

STRENGTHENING STUDENT COMPETENCE THROUGH IN DEEP LEARNING TOWARDS THE ACHIEVEMENT OF PANCAWALUYA BASED CHARACTER

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Abstract

The development of student competence and character has become a central concern in contemporary education, particularly in responding to global challenges that require higher-order thinking skills and strong moral foundations. This study aims to examine how the deep learning approach contributes to strengthening student competence toward the achievement of Pancawaluya-based character values. The research employed a Systematic Literature Review (SLR) method guided by PRISMA procedures. Relevant literature was collected from academic databases such as Google Scholar, DOAJ, and Scopus using keywords related to deep learning, student competence, character education, and Pancawaluya. After a rigorous screening and eligibility process, 20 articles published within the last ten years were selected and synthesized for analysis. The results indicate that the deep learning approach significantly enhances higher-order cognitive skills, metacognitive awareness, critical thinking, collaboration, and reflective abilities. Furthermore, when integrated with Pancawaluya values cageur, bageur, bener, pinter, and singer the deep learning approach facilitates holistic character formation through authentic, contextual, and participatory learning experiences. The discussion highlights that meaningful engagement, reflective activities, and project-based collaboration are effective mechanisms for internalizing local cultural values within academic processes. The novelty of this study lies in conceptualizing the integration of the deep learning approach with the local wisdom framework of Pancawaluya as a comprehensive model for competence and character development. The findings imply that educators and policymakers should systematically embed culturally grounded character values into deep learning design to promote sustainable, holistic, and culturally responsive education.

Keywords: Character Education, Deep Learning, Pancawaluya, Student Competence, Character Education



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INTRODUCTION

Modern education places the development of competence and character as the two main pillars in shaping superior, adaptive, and highly competitive learners. In a fast-paced global dynamic, learners are not only required to master academic knowledge, but also to possess higher-order thinking skills, collaboration, creativity, and strong communication skills (OECD 2023). However, such competence will not be meaningful without being accompanied by strong character as a moral and ethical foundation (Rohmah et al. 2024). Therefore, educational institutions must be able to present learning models that not only strengthen knowledge but also instill character values deeply and sustainably.

One of the approaches that harmonises with these needs is deep learning, which allows students to actively construct knowledge, find meaning independently, and apply concepts in real-life contexts (Al-Qoyim, 2025). Deep learning focuses on conceptual understanding rather than mere memorisation (Saputra et al. 2025). Through this approach, students are encouraged to analyse, evaluate, create, and make critical decisions (Suastra et al., 2020). This high-level cognitive process produces more meaningful understanding and enhances the ability to transfer knowledge across various life situations, particularly through the development of metacognitive awareness and self-regulated learning (Sutrisno and Zuchdi 2023).

Moreover, deep learning provides space for value internalisation, habituation of positive behaviour, and character growth through authentic, reflective, and collaborative learning experiences. It has been emphasised that deep learning significantly improves higher-order cognitive competence and metacognition, especially when supported by reflective feedback and collaborative activities (Hattie, 2020). When deep learning is applied consistently, student competence develops not only in academic aspects, but also in personal and social aspects. In the context of character strengthening, Pancawaluya is present as a value foundation that guides the direction of personal formation of students. This concept emphasises five core values, namely integrity, decency, independence, responsibility, and caring. These five values are universal and relevant to the challenges of the current generation, as well as in line with national efforts in building a Pancasila Student Profile. Pancawaluya provides a systematic framework for schools in developing a positive culture, strengthening the morality of students, and forming characterful behaviours in daily life (Santoso & Prasetyo, 2022). Thus, the integration of Pancawaluya into the learning process becomes a strategic step for schools in realising a humanistic and characterful education.

