



Developing a Deep Learning Dance Model for Character Education in Indonesian Junior High Schools

Heni Komalasari✉, Beben Barnas, Ria Sabaria

Universitas Pendidikan Indonesia, Indonesia

Submitted: August 8, 2025. Revised: September 7, 2025. Accepted: July 25, 2026

Abstract

This study developed, implemented, and evaluated the Deep Learning Dance Model (DL-DM), a pedagogical model designed to support character development through meaningful dance learning among junior high school students. The model comprises three sequential learning phases: Meaning Exploration, Value Reflection, and Character Expression delivered within a project-based learning framework across four classroom meetings. An adapted research and development (R&D) approach was employed, involving 58 eighth-grade students from two public junior high schools in West Java, Indonesia, over a three-month research period. The model was first trialed at State Junior High School 1 Cicalengka ($n = 28$), revised based on that trial, and subsequently implemented at State Junior High School 14 Bandung ($n = 30$). Qualitative and quantitative data were collected through classroom observations, semi-structured interviews, documentation, and a character assessment rubric covering independence, collaboration, communication, and critical thinking. Post-implementation scores were higher than pre-implementation scores across all four dimensions at both schools (Wilcoxon signed-rank test, all $p < .001$), with medium-to-large effect sizes ($r = .49-.61$). The rubric showed satisfactory internal consistency (Cronbach's $\alpha = .84$) and almost perfect inter-rater agreement across the complete set of double-coded observations (Cohen's $\kappa = .82$). These findings provide preliminary evidence that the DL-DM can serve as an instructional framework for integrating character education into dance learning. Because the study did not include a control group and involved only two schools, further controlled studies in more diverse educational settings are needed before its effectiveness and transferability can be evaluated.

Keywords: deep learning; dance education; character education; junior high school students

How to Cite: Komalasari, H., Barnas, B., & Sabaria, R. (2026). Developing a Deep Learning Dance Model for Character Education in Indonesian Junior High Schools. *Harmonia: Journal of Arts Research and Education*, 26(1), 210-227

INTRODUCTION

Character education constitutes a fundamental component of the educational process in Indonesia, particularly at the secondary school level. During this developmental phase, students undergo a critical transition in forming their personal and social identities. Consequently, the cultivation

of core values such as responsibility, cooperation, discipline, and empathy must be embedded within a holistic and integrated pedagogical framework. These values are developed not only through formal classroom instruction, but also through school culture, extracurricular activities, and the modelling of positive behaviour by teachers (Mufida, 2024; Syafrina et al.,

✉ Corresponding author:
E-mail: henikom@upi.edu

2025).

In recent years, Indonesia has witnessed increasing concerns regarding the moral character of adolescents. A notable incident occurred in early 2024, when a violent student brawl near the East Jakarta-Bekasi border resulted in fatalities. This tragedy not only tarnished public perception of the national education system but also revealed underlying character deficits, including impulsivity, aggression, and poor emotional regulation. Such behavioural challenges are often linked to the lack of consistent role models and insufficient reinforcement of ethical values within both school and family environments (Andini et al., 2024; Fathoni et al., 2024; Sidik et al., 2024).

Moreover, an overemphasis on academic achievement without equal attention to students' character development may inadvertently produce learners who lack a strong moral compass and emotional resilience. To address this imbalance, character education must adopt a multi-dimensional strategy emphasising values internalisation, emotional literacy, habit formation, and the integration of local cultural traditions. These elements are essential in nurturing morally grounded, socially responsible, and culturally conscious citizens (Andini et al., 2024; Berkowitz & Bier, 2007; Harianto et al., 2020; Muhtar & Dallyono, 2020).

To address this issue, coordinated and collaborative efforts from all educational stakeholders are essential. Character development must become a central pillar of the educational system rather than a supplementary component. Schools are encouraged to implement comprehensive character education strategies through both curricular and extracurricular activities, supported by teacher role modelling and positive school climate design (Almerico, 2014; Hidayat et al., 2022). Counseling services must also be strengthened to offer students structured, safe, and culturally appropriate spaces for emotional support and personal development (Alinsunurin, 2020). Family involvement is like-

wise critical in character education. A synergistic collaboration between school and home, grounded in consistent communication and mutual accountability, plays a vital role in nurturing students' moral and social values (Suharta et al., 2020).

In practice, character education in schools often remains declarative and disconnected from other subjects rather than embedded within a holistic educational framework. To be effective, it must be implemented through an integrative and contextualised process involving teachers, families, and the wider community. This approach aligns with the Tri-Centre of Education family, school, and community advocated by Ki Hadjar Dewantara, which emphasises their synergistic role in shaping learners' character (Hidayat et al., 2022). One promising medium for fostering character development is dance education, which not only cultivates psychomotor and aesthetic skills but also nurtures social-emotional competencies, collaboration, and cultural identity through participatory and expressive learning (Ardiyanti et al., 2025). Dance teachers must serve as facilitators who connect the values upheld across family, school, and community, ensuring that character formation remains culturally meaningful and contextually relevant.

To enhance the impact of dance education, a more reflective and in-depth pedagogical approach is necessary. One such innovation is the deep learning approach, which emphasises meaningful understanding, critical thinking, and reflective awareness. This approach goes beyond surface-level memorisation, encouraging students to master concepts deeply and relate them to real-life contexts (Siregar et al., 2025; Taqiyya et al., 2025). In the context of dance, deep learning integrates cognitive, psychomotor, and affective development. Through collaborative group work and experiential activities, students can internalise values and build character while enhancing their expressive and reflective capacities. This approach aligns with Sustainable Development Goal 4, which

promotes inclusive and equitable quality education, as well as with Indonesia's Merdeka Curriculum, which emphasises student-centred, flexible, and character-driven learning.

