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The Role of Multicultural-Based Deep Learning in Character Building of Elementary School Students: A Literature Review

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Abstract: *The implementation of a national curriculum directed toward the eight dimensions of the Graduate Profile requires elementary education to redesign its instructional practices. One possible response is the adoption of a Deep Learning approach. This review examines how multicultural-oriented deep learning contributes to character development among elementary students through three foundations: mindful learning, meaningful learning, and joyful learning. A library-based review was conducted by examining 20 relevant scholarly articles published from 2021 to 2026. The synthesis indicates that combining multicultural perspectives with deep learning can cultivate civic dispositions and cooperative abilities. Mindful learning encourages learners to become more sensitive to cultural distinctions. Meaningful learning enables diversity-related concepts to be associated with everyday social circumstances, while joyful learning introduces tolerance through engaging instructional experiences. Accordingly, multicultural-oriented deep learning may convert students' understanding of diversity into observable conduct in elementary school settings.*

Keywords: *Deep Learning; Multicultural Perspectives; Character Strengthening; Elementary Education*

Introduction

The demands of 21st-century education are no longer confined to academic achievement. Learners also need to be equipped with strong personality traits, adequate skills, and readiness to face social dynamics and technological advancements. These conditions have prompted the Ministry of Primary and Secondary Education to formulate an educational development orientation that prioritizes holistic student growth. This direction is realized through the eight dimensions of the Graduate Profile mandated in the Graduate Competency Standards (Kementerian Pendidikan Dasar dan Menengah, 2025a). The dimensions include faith and devotion to God Almighty, citizenship, critical reasoning, creativity, collaboration, independence, health, and communication. Collectively, these form the capacities expected to be developed upon completing each level of education. Consequently, educational quality cannot be evaluated solely on the volume of acquired knowledge. The ability to apply character values, build healthy social relationships, and utilize competencies in daily situations must also be accounted for. Instructional practices in elementary schools must therefore be designed to integrate skill development and character formation as the foundation for achieving national education goals (Kementerian Pendidikan Dasar dan Menengah, 2025b).

Realizing these eight dimensions demands a transformation in instructional delivery. Classroom activities should not merely focus on transmitting information but must provide space for cultivating experiences that synthesize knowledge, skills, and personality. In this context, the Deep Learning approach was introduced by the Ministry of Primary and Secondary Education as

a reflective, life-connected, and student-centered learning framework (Kementerian Pendidikan Dasar dan Menengah, 2025a). This framework relies on three interconnected principles: mindfulness in learning, meaningfulness of experience, and a joyful learning atmosphere (Kementerian Pendidikan Dasar dan Menengah, 2025b; Nafi'ah & Faruq, 2025). Mindful learning encourages students to recognize how they acquire understanding. Meaningfulness is constructed by connecting subject matter with authentic experiences, while joyfulness is realized through a comfortable atmosphere that motivates active, voluntary engagement (Nurul et al., 2025; Prasetya et al., 2025). Several studies link the implementation of this approach with the growth of critical thinking, creativity, collaborative capacity, and character quality among students. On this basis, deep learning is deemed aligned with the requirements for achieving the eight dimensions of the Graduate Profile (Nainggolan, 2025; Rahmandani et al., 2025; Fitriyani & Mulyanto, 2026).

On the other hand, Indonesian society is shaped by ethnic, religious, racial, linguistic, cultural, and socioeconomic diversity. This pluralism represents a national asset that must be directed through education to sustain a peaceful and democratic collective life. Elementary schools occupy a strategic position in introducing how to comprehend, accept, and respond to differences as a natural aspect of social life (Aulia & Susanti, 2021; Anggito & Sartono, 2022). Multicultural education extends beyond introducing diverse cultures; it instills empathy, justice, tolerance, spirit of cooperation, and respect for distinct identities. These values constitute fundamental elements in children's personality development (Agustin et al., 2024; Agusniati et al., 2025). Several studies indicate that multicultural content integrated with Deep Learning can expand students' horizons regarding pluralism, foster acceptance of other groups, and cultivate responsibility, collaborative capacity, and critical reasoning through contextual and reflective learning situations (Tagu Pati et al., 2026; Liantori et al., 2025; Yuliawati et al., 2026). Accordingly, synthesizing both approaches can be positioned as an alternative to support the eight dimensions of the Graduate Profile, as both converge toward holistic competency and character development (Wulandari et al., 2026; Mirnawati et al., 2026).