The combination of deep learning with Pancawaluya's values results in more comprehensive, holistic, and meaningful learning. Students not only understand concepts, but are also able to practice character values in learning activities, such as working together with empathy, being responsible for their tasks, and showing honesty in the academic process. The learning process turns into a vehicle for personal formation as a whole. Learning is no longer just taking place in the classroom, but also reflected in the daily behaviour of students, both in the school environment and the learning community that is responsive to culture is able to increase student involvement, empathy, and social responsibility (Gay, 2022). Pancawaluya character education is a concept of holistic human development rooted in Sundanese culture, consisting of five core values: cageur, bageur, bener, pinter, and singer. Cageur emphasises the balance of physical and mental well-being; bageur reflects noble character and social empathy; bener relates to honesty, discipline, and responsibility as expressions of moral integrity; pinter represents holistic intelligence encompassing cognitive, social, emotional, and spiritual dimensions; while singer denotes creativity, innovation, and adaptability in responding to change. These five values are interconnected and form an integrated whole in shaping balanced, high-quality, and character-driven individuals, known as Manusa Waluya (Sofyan, et al., 2026).

This approach strengthens the scientific legitimacy of Pancawaluya's integration in deep learning. Therefore, the study on "Strengthening Student Competence Through Deep Learning Towards Pancawaluya-Based Character Achievement" becomes very relevant and important to be developed. This article provides a comprehensive overview of how deep learning can function as an effective approach to strengthen student competence while encouraging character achievement based on Pancawaluya. In addition, this article also seeks to analyse the relationship between learning strategies, authentic experiences, and the internalisation of character values in the context of modern education. Hopefully, this study can be a practical reference for teachers, educational institutions, and other stakeholders in designing and implementing a learning model that is able to answer the demands of the times while maintaining the noble values of the nation.

RESEARCH METHOD

This research uses the Systematic Literature Review (SLR) method as the main approach to gain a comprehensive understanding of strengthening student competence through the application of deep learning toward the achievement of Pancawaluya-based character (Darmalaksana, 2020). The SLR method was chosen because it provides a structured, transparent, and replicable analysis of various relevant literature sources.

This study is guided by the following research questions:

(RQ1) How does deep learning contribute to strengthening student competence?

(RQ2) How are Pancawaluya character values integrated into deep learning practices?

(RQ3) What empirical evidence supports the effectiveness of deep learning in achieving Pancawaluya-based character outcomes?

The research process began with determining inclusion and exclusion criteria to ensure that only relevant, recent, and high-quality scientific sources were included. The inclusion criteria consisted of: (1) empirical research articles published between 2020 and 2025; (2) studies discussing deep learning in educational contexts; (3) studies addressing student competence and/or character education; and (4) articles indexed in reputable academic databases. Studies not meeting these criteria were excluded.

The literature search was conducted through academic databases such as Google Scholar, DOAJ, Scopus, and national journal portals using the keywords “deep learning,” “student competence reinforcement,” “character education,” “Pancawaluya,” and “meaningful learning.” The initial search identified 245 articles. After removing 35 duplicate records, 210 articles remained for title and abstract screening. Following the screening process, 150 articles were excluded due to irrelevance and not meeting the inclusion criteria. Sixty full-text articles were assessed for eligibility. After further evaluation based on methodological quality, publication year (2020–2025), and relevance to the research focus, 20 articles met all criteria and were included in the final synthesis. The selection process followed PRISMA guidelines to ensure transparency and replicability.

After the eligible literature was identified, data analysis was conducted using thematic synthesis techniques, including open coding, axial coding, and selective coding. The coding process aimed to identify key concepts, categorize themes, and construct overarching patterns related to deep learning and Pancawaluya-based character strengthening. To enhance reliability, two independent reviewers conducted the coding process, and any discrepancies were resolved through discussion until consensus was achieved.

The quality of the selected studies was assessed based on methodological rigor, research design clarity, sample adequacy, instrument validity and reliability, and relevance to the research questions. Only studies categorized as high and moderate quality were included in the final synthesis. Despite its systematic approach, this study has limitations. The review was limited to publications between 2020 and 2025 and relied on selected databases. Studies published in languages other than English and Indonesian were excluded, which may limit the comprehensiveness of the findings.

Overall, the SLR method ensures that the analysis is based on a synthesis of scientifically validated studies rather than a single source. This approach provides a strong and objective foundation for understanding the relationship between deep learning and the achievement of Pancawaluya-based character while generating theoretical and practical recommendations for competence- and character-oriented learning in modern education.