The 2025 Indonesian education policy emphasises implementation of the Merdeka Curriculum, which promotes more flexible, contextual, and character-driven learning approaches. This curriculum is designed to foster not only academic competencies but also character formation, creativity, and adaptability to meet the dynamic demands of life in the twenty-first century (Hidayat et al., 2022). In alignment with this vision, the deep learning approach becomes highly relevant particularly in dance education as it serves as a transformative medium for character development. Deep learning enables students to connect educational content with personal experiences and real-world contexts, thereby stimulating reflective thinking and critical analysis.

In this context, dance classes not only support the development of technical and artistic skills but also help instil strong character values through guided reflection and collaborative exploration (Rosala & Budiman, 2020). Despite this convergence of policy and practice, three research gaps remain insufficiently addressed. First, few studies have systematically integrated the deep learning framework, as theorised by Marton and Säljö (1976) and operationalised by Biggs and Tang (2011), into a structured and validated dance learning model within the Indonesian junior high school context. Second, existing character education approaches in dance tend to focus on either technical skill or general values exposure, lacking a coherent pedagogical sequence that bridges exploration, reflection, and embodied expression. Third, while the Merdeka Curriculum demands reflective, student-centred learning, empirically examined instructional models for dance arts education remain scarce.

This study addresses these gaps by developing, validating, and evaluating the Deep Learning Dance Model (DL-DM).

The novelty of the model lies less in its setting than in its pedagogical mechanism. Project-based learning organises instruction around the production of an artefact, reflective learning around retrospective evaluation of experience, experiential learning around a cycle moving from concrete experience to abstract conceptualisation, and existing dance-based character education largely around exposure to culturally embedded values. The DL-DM instead specifies a three-phase sequence in which meaning is first extracted from movement, then articulated as an explicit value commitment, and finally re-embodied in a collaboratively choreographed work. Character formation is therefore treated as the intended outcome of a deliberate movement-reflection-re-embodiment cycle rather than as a by-product of participation in artistic activity.

This educational trajectory corresponds closely with Sustainable Development Goal 4, which advocates inclusive and quality education for all. Accordingly, this paper aims to: (1) develop the DL-DM as a structured instructional model; (2) validate it through expert review; (3) implement it in two contrasting school contexts; and (4) examine its association with changes in four character dimensions independence, collaboration, communication, and critical thinking (Hsia & Hwang, 2020; Hu & Shu, 2025). The study also offers a theoretical reflection on the principles of deep learning and their relevance to character education through the arts, and proposes strategic directions for optimising dance learning in alignment with national education goals, the Merdeka Curriculum, and global educational initiatives.

As a first step in designing this study, the researchers conducted preliminary observations at two junior high schools in Bandung Regency and Bandung City, West Java, namely SMP Negeri 1 Cicalengka and SMP Negeri 14 Bandung. The goal of these visits was to capture an accurate depiction of classroom dynamics and students' character development, particularly within dance education. Prior studies

have shown that character education can be effectively implemented through local wisdom-based dance instruction, which emphasises values such as mutual cooperation, responsibility, and independence (Darmawan, 2024).

During these field visits, the researchers also interviewed teachers and parents to explore their perceptions of which aspects of student character should be prioritised in the learning process. The findings indicated that several key dimensions of character still require substantial development, including independence, collaboration, communication, and critical thinking. Observational data also revealed that students often appeared passive and heavily reliant on teacher instruction, reflecting limited learning autonomy and initiative. Their critical thinking was likewise underdeveloped, evidenced by a tendency to accept information without analysis or real-world application. These observations are consistent with international research highlighting the importance of learner autonomy and reflective learning practices for adolescent learners (Akpur, 2020; Orakçı, 2021; Varlık et al., 2024). Moreover, the 4C competencies critical thinking, creativity, collaboration, and communication have not been fully or consistently integrated across learning areas, highlighting the need for more holistic and culturally relevant instructional strategies (Andrini & Yusro, 2021; Haryani et al., 2021).

From a collaboration perspective, the dynamics of group work in the classroom showed that some students were still unable to work effectively in teams. There was a tendency towards either excessive individualism or over-dependence on group members, leading to unequal role distribution and less productive learning outcomes (Roldán-Álvarez et al., 2020). Additionally, when conflicts or differences of opinion arose, students often lacked the social skills to resolve them constructively (Sun et al., 2025). In terms of communication, many students struggled to express their ideas clearly and confidently, both orally and in writing (Owens &

Hite, 2022). Factors such as low self-confidence, limited listening ability, and weak respectful-response skills presented major obstacles in classroom interaction. These challenges emphasise the need for more contextual, experience-based, and reflective learning approaches to develop students' collaboration and communication skills more effectively and equitably (Heeg et al., 2020).

The results of the initial observation show that although learning has been carried out in accordance with the Merdeka Curriculum, students' character building has not been fully optimised. A more meaningful, reflective, and contextual learning approach is therefore needed particularly through arts-based education such as dance. Studies have shown that the Merdeka Curriculum indeed promotes student-centred learning, critical thinking, and reflective practice, but that its practical implementation still faces challenges in achieving optimal character outcomes (Risna, 2023). Other studies highlight that the Merdeka Curriculum has strong potential to enhance students' soft skills and character traits when supported by flexible, context-rich, and culturally relevant learning strategies (Putri et al., 2023). This underscores the urgency of aligning pedagogical approaches such as deep learning in dance education with the values embedded in the Merdeka Curriculum in order to create transformative learning experiences for students.

METHOD

Research Design

This study employed an adapted Research and Development (R&D) approach based on the model proposed by Borg and Gall (1983) to develop a deep learning-based dance learning model, the Deep Learning Dance Model (DL-DM), designed to support character development among junior high school students. Rather than implementing all ten stages of the original model, this study adopted eight development stages that reflect the

procedures actually undertaken during the research. This adaptation was intended to ensure methodological consistency between the reported procedures and the research implementation.