A number of publications have addressed the capacity of Deep Learning to enhance the quality of instructional processes in elementary schools. Frequently reported impacts include enhanced analytical power, problem-solving abilities, student engagement, and character development. Rahmandani et al. (2025) elaborate that more valuable learning experiences can be constructed through the integration of mindful learning, meaningful learning, and joyful learning. Fitriyani and Mulyanto (2026) similarly position reflective experiences as an essential medium for instilling character. Studies on multicultural education, on the other hand, extensively address the growth of tolerance, empathy, collaboration, and acceptance of differences among elementary students (Atmaja, 2024; Aulia & Susanti, 2021; Agustin et al., 2024). Nevertheless, these three topics deep learning, multicultural education, and character education are still frequently treated in isolation. Consequently, their conceptual interrelationships remain incompletely articulated. Publications specifically synthesizing the application of Deep Learning within multicultural education settings to support the eight dimensions of the Graduate Profile remain scarce at the elementary education level (Rohmah et al., 2026; Zainuddin et al., 2026; Fatmawati & Syafiq, 2026). This gap justifies conducting a literature synthesis that unifies the three concepts into a cohesive framework. Through this synthesis, theoretical and practical insights are expected to be formulated to support basic education development (Fadhlurahman et al., 2026; Riyanto et al., 2025).

Building upon these conditions, a review is required to intersect Deep Learning, multicultural education, and character strengthening within an integrated framework. Distinct from previous publications that tended to examine each concept independently, this study positions multicultural education as the application sphere for deep learning in promoting holistic student character development (Rahmandani et al., 2025; Fitriyani & Mulyanto, 2026; Khoiriana et al., 2026). Its novelty lies in formulating the interconnections between mindful learning, meaningful learning, and joyful learning with diversity values to support national education policy directions (Kementerian Pendidikan Dasar dan Menengah, 2025a, 2025b; Nia Do et al., 2025). Consequently, this review focuses on examining and synthesizing various findings related to multicultural-oriented deep learning in strengthening elementary school children's character, as well as identifying its implications for achieving the eight dimensions of

the Graduate Profile. The synthesized results are expected to broaden the conceptual foundation of character education and serve educators, educational units, and policymakers in designing inclusive, meaningful instructional practices oriented toward student personality development (Mardatillah et al., 2025; Wulandari et al., 2026).

Method

This study was designed as a library research using a literature review approach. Through this design, various publications addressing multicultural-oriented deep learning and its relationship with elementary school children's character were retrieved, examined, and integrated into a synthesis. The review material was sourced from scientific publications retrieved via Google Scholar, SINTA, Garuda, and ResearchGate. The search process utilized several topic-related terms, including deep learning, multicultural education, character education, and elementary school. These terms were used independently and in combination to ensure search results met analytical needs. Retrieved publications were subsequently screened based on four criteria: first, the discussion pertained to deep learning, cultural diversity, character development, or elementary education practices; second, articles were published between 2021 and 2026; third, full-text manuscripts were accessible and readable; and fourth, the content aligned with the review objectives.

In the initial collection phase, five team members individually retrieved five articles deemed relevant to the topic. All collected publications were then collectively examined. Subject relevance, content quality, and proximity to the analytical focus served as screening criteria. From this process, 20 articles were selected for analysis, while five publications were excluded due to lesser alignment with the review objectives. Data were analyzed using content analysis techniques. Each publication was examined based on article identity, objective, methodological design, findings, and contribution to the discussion on multicultural-oriented deep learning and character strengthening in elementary students. Findings were mapped into thematic categories, compared across publications, and synthesized into a comprehensive explanation regarding the interrelationship of deep learning, multicultural insights, and character development. The analytical and synthesis formulation stages were consulted with two academic advisors to obtain academic guidance.