RESULTS AND DISCUSSION

The results of the research conducted through the Systematic Literature Review (SLR) approach show that the integration of deep learning with Pancawaluya-based character values has a significant positive influence on strengthening student competence at various levels of education. Based on the analysis of the selected literature, it was found that deep learning consistently increases student involvement in the learning process, encourages high-level thinking skills, and strengthens the ability of learners to understand concepts comprehensively. The analysed articles showed that students who followed deep learning had a more stable understanding of the material, better analytical skills, and increased confidence in applying knowledge to real situations. The results of the journal review are evidenced by the table below :

Table 1. Review Literature Journal Results from 2020 to 2025

No	Author & Year	Title / Study Focus	Research Method	Main Findings
1	Kartini (2020)	Internalisation of character education through local values Pancawaluya	Descriptive Qualitative	Pancawaluya values effectively shape students' character through familiarisation and school culture
2	Darmalaksana (2020)	SLR research method in educational studies	Library / Methodological Study	SLR is able to produce a systematic, transparent, and replicable scientific synthesis
3	Santoso & Prasetyo (2022)	Teacher's role in deep learning and character strengthening	Qualitative	Teachers as facilitators play an important role in the internalisation of character values through deep learning
4	Wulandari & Rukmini (2022)	Project Based Learning and internalisation of character values	Qualitative	PjBL increases student empathy, honesty, responsibility, and cooperation
5	Yudhistira (2024)	Character education model based on local wisdom (Pancawaluya)	Case study	The integration of local values improves student discipline and responsibility
6	Al-Qoyyim (2025)	Implementation of deep learning in learning practises	Literature review	Deep learning improves HOTS and student engagement
7	Handayani (2025)	Deep learning and curriculum effectiveness	Mixed methods	Deep learning increases conceptual understanding and metaognisi
8	Rahmawati et al. (2025)	Learning transformation through deep learning	Policy & empirical	Deep learning effectively builds academic competence and character
9	Wibowo et al. (2025)	Deep learning and understanding of student concepts	Eksperimen	There is an increase in learning results of $\pm 25\%$ compared to conventional methods
10	Isnayanti (2025)	Deep learning integration in elementary school curriculum	Qualitative	Deep learning is relevant to Pancasila Student Profile and character education
11	Asteka, et al., (2023)	Integration of Pancawaluya as West Java's Local Wisdom in Sociolinguistics Learning	Qualitative	Pancawaluya enhances students' awareness of the connection between language and local culture, strengthens cultural identity, and promotes more participatory pedagogical approaches.
12	Harianto, et al., (2025)	The Role of the Pancawaluya Value Habituation Program in Creating a Character-Based School at SMAN 1 Ligung	Case study	The Pancawaluya program develops students' character through consistent habituation of
No	Author & Year	Title / Study Focus	Research Method	Main Findings
13	Yuwantika et al. (2025)	Character Education Learning Strategy Based On Pancawaluya Values (A Qualitative Descriptive Study at SMP Negeri 52, Bandung City)	Qualitative Descriptive Study	values and strong school management-. The Panca Waluya character education at SMP Negeri 52 Bandung is effective, emphasizing honesty and responsibility, supported by teachers and school culture; environmental values need further strengthening-.
14	Cahyono et al. (2025)	Management of Panca Waluya Character Education in Fostering Wise Attitudes Towards Technology in the Digital Era	Qualitative Descriptive Study	The Panca Waluya management effectively fosters wise attitudes toward technology by integrating local values and digital literacy in schools.
15	(Mulyanti 2025)	Integration of Islamic Values of the Archipelago , Pancasila , and Panca	Qualitative case study	The integration of Islam Nusantara values, Pancasila, and Panca Waluya