An embedded mixed-methods component was incorporated within the R&D process (Creswell & Plano Clark, 2018). Qualitative and quantitative data were collected concurrently during the initial trial and the second implementation, analysed separately using the procedures described below, and then integrated at the interpretation stage. Qualitative data were used primarily during needs assessment, model development, expert validation, revision, and interpretation of implementation results, whereas quantitative data were used to examine changes in students' character development following implementation. The integration of the two strands supported iterative refinement of the learning model throughout the development process.

Participants and Setting

The study was conducted in two public junior high schools in West Java, Indonesia, over a three-month period. The first school, State Junior High School 1 Cicalengka, served as the initial trial site and involved one Grade VIII class of 28 students. Following revision of the initial prototype, the refined model was implemented in one Grade VIII class of 30 students at State Junior High School 14 Bandung. In total, 58 students participated.

Purposive sampling was used to select the participating schools on three criteria: (1) willingness of school administrators to participate in the research; (2) availability of an arts teacher with a minimum of two years of teaching experience; and (3) differing school contexts (peri-urban and urban), in order to examine the applicability of the model across different educational settings.

Data collection was carried out in accordance with the research ethics guidelines of Universitas Pendidikan Indonesia. Written informed consent was obtained

from school principals, teachers, and parents or guardians prior to data collection. Participating students provided age-appropriate assent and were informed that their participation in research documentation was voluntary. Student identities and personal information were protected throughout data collection, analysis, and reporting.

Development Procedure

The development process consisted of eight sequential stages adapted from Borg and Gall (1983).

Stage 1: Needs Analysis. Classroom observations, interviews with arts teachers and school principals, and document analysis were conducted to identify existing practices in dance learning, challenges in integrating character education, and teachers' understanding of deep learning principles. The findings indicated a need for a learning model that integrates meaningful learning experiences with explicit character development.

Stage 2: Initial Model Design. Based on the needs analysis and previous studies on deep learning in arts education, an initial prototype of the DL-DM was developed. The model comprised three interconnected arts-specific phases: Meaning Exploration, Value Reflection, and Character Expression, which operationalised the broader deep-learning experiences of Understanding, Applying, and Reflecting through project-based learning. These phases were designed to encourage meaningful learning experiences and the integration of character values within dance learning (Hsia & Hwang, 2021; Swanson & Ostersmith, 2023).

Stage 3: Expert Validation. The initial prototype was evaluated by three experts representing dance education, curriculum studies, and character education through a panel discussion forum and document review. Validation focused on content relevance, pedagogical feasibility, learning sequence, and assessment procedures. Feedback from the experts served as the basis for revising the prototype.

Stage 4: Model Revision. The prototype was refined according to expert recommendations, including improvements to learning activities, instructional procedures, character indicators, and assessment rubrics.

Stage 5: Initial Trial. The revised model was implemented in one Grade VIII class at State Junior High School 1 Cicalengka. The implementation consisted of four classroom meetings. Data were collected through classroom observations, interviews, teacher reflections, and student responses in order to evaluate the practicality and feasibility of the model.

Stage 6: Revision Following the Initial Trial. Findings from the initial implementation were analysed to identify strengths and limitations of the model. Revisions focused on improving instructional flow, classroom management strategies, and the clarity of learning activities.

Stage 7: Second Implementation. The revised model was subsequently implemented in one Grade VIII class at State Junior High School 14 Bandung over four classroom meetings. This stage aimed to examine the applicability of the refined model in a different school context and to obtain additional evidence regarding its feasibility and implementation.

Stage 8: Final Model Development. Results from both implementation stages were synthesised to produce the final DL-DM, including the learning syntax, instructional guidelines, character assessment rubric, and implementation recommendations for junior high school dance education.

Data Collection and Instruments

Multiple data collection techniques were employed to capture both the development process and the implementation outcomes. Qualitative data were obtained through classroom observations, semi-structured interviews with teachers and students, teacher reflection notes, and supporting documentation such as photographs, videos, and field notes.

Students' character development

was assessed using an observation rubric covering four dimensions: independence, collaboration, communication, and critical thinking. In this study these constructs were defined operationally as follows. Independence denotes students' capacity to initiate, decide, and present work with reduced reliance on direct teacher instruction. Collaboration denotes constructive participation in shared decision-making, mutual evaluation, and joint responsibility during group choreography tasks. Communication denotes the willingness and ability to articulate ideas, questions, and reflections both verbally and in writing during group and class activities. Critical thinking denotes the capacity to interpret the cultural and moral meaning of movement, connect it to everyday-life values, and reflect on that meaning rather than merely reproduce it.

Although communication and critical thinking are also commonly classified among the twenty-first-century 4C competencies, they are treated here as character dimensions because the rubric assessed the dispositional and value-laden aspects of each construct rather than the skill alone. This treatment is consistent with Lickona's (1996) view of character as the integration of moral knowing, moral feeling, and habitual moral action, and with Berkowitz and Bier's (2007) framing of character education outcomes as encompassing both social-emotional competencies and enacted behaviour.

Each dimension comprised five observable behavioural indicators, giving 20 indicators in total, rated on a four-point scale (1 = not evident, 2 = emerging, 3 = developing, 4 = proficient). Pre- and post-implementation rubric scores were assigned by the arts teacher responsible for implementing the DL-DM at each school; the same observations were independently coded by two trained observers for the reliability analysis reported below.

Validity and Reliability

Content validity was established through a two-round expert review in-

volving three specialists, focusing on the representativeness of the indicators for each dimension and the clarity of the scale descriptors. Indicators that did not reach agreement in the first round were revised and re-rated in the second round before the rubric was finalised.