Findings and Discussion

A total of 20 scientific articles published from 2021 to 2026 served as the foundation for synthesizing the study results. These publications were retrieved following systematic search, screening, and content examination procedures. Topics covered encompass deep learning, multicultural education, character education, and their implementation within elementary school settings. Findings from each article were mapped according to thematic proximity to illustrate the relationship between multicultural-oriented deep learning and student character growth. The synthesis process also identified empirical trends, convergence points, variations in outcomes, and individual contributions toward character-oriented instruction. A summary of all reviewed articles is presented in Table 1.

Table 1. Summary of Reviewed Publications

No.	Author & Year	Objective	Method	Main Findings	Contribution to Study
1.	Atmaja (2024)	Examine the implementation of multicultural education at the elementary school level.	Qualitative	Multicultural learning strengthens communication, tolerance, and cooperative skills.	Cultural diversity is positioned as a foundation for forming students' social character.
2.	Rahmandani et al. (2025)	Review the implementation of Deep Learning.	Literature Review	Meaningful learning experiences are developed through mindful learning, meaningful learning, and joyful learning.	Serves as the conceptual foundation of Deep Learning for this study.

No.	Author & Year	Objective	Method	Main Findings	Contribution to Study
3.	Fitriyani & Mulyanto (2026)	Examine the utilization of Deep Learning to strengthen character.	Qualitative	The approach supports responsibility, discipline, collaboration, and empathy.	Clarifies the connection between Deep Learning and student character development.
4.	Isnayanti et al. (2025)	Map opportunities and challenges of Deep Learning in the elementary curriculum.	Literature Review	Implementation success depends on educator readiness and instructional activity design.	Elaborates on supporting elements for implementing Deep Learning.
5.	Khoiriana et al. (2026)	Examine contextual learning as a driver of Deep Learning.	SLR	Authentic contexts help strengthen moderate attitudes and character development.	Connects Deep Learning with moderation values.
6.	Tagu Pati et al. (2026)	Examine digital transformation via Deep Learning in multicultural education.	Literature Review	Digital media broadens tolerance and students' understanding of pluralism.	Demonstrates the synthesis of technology with multicultural character.
7.	Mardatillah et al. (2025)	Examine Deep Learning in Project-Based Learning.	SLR	Project-based activities hone creativity, collaboration, and a sense of responsibility.	Strengthens the choice of implementation strategies.
8.	Persada et al. (2026)	Review differentiated instruction combined with Deep Learning.	PkM (Community Service)	Differentiation promotes acceptance of diverse learner characteristics.	Provides an illustration of multicultural learning practice.
9.	Rohmah (2025)	Discuss Deep Learning as a direction for 21st-century educational transformation.	Literature Review	This approach develops higher-order thinking skills alongside character.	Provides a theoretical basis for 21st-century instructional transformation.
10.	Nia Do et al. (2025)	Examine Deep Learning opportunities in supporting the Pancasila Student Profile.	SLR	Its implementation supports the development of various dimensions of the Pancasila Student Profile.	Links Deep Learning with national character strengthening.
11.	Agustin et al. (2024)	Examine multicultural education in inclusive school environments.	Qualitative	The study details inclusion, multicultural approaches, and diverse special needs.	Provides practical reference for adapting multicultural curricula for diverse needs.
12.	Aulia & Susanti (2021)	Elaborate on the role of multicultural education in student character development.	Library Study	Multicultural values correlate with elementary school children's character growth.	Reinforces the theoretical baseline regarding diversity values and moral growth.
13.	Zakya et al. (2024)	Examine character strengthening through multicultural education.	Literature Review	Character develops through habituating diversity values.	Affirms the importance of internalizing pluralism in personality growth.