No	Author & Year	Title / Study Focus	Research Method	Main Findings
16	Nugraha and Hasanah (2021)	Waluya in Strengthening Student Character at SMAN 23 Bandung Building Leadership Character in Students Through a Deep Learning Approach	Qualitative (Library research)	effectively strengthens student character at SMAN 23 Bandung. Deep learning effectively builds students' leadership character through substantive and reflective approaches, supported by the synergy of educational institutions, family, and community.
17	Mardatillah, et al., (2025)	Utilization of Deep Learning in Project-Based Learning for Character Development: A Systematic Literature Review	Qualitative (systematic literature review)	Deep learning supports project-based learning to effectively develop students' character and skills in accordance with the Pancasila Student Profile through collaboration between schools and the community.
18	Hermiono and Arifin (2020)	Contextual Character Education for Students in the Senior High School	Qualitative	Character education in Buli village is influenced by economic conditions, social media, and the role of indigenous communities. Collaboration between schools, families, and the community is essential for strengthening children's character.
No	Author & Year	Title / Study Focus	Research Method	Main Findings
19	Fauziah, et al., (2025)	Knitting the Future of the Nation's Children Through Meaningful Learning Design	Qualitative (library research)	Meaningful learning shapes a superior generation that is creative, has strong character, and is ready to compete in the global era through contextual and integrative learning experiences. Its design is the key to advancing Indonesian education towards the future.
20	Kurniawati and Hadi (2023)	Evaluation of the Implementation of TVE-based Meaningful Learning Model for Senior High School Level	Mixed Method	The implementation of the TVE-based Meaningful Learning model at the high school level is effective in enhancing student motivation and learning outcomes, and it is easy for both teachers and students to apply.

Sources: 2020 s/d 2025.

Based on the results of several studies above, the Pancawaluya values in learning not only function as moral reinforcement, but also strengthen students' cultural identity through the internalization of five main characters, namely cageur (physically and mentally healthy), bageur (moral and empathetic), bener (honest and responsible), pinter (intelligent and broad-minded), and singer (creative and adaptive). The integration of these five values shows that learning based on local values does not merely instill norms, but creates a balance between the cognitive, affective, and psychomotor aspects of students. This indicates that learning based on local values can create more active, reflective, and meaningful student engagement. Thus, this approach has the potential to change pedagogical strategies to be more participatory, contextual, and oriented towards holistic character formation.

Deep Learning as a Strategy for Strengthening Student Competence (Long Discussion)

Deep learning (deep learning) places conceptual understanding and high-level thinking processes as the centre of teaching-learning activities. Theoretically, this approach is rooted in the idea of constructivism which emphasises that knowledge is built by learners through active interaction with the environment, reflection, and the connection of new concepts with previous experiences. In practice, deep learning encourages activities such as case analysis, cross-subject projects, socratic discussions, and tasks that demand knowledge transfer to real situations. These activities facilitate the formation of a richer

cognitive scheme so that students not only memorise information, but also understand the structure of concepts, inter-ideal relationships, and the reasons behind a knowledge. As a result, cognitive competencies including critical thinking, problem solving, and reasoning ability are more durable than the transmission approach (Handayani, 2025).

Furthermore, deep learning also makes a significant contribution to students' metacognitive skills. When students are invited to plan, monitor, and evaluate their own learning process, they learn to identify effective strategies, recognise the weaknesses of understanding, and improve their learning approach independently. This metacognitive skill is closely related to lifelong learning ability, which is an important competence in the era of rapid change and abundant information. In a school context, teachers can instill the habit of reflection through learning journals, repetitive feedback, and structured reflective sessions so that students are able to see the development of their understanding over time (Rindang 2025).

Empirical research strengthens this theoretical claim. For example, a study by (Wibowo, et al, 2025) shows that the implementation of deep learning at the intermediate level is able to significantly increase academic achievement, it is reported that there is an increase of about 25% compared to the control group that applies conventional methods. These findings not only show a spike in scores, but also show an improvement in answer quality, students' ability to relate concepts to real contexts, and the courage to take initiative in class discussions. This indicates that deep learning not only improves quantitative results, but also the quality of understanding and intellectual independence of students. In the realm of 21st century skills, in-depth learning effectively develops collaborative and communicative skills. Many project-based deep learning activities or problem-based learning require students to work in teams, formulate solutions, and present findings. This collaborative process trains communication skills, idea negotiation, task division, and collective responsibility for all competencies that are very relevant to professional and social life (Setiyo 2022). Teachers who design authentic assignments and assessment rubrics that assess process aspects (for example team contribution, argumentative ability, and reflection) help ensure that these social and communication skills develop in parallel with academic competence.