Reliability was examined for the instrument as a whole rather than for any single dimension or subsample. Internal consistency was computed across all 20 rubric indicators using the complete set of rating records from both schools (58 students at two measurement points, giving 116 records) and was satisfactory (Cronbach's $\alpha = .84$). Inter-rater agreement was established through simultaneous independent coding by two trained observers, and Cohen's κ was computed over the complete set of double-coded ratings that is, across both implementation sites, all four character dimensions, and both the pre- and post-implementation measurement points. Agreement was almost perfect ($\kappa = .82$), interpreted according to the benchmarks of Landis and Koch (1977).

To enhance the trustworthiness of the qualitative findings, source triangulation, methodological triangulation, and member checking were employed. Expert validation was also conducted throughout the model development process.

Data Analysis

Qualitative data were analysed through data reduction, data display, and conclusion drawing in order to identify patterns emerging during model development and implementation (Creswell & Poth, 2018; Miller et al., 2023; Patton, 2014).

Quantitative data obtained from the character observation rubric were analysed using descriptive statistics and the Wilcoxon signed-rank test, which is appropriate for paired ordinal data (Field, 2018). Effect sizes were calculated as $r = |Z| / \sqrt{N}$, where Z is the standardised statistic produced by the Wilcoxon signed-rank test and N is the total number of observations contributing to each comparison that is, twice

the number of paired participants ($N = 56$ for SMP Negeri 1 Cicalengka and $N = 60$ for SMP Negeri 14 Bandung). This index is the correlation-type effect size for non-parametric tests described by Rosenthal (1991) and applied to repeated-measures data following Fritz et al. (2012); it is the effect-size index directly derivable from the Wilcoxon Z statistic and is widely reported alongside this test (Tomczak & Tomczak, 2014). It is not a matched-pairs rank-biserial correlation. Values of r were interpreted using the benchmarks of .10 (small), .30 (medium), and .50 (large) proposed by Cohen (1988). Statistical analyses were performed using IBM SPSS Statistics version 25.

A normalised gain (N-Gain) index was not computed. The average normalised gain proposed by Hake (1998) was developed for percentage-correct scores on standardised physics concept inventories, where the scale can reasonably be treated as interval and the maximum score represents complete mastery of the measured concepts. Neither condition can be assumed for a four-point behavioural observation rubric: the distances between adjacent rubric categories are not known to be equal, and the highest category denotes a qualitative level of observed performance rather than a ceiling of the underlying character construct, so the denominator (maximum score – pre-test score) has no substantive interpretation. Computing a ratio of score differences on such data would also be inconsistent with the ordinal rationale for selecting the Wilcoxon signed-rank test. Change was therefore reported through descriptive statistics (pre- and post-implementation means, standard deviations, and mean differences), the Wilcoxon signed-rank test, and its associated effect size.

The three-month research period comprised model development during the first month, the initial trial and subsequent revision during the second month, and the second implementation together with final model refinement during the third month.

RESULTS AND DISCUSSION

Needs Analysis

The development of the DL-DM was initiated through a needs analysis involving classroom observations, interviews with arts teachers and school principals, and a review of existing learning practices in the two participating schools. The findings consistently indicated that dance instruction remained predominantly technique-oriented, emphasising movement imitation and memorisation while providing limited opportunities for students to engage in reflection, collaboration, or character development. Teachers also reported limited familiarity with deep learning principles and expressed the need for a structured instructional model capable of integrating meaningful learning experiences with character education. These findings served as the empirical foundation for developing the DL-DM.

Initial Model Design and Expert Validation

Based on the needs analysis and the relevant literature, an initial prototype of the DL-DM was designed. The model consists of three interconnected learning phases: (1) Meaning Exploration, in which students interpret the meaning carried by traditional movement vocabulary; (2) Value Reflection, in which students articulate that meaning as an explicit value commitment; and (3) Character Expression, in which the value commitment is re-embodied in a collaboratively choreographed work. These phases were intended to encourage meaningful learning experiences while integrating character values into dance learning. The conceptual framework underpinning the model is presented in Figure 1.

Based on the conceptual model, the DL-DM was delivered through a Project-Based Learning (PjBL) approach in order to facilitate students' active participation, collaboration, and reflective learning. The learning syntax was distributed across four classroom meetings at each school, as

summarised in Table 1.

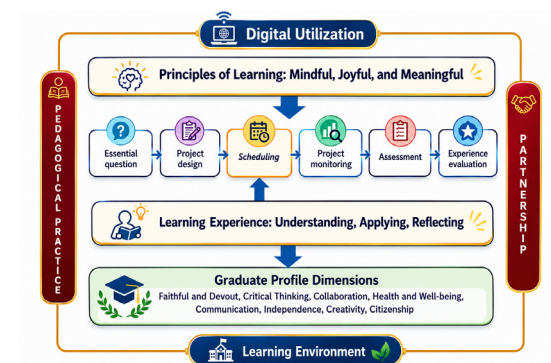


Figure 1. Conceptual Model of Deep Learning Underpinning the DL-DM

Note. Developed by the authors by integrating the Indonesian national deep-learning framework (Suyanto et al., 2025) with the Project-Based Learning sequence. The DL-DM translates the learning experiences of Understanding, Applying, and Reflecting into three arts-specific phases: Meaning Exploration, Value Reflection, and Character Expression.

The initial prototype was evaluated by three experts representing the fields of dance education, curriculum studies, and character education. Overall, the experts agreed that the model was conceptually appropriate and pedagogically feasible for junior high school dance learning. Several suggestions were nevertheless provided before classroom implementation. These recommendations included refining the sequence of learning activities, clarifying the Value Reflection phase, simplifying student worksheets, and strengthening the alignment between learning objectives and character assessment indicators. On the basis of these recommendations, the model was revised prior to its initial implementation in the classroom.

