. First, identify social and cultural contexts relevant to students to enhance the relevance of the material. For example, classroom activities discussing cultural diversity in Indonesia can relate Pancasila values to everyday life, such as tolerance and cooperation (Zheng et al., 2021). Second, implement learning technology that allows students to explore on their own. Tools such as digital learning platforms that integrate multimedia and interactivity can help students understand Pancasila values more deeply. Third, engage students in collaborative projects that encourage them to apply Pancasila values in concrete actions, such as community service activities or environmental programs. For example, students could participate in an environmental restoration project that highlights the importance of preserving nature in accordance with the principles of social justice and environmental stewardship in Pancasila (Dildar et al., 2021). The learning model can be seen in Figure 4 below.

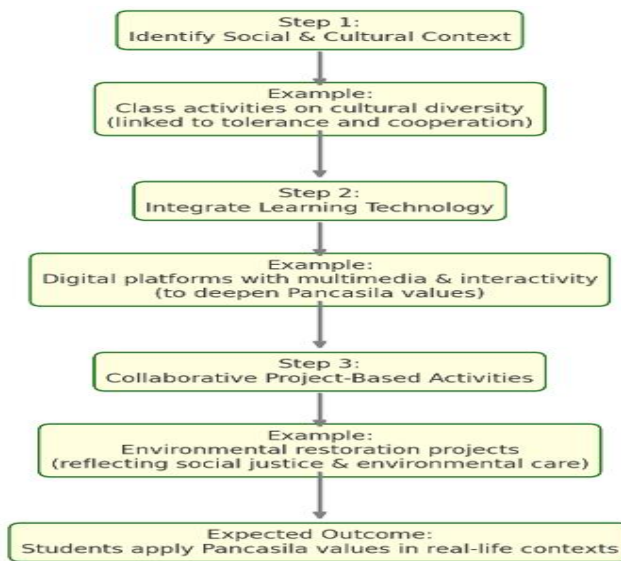


Figure 4 Flowchart of Deep Learning Model with Contextual Strategy

The use of continuous evaluation methods is also crucial. Evaluation can involve self-reflection, peer assessment, and feedback from group projects, so students can see how they contribute to realizing the values of Pancasila (Rentzsch et al., 2021). Adopting a learning approach that prioritizes interaction and active student participation in the learning environment is crucial. In the classroom, educators can use discussions, simulations, and role-plays that emphasize relevant experiences. Through guided class discussions, students can explore their own interpretations of Pancasila values and how they can be applied in everyday situations.

Furthermore, educators must play an active role in creating an environment that supports contextual learning. For example, in lessons about the characteristics of the Indonesian nation, teachers can invite resource persons or use technology to take students on virtual tours of historical sites, making

these concepts easier for them to understand and apply (Chamier et al., 2021). In-depth learning would not be complete without an emphasis on developing critical thinking skills. By guiding students in making logical arguments and data-driven decisions, they can be taught to question, analyze, and connect both aspects. Teachers should encourage students to formulate questions, conduct research, and collaborate in solving problems, including challenges related to the application of Pancasila values (Stahlschmidt et al., 2022).

Finally, the design of this contextual strategy-based in-depth learning model also has significant implications for broader curriculum development. The curriculum must be designed to encompass not only theory but also practice. The delivery of material must be integrated with real-world challenges and social relevance, encouraging students to innovate in finding solutions based on Pancasila values. This will help produce a generation that is not only academically intelligent but also socially and emotionally intelligent (Chlap et al., 2021).

CONCLUSION

This study concludes that a contextual strategy-based in-depth learning model significantly improves learning outcomes and strengthens the character dimensions of the Pancasila Student Profile of high school students. This is evidenced by statistical analysis of paired sample t-tests and independent sample t-tests, which show a significant increase from pretest to posttest scores, as well as a large effect size with a Cohen's d value of 1.48, indicating that the treatment's influence is very strong in practice. Overall, the design of a contextual strategy-based in-depth learning model for the Pancasila Student Profile is an integrated effort that supports student character development. With an approach that emphasizes active student engagement, the use of technology, continuous evaluation, and the development of critical thinking skills, students will be better able to understand and apply Pancasila values in their daily lives. The success of this model depends on the involvement of all stakeholders, including educators, students, parents, and the surrounding community, in building a supportive and sustainable learning environment.

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AUTHOR CONTRIBUTIONS

Samsul Bahri compiled the research and contributed to the conception and design of the study. Hadi Widodo organised the data collection and performed the meta-analysis, supervising and reviewing the data collection. Sutikno was responsible for validating, analysing, interpreting and writing the draft manuscript. All authors contributed to the revision, reading and approval of the final version of the manuscript.

CONFLICTS OF INTEREST

The author(s) declare no conflict of interest.

USE OF ARTIFICIAL INTELLIGENCE (AI)-ASSISTED TECHNOLOGY

The authors declare that no artificial intelligence (AI) tools were used in the generation, analysis, or writing of this manuscript. All aspects of the research, including data collection, interpretation, and manuscript preparation, were carried out entirely by the authors without the assistance of AI-based technologies.

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