The implementation of deep learning requires special attention to instructional design and assessment. Learning design must contain clear goals, activities that demand the implementation of concepts, and scenarios that arouse students' curiosity (Gustina, et al., 2025). Furthermore, learning activities need to be designed around real-world problems (problem-based learning) or contextual projects so that students can connect theory to everyday life situations (Juliyanti and Nopriyeni 2023). The learning process must also provide space for discussion, collaboration, and reflection to actively foster the formation of new knowledge.

Furthermore, learning evaluation should not only focus on final results, but also on the student's learning process. Authentic assessments such as portfolios, projects, presentations, and self-reflection should be implemented to measure conceptual understanding, critical thinking skills, and character development. Formative and reflective feedback are also essential components in helping students recognize their skill development (Syaifulloh 2025).

However, the implementation of immersive learning is not without its structural and pedagogical challenges. Several factors, such as a relatively dense curriculum, limited learning time, teacher preparedness and competence, and resource availability, have the potential to hinder the optimal implementation of immersive learning. In many contexts, learning practices are still dominated by a teacher-centered lecture approach, necessitating ongoing training and mentoring to enable educators to design authentic activities and manage classroom dynamics that are more student-centered (Dinata et al. 2025).

However, according to Hariyono et al. (2025) there are several strategies for implementing deep learning in schools. First, start by integrating small project-based modules relevant to the syllabus so that teachers and students can adapt gradually. Second, leverage collaboration between teachers to design cross-subject assignments that enrich the learning context. Third, utilize educational technology as a support, such as discussion platforms, graded question banks, and presentation tools, without making technology the primary objective. Fourth, develop clear assessment rubrics to assess cognitive aspects and process skills so that learning outcomes are validly documented. With these strategies, deep learning can be realistically operationalized in a variety of school settings.

Integration of Pancawaluya Values in the Learning Process (Long Discussion)

The integration of Pancawaluya values into the learning process is a strategic approach aimed at comprehensively shaping students' character through meaningful academic activities. Pancawaluya

comprises five core values: *cageur* (physically and mentally healthy), *bageur* (noble and empathetic), *benar* (honest and with integrity), *pinter* (intelligent and broad-minded), and *penyanyi* (creative and adaptive). These five values serve as the foundation for character development relevant to the demands of modern education because they encompass a balance of physical, moral, intellectual, and social aspects (Sofyan, et al., 2026)

In the learning context, the Pancawaluya values are not taught as stand-alone materials but are internalized through contextual learning experiences, social interactions, collaboration, and reflective activities undertaken by students in class. This approach enables students not only to conceptually understand the values but also to internalize them in real-life practice.

This is in accordance with the character education paradigm which emphasizes that values are not sufficiently conveyed verbally, but need to be consistently instilled through habits and daily life learning experiences so as to form sustainable behavior (Rahmawati 2018).

Research conducted by Yudistira (2024) supports the integration of character values in learning. The results of his research showed that familiarisation of character values in class activities such as group discussions, self-reflection, and project cooperation significantly increased students' discipline and sense of responsibility. This research confirms that learning that combines character values not only improves student behaviour, but also improves the overall quality of learning. When students have a positive character, class activities are more organised, interaction becomes more productive, and the learning atmosphere becomes more conducive. This finding reinforces the idea that the integration of Pancawaluya values cannot be separated from learning strategies that are oriented towards strengthening competence and forming behaviour. In addition, the value of Pancawaluya can enrich the thematic and transdisciplinary learning context.