Initial Trial at State Junior High School 1 Cicalengka

The revised DL-DM was first implemented in one Grade VIII class at State Junior High School 1 Cicalengka over four classroom meetings. The purpose of this stage was to examine the feasibility and practical implementation of the model in an authentic classroom setting before app-

lying it in a different school context. Students' character development was assessed through pre- and post-implementation observations, while qualitative data were

collected through classroom observations, teacher reflections, and student interviews.

All four character dimensions showed statistically significant increases, with

Table 1. Learning Design of the DL-DM Using the Project-Based Learning Model

Syntax step (PjBL)	Description	Key activities	Meeting	Deep Learning Phase
1. Essential question determination	Teacher and students jointly formulate the essential question or challenge that will guide the project.	Opening routine (greeting, prayer, attendance) and ice-breaking. Teacher-led question and answer on creative dance; teacher presents slides and videos of three traditional creative dances linked to daily-life values; facilitated class discussion; worksheets distributed for group analysis.	Meeting 1	Understanding
2. Project planning	Students collaboratively design the project plan, including objectives, targets, and activities.	Students are divided into four groups to (a) choose a traditional creative dance, (b) analyse its dance elements, and (c) identify supporting materials. Groups then set goals, targets, and tasks, and assign roles: dancer, make-up artist, music, and choreographer.	Meeting 2	Applying
3. Scheduling	Teacher and students create a project timeline with phases and deadlines.	Groups prepare a one-week rehearsal schedule and agree on checkpoints for the following meeting.	Meeting 2	Applying
4. Project progress monitoring	Teacher monitors project development, provides guidance, and ensures that students remain focused.	Monitoring through group documentation submitted over one week; in the meeting, each group presents its progress and receives formative feedback, and articulates the values its choreography is intended to express.	Meeting 3	Reflecting
5. Product evaluation	Teacher and students assess the quality of the product, the learning process, and the skills developed.	Groups perform their traditional creative dances in a prepared venue; each group reflects on its own working process.	Meeting 4	Reflecting
6. Experience evaluation	Teacher and students reflect on the project experience and its future application.	Students write reflections that link the project to values in their daily lives.	Meeting 4	Reflecting

Note. The four meetings were delivered identically in both schools. Meeting 3 was preceded by a one-week group rehearsal period monitored through documentation submitted by each group.

effect sizes ranging from medium to large; three of the four dimensions reached or exceeded the benchmark of .50 for a large effect. The full descriptive and inferential results for both schools are reported in Table 2.

In the independence dimension, students demonstrated greater initiative in decision-making and greater confidence in presenting their work without relying on direct teacher instruction. Classroom observations indicated that students became more willing to interpret dance movements independently and showed greater responsibility during learning activities. Regarding communication, students became more active in expressing ideas, participating in discussions, and asking questions; classroom observations showed increased confidence in verbal interaction across the four implementation meetings. In the collaboration dimension, group-based choreography tasks required students to work cooperatively in interpreting movement meanings, resulting in rich, dialogic interactions and shared decision-making. In the critical thinking dimension, students demonstrated an emerging ability to interpret the cultural significance of the dances studied, to contextualise them within everyday life, and to reflect on their embedded moral messages.

Revision Following the Initial Trial

Findings from the initial trial were analysed to identify aspects of the model requiring adjustment before the second implementation. Revisions focused on three areas: the instructional flow between the Value Reflection and Character Expression phases, classroom management strategies during group rehearsal, and the clarity of the learning activities and worksheets used by students.

Second Implementation at SMP Negeri 14 Bandung

Following revision of the initial prototype, the refined DL-DM was implemented in one Grade VIII class at SMP Negeri 14 Bandung over four classroom meetings. This stage aimed to examine the implementation of the revised model in a second school context and to obtain additional evidence regarding its feasibility. As in the initial trial, students' character development was assessed using pre- and post-implementation observations, supported by classroom observations, teacher reflections, and student interviews.

Initial observations indicated that although students generally demonstrated positive social interactions, they experienced difficulties in expressing ideas independently and showed limited perfor-

Table 2. Pre- and Post-Implementation Character Assessment Scores and Statistical Results

Dimension	Pre M (SD)	Post M (SD)	Z	p	r
<i>State Junior High School 1 Cicalengka (n = 28)</i>					
Independence	75.2 (4.5)	83.3 (5.1)	-3.98	< .001	.53
Collaboration	70.7 (6.7)	82.3 (6.0)	-4.19	< .001	.56
Communication	70.6 (6.3)	80.5 (5.1)	-4.35	< .001	.58
Critical thinking	70.3 (7.5)	79.9 (6.2)	-3.69	< .001	.49
<i>State Junior High School 14 Bandung (n = 30)</i>					
Independence	66.0 (6.8)	80.9 (3.5)	-4.74	< .001	.61
Collaboration	69.4 (6.3)	82.4 (4.6)	-4.74	< .001	.61
Communication	69.3 (5.4)	82.2 (4.6)	-4.74	< .001	.61
Critical thinking	69.1 (7.0)	79.9 (4.6)	-4.39	< .001	.57

Note. Rubric scores were converted to a percentage of the maximum score by dividing the raw score for each dimension (the sum of five four-point indicators, maximum 20) by 20 and multiplying by 100; the resulting scale therefore ranges from 25 to 100. Z and p are from the Wilcoxon signed-rank test (two-tailed). $r = |Z| / \sqrt{N}$, where N is the total number of observations (twice the number of paired participants; $N = 56$ and $N = 60$ respectively): .10 = small, .30 = medium, .50 = large (Cohen, 1988; Fritz et al., 2012; Rosenthal, 1991).

mance across the four observed character dimensions. Following implementation of the DL-DM, improvements were observed in all dimensions, particularly communication and collaboration. Students became more confident in expressing ideas, demonstrated stronger commitment to group responsibilities, and showed greater initiative in developing choreography. All four differences were statistically significant, with large effect sizes across the four dimensions (see Table 2). A visual comparison of the pre- and post-implementation scores at both schools is presented in Figure 2.