No.	Author & Year	Objective	Method	Main Findings	Contribution to Study
14.	Agustin et al. (2025)	Evaluate character and multicultural learning in elementary schools.	Descriptive	Character education evaluation needs to be conducted periodically.	Provides direction for evaluating character education implementation.
15.	Angelina & Halim (2025)	Examine strategies for instilling tolerance through multicultural education.	Qualitative	Multicultural learning strengthens students' tolerant attitudes.	Reinforces the link between multicultural insights and tolerance character.
16.	Nainggolan (2025)	Examine deep learning implementation to enhance basic education quality and map its obstacles.	Library Study	Combining meaningful, mindful, and joyful learning improves learning processes and outcomes while supporting 21st-century skills.	Strengthens the view that deep learning enhances learning quality and character.
17.	Mo'tasim et al. (2025)	Examine synthesizing Islamic epistemology, cultural context, and deep learning in multicultural Islamic education.	Qualitative	Integrating Islamic values, local culture, and deep learning strengthens tolerance, empathy, cross-cultural dialogue, and character.	Explains that multicultural deep learning develops critical reasoning and tolerance.
18.	Nurlailah & Julkifli (2025)	Examine deep learning to build critical reasoning character aligned with Pancasila Student Profile in Grade V.	Descriptive Qualitative	Implemented strategies develop critical reasoning, reflection, problem-solving, and character aligned with the profile.	Provides empirical evidence on deep learning's contribution to critical thinking character.
19.	Thariq & A'yun (2024)	Elaborate on Ki Hadjar Dewantara's educational philosophy in Deep Learning curriculum.	Library Study	Ki Hadjar Dewantara's ideas align with meaningful, humanistic, contextual, child-centered learning.	Provides a philosophical foundation for deep learning emphasizing character growth.
20.	Rohmah et al. (2026)	Map publication trends on deep learning and elementary student character from 2020 to 2025.	Literature Review	Sustained implementation strengthens character, critical thinking, collaboration, creativity, and student-centered learning.	Affirms the relevance of deep learning for synthesizing meaningful learning and character.

Synthesis of the 20 publications indicates that multicultural education and the deep learning approach mutually reinforce each other in supporting elementary school children's character development. Nearly all articles position contextual, value-driven, and student-active learning as a vehicle to achieve goals beyond mere academic success. Although their ultimate objectives are aligned, individual publications emphasize different facets. Studies on deep learning generally focus on instructional quality and student engagement, whereas discussions on multicultural education focus primarily on tolerance, empathy, collaborative capacity, and acceptance of diversity. These distinct analytical foci confirm that both frameworks can be integrated to produce a holistic educational process that prioritizes personality growth.

Across various publications, deep learning is depicted as an approach enabling learners to actively construct their understanding. Knowledge is not passively received but constructed through reflection, authentic experiences, and life-connected situations. Rahmandani et al. (2025) connect its execution with mindful learning, meaningful learning, and joyful learning. These three principles are viewed as capable of improving instructional quality while sharpening

critical thinking, creativity, and reflective skills. Isnayanti et al. (2025) reinforce this by explaining that 21st-century competencies can be developed through deep and contextually aligned activities. Nainggolan (2025) adds that conceptual understanding is strengthened when subject matter is linked to factual situations through these three principles. Nevertheless, implementation success remains influenced by educator readiness, learning material availability, teacher professional development programs, facility support, and curriculum alignment. Thus, approach quality depends not only on conceptual merit but also on the educational environment's capacity for consistent execution.

A critical foundation for character strengthening is mindful learning. This principle helps children realize the process of acquiring knowledge while understanding their positioning within the social environment. In a multicultural framework, this awareness translates into readiness to recognize, accept, and respect distinct cultural identities. Atmaja (2024) connects multicultural education with social skill growth through habituating tolerance, collaboration, and acceptance of differences. Aulia and Susanti (2021) also explain that multicultural perspectives support democratic attitudes and respect for individual rights. Furthermore, Mo'tasim et al. (2025) elaborate that synthesizing deep learning, cultural backgrounds, and diversity values can strengthen cross-cultural dialogue and social empathy through life-relevant activities. These publications share a common thread in positioning diversity awareness as an initial element in forming social character, despite variations in implementation forms.