Teachers can design learning activities that connect academic knowledge with character values, so that students understand the relevance of those values in real life (Elkominoki et al. 2025). For example, in learning Indonesian, teachers can use narrative texts that describe honesty, hard work, or empathy as a material for discussion and reflection. In IPA subjects, group experiment projects can be a medium to grow responsibility and cooperation. The integration of Pancawaluya values can also be applied through project-based learning (PjBL), where students must plan, implement, and evaluate projects collectively according to the division of tasks (Aryani and Ariefka 2025).. Each stage of the project becomes a practical space for students to implement the values of integrity, independence, and social care.

The application of Pancawaluya values also shows a positive impact on social dynamics in the classroom. When the values of politeness and caring are instilled through the habit of respecting each other and working in groups, it is easier for students to build harmonious relationships, respect diversity of opinions, and develop social sensitivity (Kartini, et al., 2020). This contributes to the improvement of a positive classroom climate, where every student feels appreciated and supported. Such a classroom climate has a strong correlation with increased learning motivation and students' emotional well-being. Thus, the integration of Pancawaluya values not only shapes character, but also fosters a safe, comfortable, and collaborative learning environment (Rahmawati, et al, 2025).

Overall, the integration of Pancawaluya's values in learning provides a solid foundation for character development that is relevant to the needs of students in the modern era. These values enrich the learning process, create a positive classroom atmosphere, and equip students with the moral and social skills needed in life. When learning is designed authentically, reflectively, and collaboratively, the value of Pancawaluya is not only understood as a concept, but also turned on as a real behaviour that develops in the learners.

Relevance of Pancawaluya in Strengthening Student Character

The application of Pancawaluya values in learning is proven to have a strong relevance to strengthening student character, especially in the context of 21st century education that requires students to be able to think critically, behave ethically, and have high social awareness (OECD 2019). Pancawaluya which summarises the values of discipline, hard work, solidarity, honesty, and caring provides a solid moral foundation for students to develop not only as students, but also as individuals who contribute to their social environment (Sutisna et al. 2025). In the deep learning process, these values can be integrated through a learning experience that emphasises self-reflection, collaboration between students, and completing tasks based on real context. In this way, character is not only instilled through lectures or theory, but practised directly until it becomes a habit that is embedded in the students.

Relevant research by Wulandari & Rukmini (2022) shows that the integration of character values in a project-based learning model can significantly increase students' sense of responsibility, discipline, and social concern. The result is in line with the Pancawaluya principle which emphasises the balance between cognitive and affective development. In project-based learning that requires students to plan, manage, and complete group tasks, the value of hard work and teamwork becomes a real need, not just a theory (Laili, et al., 2019). Similarly, the strengthening of honesty and responsibility arises through authentic assessment that emphasises work originality and the learning process of character education is most effective when integrated into meaningful learning and academic activities, not taught separately (Berkowitz et al, 2022). The research emphasises that the application of character values in meaningful learning is able to produce a stronger character internalisation compared to traditional methods.

In addition, the relevance of Pancawaluya is increasingly visible when students face the challenges of digitalisation and instant culture that often weaken the value of discipline and ethics. Through deep learning that is oriented towards conceptual understanding, investigation, and reflection, students are trained to be more patient, thorough, and responsible in every process. Pancawaluya values can be a moral guideline for students in sorting information, being wise in the digital space, and maintaining integrity in the learning process (Agustina et al. 2025). Thus, deep learning not only increases academic understanding, but also strengthens the personal integrity of students. Deep learning contributes to the formation of a positive classroom climate, which supports the development of student character and well-being (Zhao & Watterston, 2023). In the context of national education that emphasises the Pancasila Student Profile, Pancawaluya has a strong alignment because of its orientation on the formation of a complete character. Values such as cageur, bageur, bener, pinter, and singer are aligned with the dimensions of the Pancasila Student Profile, including faith and noble character, independence, critical reasoning, creativity, and collaboration. This alignment indicates that Pancawaluya is not only culturally relevant within the local context, but also compatible with the direction of national education policy (Irawati et al. 2022). Besides values such as gotong royong and social care are part of the important elements in the formation of students with noble morals and global diversity (Isnayanti, 2025). Therefore, the integration of Pancawaluya in deep learning is not only relevant, but also strategic to strengthen the achievement of national education goals. With the support of teachers, school environment, and the right learning strategies, Pancawaluya's values can equip students with the necessary character power to face the changing times as well as become citizens who contribute positively to society.