Teacher responses further supported these findings. Teachers reported that the DL-DM enriched their dance teaching strategies, encouraged students to become more actively involved, and prompted more reflective engagement with the learning process. Some teachers also noted that a longer instructional period would allow the process of value internalisation to develop more deeply and to be integrated more fully with students' everyday lives.

Integration of Quantitative and Qualitative Findings

Quantitative and qualitative findings converged across the four observed character

dimensions in both schools. Classroom observations, teacher reflections, and student interviews supported the statistical results by providing contextual evidence of changes in students' learning behaviour. Table 3 presents a joint display summarising the integration of the two strands by dimension.

The observed improvements were associated with implementation of the DL-DM; however, causal effectiveness cannot be established, because the study did not include a comparison group. Maturation, repeated measurement, the additional attention received from the research team, and novelty effects may also have contributed to the observed changes.

Discussion

The findings of this study suggest that the DL-DM may support character development through meaningful, reflective, and collaborative dance learning experiences. Across both implementation sites, students demonstrated improvements in independence, collaboration, communication, and critical thinking. Rather than emphasising technical mastery alone, the DL-DM encouraged students to construct personal meaning from dance activities, reflect on cultural values, and apply those values within collaborative learning situ-

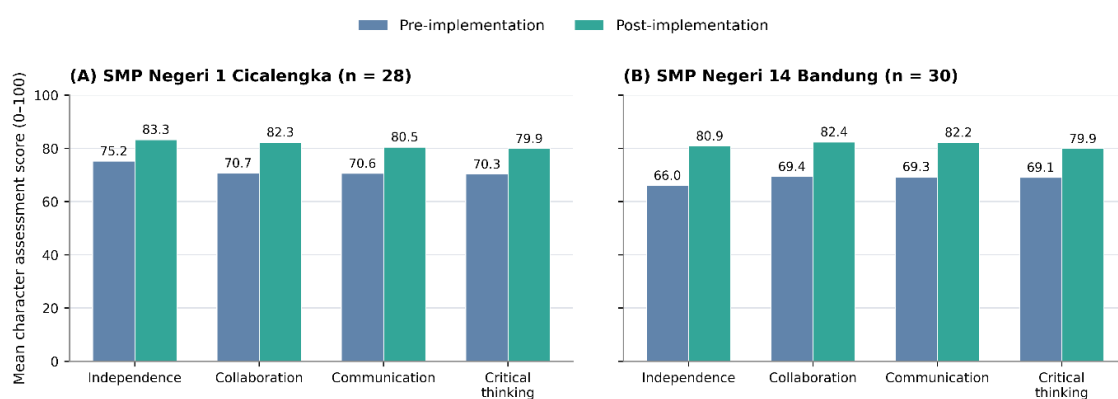


Figure 2. Pre- and Post-Implementation Character Assessment Scores at the Two Participating Schools

Note. Panel A shows SMP Negeri 1 Cicalengka ($n = 28$) and panel B shows SMP Negeri 14 Bandung ($n = 30$). The figure is included to make visible the difference in pre-implementation base-lines between the two school contexts and the convergence of post-implementation scores; the corresponding descriptive and inferential statistics are reported in Table 2 and are not repeated here.

Table 3. Joint Display of Quantitative and Qualitative Findings by Character Dimension

Dimension	Quantitative change	Qualitative theme	Convergence	Theoretical interpretation
Independence	Significant increase at both schools (see Table 2)	Greater initiative in decision-making and confidence in presenting work without direct teacher instruction	Convergent	Consistent with the learner-autonomy principle of deep learning (Biggs & Tang, 2011)
Collaboration	Significant increase at both schools (see Table 2)	Cooperative interpretation of movement meaning through group choreography, with shared decision-making	Convergent	Consistent with Johnson and Johnson's (2009) cooperative learning elements
Communication	Significant increase at both schools (see Table 2)	Increased willingness to express ideas, ask questions, and participate in discussion	Convergent	Consistent with guided dialogue mediating the shift towards independent expression (Vygotsky, 1978)
Critical thinking	Significant increase at both schools (see Table 2)	Reflective journals revealed three recurring themes: dance as a carrier of moral values, traditional dance as personally meaningful, and social responsibility through collaborative choreography	Convergent	Consistent with critical reflection in transformative learning (Mezirow, 1997)

ations. These findings indicate that dance education can function not only as artistic instruction but also as a medium for character formation.

Independence. The improvement in students' independence reflects a central characteristic of deep learning, namely that learners take ownership of their learning process through exploration, reflection, and self-regulation. Students increasingly demonstrated initiative in making decisions during choreography development, interpreted movement independently, and presented their work with greater confidence. This finding supports the conception of deep learning proposed by Biggs and Tang (2011), which emphasises meaningful engagement rather than surface memorisation. Similar findings have been reported in studies linking reflective thinking to learner autonomy (Orakcı, 2021), as well as in Indonesian curriculum contexts that emphasise reflective and student-centred practice (Risna, 2023).

Collaboration. The collaborative choreography activities were accompa-

nied by gains in students' collaboration scores. Rather than simply dividing tasks, students negotiated movement ideas, evaluated one another's performances, and reached collective decisions regarding choreography. Such interactions reflect Johnson and Johnson's (2009) principles of cooperative learning, which emphasise positive interdependence, individual accountability, and shared responsibility. Within the DL-DM, collaboration emerged through creative problem-solving rather than being treated merely as a classroom management strategy.

Communication. Communication also improved as students became more willing to express ideas, ask questions, and participate actively in classroom discussions. The structured reflection activities embedded within the DL-DM provided opportunities for students to verbalise the meanings of movements before and after embodied practice. This finding is consistent with previous studies demonstrating that reflective learning enhances students' oral communication and confidence (Hsia

& Hwang, 2020; Owens & Hite, 2022). From a sociocultural perspective, these findings also support Vygotsky's (1978) proposition that guided dialogue facilitates the transition from socially mediated learning towards independent expression.