Contributions to character formation are also achieved through meaningful learning. Within this principle, subject content is connected to real experiences, ensuring knowledge does not remain abstract. Khoiriana et al. (2026) found that contextual approaches develop moderate attitudes, empathy, and social responsibility. Persada et al. (2026) demonstrate that differentiated instruction combined with deep learning promotes acceptance of diverse student characteristics. Nurlailah and Julkifli (2025) elaborate on this approach's role in honing critical reasoning through analysis, reflection, and independent problem-solving in accordance with the Pancasila Student Profile. These findings position authentic experiences as a medium for instilling values rather than merely mastering content.

The foundation of joyful learning contributes by establishing an atmosphere where students feel safe and motivated to engage. Fitriyani and Mulyanto (2026) explain that a joyful atmosphere increases active involvement while supporting discipline, responsibility, and collaborative capacity. Agustin et al. (2024) demonstrate that inclusive educational environments help children develop empathy and acceptance toward peers with differing needs and characteristics. A distinct perspective is offered by Thariq and A'yun (2024), who connect deep learning principles with Ki Hadjar Dewantara's educational philosophy, placing children at the center of learning through humanistic, liberating, and life-connected education. These varying perspectives indicate that character is shaped not only by instructional techniques but also by the philosophy underlying teacher-student relationships.

Support for multicultural-oriented deep learning can be extended through technology integration. Tagu Pati et al. (2026) explain that digital tools open opportunities for children to explore diverse cultural references and viewpoints. Yuliawati et al. (2026) argue that instructional tools developed via deep learning help students comprehend diversity closer to real-life contexts. Rohmah et al. (2026), through their literature review, identify trends showing that applying this approach at the elementary level relates to critical thinking, creativity, communication, collaboration, and character growth. These sources demonstrate that technology can serve as a strategic space bringing together learning experiences, cultural values, and character development when designed around student needs.

Overall, the 20 reviewed publications present a wide range of implementation modes, including contextual learning, differentiation, inclusive education, school culture reinforcement, technology integration, and the synthesis of local values with educational philosophy. Although strategies vary, their ultimate goal converges: developing tolerant, responsible, empathetic, critically reasoning, team-oriented students who respect diversity. Therefore, deep learning and multicultural education need not be treated as separate frameworks. Both can be combined according to classroom dynamics and student needs. Character strengthening success is not determined by a single model; rather, the teacher's role in blending mindful learning, meaningful

learning, and joyful learning with multicultural values proves decisive. Integration must be executed contextually so values are not merely understood theoretically but experienced directly. This synthesis also reveals that publications directly unifying deep learning, multicultural perspectives, and character education in elementary schools remain limited. Many sources still examine the three independently. Consequently, this study offers a unifying framework to serve as a baseline for designing more integrated basic education practices.

Conclusion

Synthesis of the 20 scientific publications indicates that multicultural-oriented deep learning contributes significantly to elementary school children's character development. Unifying mindful learning, meaningful learning, and joyful learning with diversity values supports the cultivation of tolerance, empathy, responsibility, collaborative capacity, and civic disposition. These results fulfill the review objectives while indicating that the gap between the eight dimensions of the Graduate Profile policy and educational practice can be narrowed through experiences that proportionally develop cognitive, affective, and social domains.

Implementation cannot rely solely on selecting a single teaching model. Optimal outcomes depend more on teachers' capacity to design reflective, life-relevant, and engaging learning activities. Furthermore, character does not develop overnight; its formation requires continuous habituation through daily interactions and school activities. Future research should focus on empirical validation in classroom settings, such as through experimental or action research designs, to test the effectiveness of combining deep learning and multicultural perspectives. On a practical level, this synthesis can be utilized by teachers and curriculum developers as a basis for designing instructional materials that explicitly integrate deep learning principles and diversity values, thereby facilitating the realization of character-driven graduates capable of coexisting in a pluralistic society.

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