Contribution of Deep Learning in Developing Pancawaluya-Based Character

Deep learning provides a significant contribution to the development of students' character based on Pancawaluya values, as this approach emphasizes not only the achievement of academic competence but also the processes of meaning-making, reflection, and contextual internalization of values. Through deep learning, students are guided to explore the meaning of each learning activity, connect their learning experiences with real-life situations, and reflect on the moral implications of their actions (Aripin 2025). This process makes learning more meaningful, as students do not merely complete academic tasks but also understand the ethical and social dimensions underlying them. Pancawaluya values such as cageur (physical and spiritual well-being), bageur (empathy and noble character), bener (honesty and integrity), pinter (holistic intelligence), and singer (creativity and adaptability) are naturally integrated into various learning activities, both in individual and collaborative work (Kartini, 2020)

This contribution is particularly evident in the development of responsibility and discipline as essential aspects of character formation. In deep learning settings, students are required to manage their time, complete tasks systematically, and maintain consistency throughout the learning process. Self-directed learning and reflective activities encourage the emergence of intrinsic discipline rather than externally imposed control (Najib and Elhefni 2016). Furthermore, perseverance and hard work are strengthened as students engage in analytical reasoning, conduct observations, and formulate conclusions independently. Challenging learning tasks stimulate resilience and persistence, which are closely related to higher-order thinking development (Saraswati and Agustika 2020). Collaborative processes in deep learning also serve as an effective medium for fostering teamwork and social awareness. Through project-based activities and case analysis, students learn to respect diverse perspectives, share responsibilities, and support peers facing difficulties. Such interaction builds empathy and strengthens social solidarity (Layali, et al., 2025). In this way, Pancawaluya values are internalized through authentic learning experiences and influence students' daily behaviour (Mukti et al. 2025)

Relevant research by Wulandari and Rukmini (2022) strengthens the contribution of deep learning to the strengthening of student character. The study showed that when students engaged in analytical and reflective learning activities continuously, there was a significant improvement in the character of honesty, discipline, and cooperation ability. This finding is in line with the Pancawaluya framework which emphasises the balance between thinking power, morality, and social concern. Thus, deep learning not only expands students' cognitive abilities, but also becomes a strategic medium to develop character that is in line with the goals of value-based education. The contribution of deep learning is also seen in the formation of self-agency or student independence. Through investigative and reflective activities, students learn to determine the right learning steps and develop the ability to make ethical decisions. The value of honesty is closely related to this aspect, because students are trained to assess self-development honestly and admit shortcomings that still need to be fixed. This strengthens the student's personal integrity as well as building a character that can be held accountable in social and academic contexts.

Overall, deep learning provides a strong foundation in developing Pancawaluya-based character. The integration between moral values and meaningful learning activities makes students not only understand the concept of virtue, but also practice it in real life. With teacher support, adaptive curriculum, and conducive school environment, deep learning has the potential to be a strategic approach in forming a generation with strong character, integrity, and ready to face global challenges without losing its moral and cultural identity

CONCLUSION

The conclusion of this article shows that deep learning has a strategic role in strengthening competence as well as shaping the character of students based on Pancawaluya values. This approach not only focusses on improving conceptual understanding, but also directs students to internalise moral values such as discipline, hard work, honesty, teamwork, and caring through real, reflective, and collaborative learning experiences. Research findings analysed through the SLR method confirm that the integration of character values into meaningful learning activities can result in more consistent behavioural changes compared to traditional approaches. Deep learning is proven to be able to grow learning independence, strengthen responsibility, improve the ability to work together, and foster students' social awareness. Thus, the values of Pancawaluya are not only understood theoretically, but truly materialised in the daily actions of students. Overall, this article emphasises that deep learning is a relevant and effective approach in realising the goal of character education, as well as supporting the achievement of student profiles that are moral, have integrity, and are able to contribute positively to society in the increasingly complex changing times.

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