Critical thinking. Improvements in critical thinking were reflected in students' ability to interpret the symbolic meanings of dance movements, relate cultural values to contemporary life, and justify their choreographic decisions. These findings are consistent with deep learning theory, which emphasises conceptual understanding, experiential relevance, and value internalisation (Biggs & Tang, 2011). They also align with Mezirow's (1997) theory of transformative learning, which proposes that critical reflection enables learners to reconstruct their perspectives through meaningful learning experiences. Students' reflective journals further illustrated this process by revealing three recurring themes: recognition of dance as a carrier of moral values, appreciation of traditional dance as personally meaningful, and awareness of social responsibility through collaborative choreography.

An important observation is that similar patterns of improvement occurred in both participating schools despite differences in their initial student characteristics and learning contexts. This may indicate that the model can be delivered in junior high school settings that differ in intake and context. Evidence from two intact classes cannot, however, establish adaptability or transferability more broadly; the findings are best read as preliminary evidence that the model was workable within the two participating settings.

The qualitative findings complement the quantitative results obtained from the character assessment rubric. Teacher reflections consistently indicated that students became more actively involved in learning, demonstrated greater responsibility during group activities, and engaged more deeply in reflective discussions. Students similarly reported that the learning activities helped them understand the

moral values embedded within traditional dances rather than simply memorising movement sequences. The convergence between quantitative improvements and qualitative observations, summarised in Table 3, strengthens the credibility of the findings and illustrates the value of integrating mixed-methods evidence within the adapted R&D process.

Theoretical and Practical Contributions

This study contributes to dance education theory in three ways. First, it illustrates how deep learning principles (Biggs & Tang, 2011) may be operationalised within embodied and kinaesthetic learning environments, suggesting that deep learning is applicable beyond general classroom instruction to secondary arts education. Second, the findings position traditional dance as a culturally situated medium for character education, indicating how movement, reflection, and cultural meaning may jointly support value internalisation. Third, the study offers an arts-specific illustration of cooperative learning principles by showing how co-constructed choreography can provide authentic opportunities for communication, collaboration, and shared responsibility within artistic practice.

From a practical perspective, the DL-DM offers an instructional framework that can assist arts teachers in integrating character education into dance learning without reducing artistic creativity. The three learning phases Meaning Exploration, Value Reflection, and Character Expression provide a structured yet flexible sequence that can be adapted to different cultural contexts and curriculum requirements. The model therefore supports current educational initiatives that emphasise meaningful learning experiences alongside character development.

Limitations

Several limitations should be acknowledged. First, the absence of a control group means that the observed improvements cannot be attributed exclusively to

the intervention, because maturation, testing effects, and contextual influences may also have contributed. Second, the three-month research period, within which each school received four classroom meetings, limits any conclusion regarding the long-term sustainability of character development. Third, the study involved purposive sampling from only two schools in one province, which limits broader generalisation. Fourth, because the researchers simultaneously served as model developers, facilitators, and evaluators, and because pre- and post-implementation rubric scores were assigned by the implementing arts teacher, evaluator bias cannot be completely excluded. Fifth, the qualitative findings were derived from classroom observation notes and thematic summaries of teacher and student reflections rather than from systematically recorded verbatim transcripts; future studies should incorporate audio-recorded interviews and direct participant quotations to strengthen the qualitative evidence base. Future studies are therefore encouraged to employ experimental or quasi-experimental designs involving larger samples, longer implementation periods, and independent observers in order to examine the effectiveness and transferability of the DL-DM across diverse educational settings.

CONCLUSIONS

This study developed and implemented the Deep Learning Dance Model (DL-DM) as an instructional model, through an adapted R&D process, in order to integrate character education into junior high school dance learning. The findings suggest that the model is associated with improvements in students' independence, collaboration, communication, and critical thinking (all comparisons statistically significant at $p < .001$, with medium-to-large effect sizes, $r = .49-.61$), while promoting meaningful learning through Meaning Exploration, Value Reflection, and Character Expression. Rather than focusing solely on technical dance performance, the DL-DM

encourages students to construct personal and social meaning through embodied learning experiences.

Within a three-month research period, the model was trialled at SMP Negeri 1 Cicalengka, revised on the basis of that trial, and then implemented at SMP Negeri 14 Bandung, with four classroom meetings at each school. Implementation in these two contrasting educational contexts produced consistent patterns of improvement and positive teacher responses regarding student engagement and character development. These findings provide preliminary evidence that the model was feasible and workable within the two participating classroom settings while supporting meaningful and reflective dance learning.

This study contributes to dance education by demonstrating how deep learning principles can be translated into an instructional model that integrates artistic practice with character education. The DL-DM offers a structured yet flexible pedagogical framework that supports meaningful learning while preserving the cultural and expressive nature of dance education. Nevertheless, several limitations should be acknowledged, including the absence of a control group, the relatively short implementation period, and the involvement of only two schools within one province. Future research should employ quasi-experimental or longitudinal designs across more diverse educational contexts in order to examine the long-term effectiveness and transferability of the model.

ACKNOWLEDGMENTS

The authors gratefully acknowledge the principals, teachers, and students of SMP Negeri 1 Cicalengka and SMP Negeri 14 Bandung for their collaboration and participation throughout the study. Their support and valuable contributions made this research possible.

REFERENCES

Akpur, U. (2020). Critical, reflective,

- creative thinking and their reflections on academic achievement. *Thinking Skills and Creativity*, 37, 100683. <https://doi.org/10.1016/j.tsc.2020.100683>
- Alinsunurin, J. (2020). School learning climate in the lens of parental involvement and school leadership: Lessons for inclusiveness among public schools. *Smart Learning Environments*, 7(1), 25. <https://doi.org/10.1186/s40561-020-00139-2>
- Almerico, G. M. (2014). Building character through literacy with children's literature. *Research in Higher Education Journal*, 26, 1-13. <https://files.eric.ed.gov/fulltext/EJ1055322.pdf>
- Andini, P. F., Putri, A. P., & Purnama, N. (2024). Analysis of characteristics, morals and contributing factors in adolescents who have experienced school dropout: A portrait of education in PKBM Bakti Nusa Bogor. *Jurnal Pendidikan Karakter*, 15(1), 12-20. <https://doi.org/10.21831/jpka.v1i1.71964>
- Andrini, V. S., & Yusro, A. C. (2021). Blended learning model in a distance learning system to increase 4C competence (creativity, critical thinking, collaboration, and communication). *Journal of Educational Science and Technology (EST)*, 7(3), 236. <https://doi.org/10.26858/est.v7i3.21278>
- Ardiyanti, D., Jayadinata, A. K., & Muqodas, I. (2025). Integrating creative dance for character development in early childhood education. *Jurnal Pendidikan Anak*, 14(1), 109-119. <https://doi.org/10.21831/jpa.v14i1.1382>
- Berkowitz, M. W., & Bier, M. C. (2007). What works in character education. *Journal of Research in Character Education*, 5(1), 29-48. <https://doi.org/10.1108/CE-02-2007-0002>
- Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university* (4th ed.). Open University Press.
- Borg, W. R., & Gall, M. D. (1983). *Educational research: An introduction* (4th ed.). Longman.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE.
- Darmawan, M. F. (2024). Pengembangan pendidikan karakter berbasis kearifan lokal dalam gerakan literasi di sekolah. *Jurnal Review Pendidikan dan Pengajaran*, 7(3).
- Fathoni, A. M., Sulaeman, M., Azizah, E. A. N., Styawati, Y., & Ramadhan, M. U. C. (2024). The new direction of Indonesian character education: Bullying, moral decadence, and juvenile delinquency. *Jurnal Pendidikan Agama Islam*, 21(1), 22-39. <https://doi.org/10.14421/jpai.v21i1.7759>
- Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). SAGE.
- Fritz, C. O., Morris, P. E., & Richler, J. J. (2012). Effect size estimates: Current use, calculations, and interpretation. *Journal of Experimental Psychology: General*, 141(1), 2-18. <https://doi.org/10.1037/a0024338>
- Hake, R. R. (1998). Interactive-engagement versus traditional methods: A six-thousand-student survey of mechanics test data for introductory physics courses. *American Journal of Physics*, 66(1), 64-74. <https://doi.org/10.1119/1.18809>
- Hariato, G., Rusijono, R., Masitoh, S., & Setyawan, W. (2020). Collaborative-cooperative learning model to improve theology students' characters: Is it effective? *Jurnal Cakrawala Pendidikan*, 39(2), 409-421. <https://doi.org/10.21831/cp.v39i2.31272>
- Haryani, E., Coben, W. W., Pleasants, B. A.-S., & Feters, M. K. (2021). Analysis of teachers' resources for integrating the skills of creativity and innovation, critical thinking and problem

- solving, collaboration, and communication in science classrooms. *Jurnal Pendidikan IPA Indonesia*, 10(1), 92–102. <https://doi.org/10.15294/jpii.v10i1.27084>
- Heeg, J., Hundertmark, S., & Schanze, S. (2020). The interplay between individual reflection and collaborative learning: Seven essential features for designing fruitful classroom practices that develop students' individual conceptions. *Chemistry Education Research and Practice*, 21(3), 765–788. <https://doi.org/10.1039/C9RP00175A>
- Hidayat, M., Rozak, R. W. A., Hakam, K. A., Kembara, M. D., & Parhan, M. (2022). Character education in Indonesia: How is it internalized and implemented in virtual learning? *Jurnal Cakrawala Pendidikan*, 41(1), 186–198. <https://doi.org/10.21831/cp.v41i1.45920>
- Hsia, L.-H., & Hwang, G.-J. (2020). From reflective thinking to learning engagement awareness: A reflective thinking promoting approach to improve students' dance performance, self-efficacy and task load in flipped learning. *British Journal of Educational Technology*, 51(6), 2461–2477. <https://doi.org/10.1111/bjet.12911>
- Hsia, L.-H., & Hwang, G.-J. (2021). Enhancing students' choreography and reflection in university dance courses: A mobile technology-assisted peer assessment approach. *British Journal of Educational Technology*, 52(1), 266–287. <https://doi.org/10.1111/bjet.12986>
- Hu, Y., & Shu, J. (2025). The effect of drama education on enhancing critical thinking through collaboration and communication. *Education Sciences*, 15(5), 565. <https://doi.org/10.3390/educsci15050565>
- Johnson, D. W., & Johnson, R. T. (2009). An educational psychology success story: Social interdependence theory and cooperative learning. *Educational Researcher*, 38(5), 365–379. <https://doi.org/10.3102/0013189X09339057>
- Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, 33(1), 159–174. <https://doi.org/10.2307/2529310>
- Lickona, T. (1996). Eleven principles of effective character education. *Journal of Moral Education*, 25(1), 93–100. <https://doi.org/10.1080/0305724960250110>
- Marton, F., & Säljö, R. (1976). On qualitative differences in learning: I. Outcome and process. *British Journal of Educational Psychology*, 46(1), 4–11. <https://doi.org/10.1111/j.2044-8279.1976.tb02980.x>
- Mezirow, J. (1997). Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education*, 1997(74), 5–12. <https://doi.org/10.1002/ace.7401>
- Miller, E., Porter, J., & Barbagallo, M. (2023). Simplifying qualitative case study research methodology: A step-by-step guide using a palliative care example. *The Qualitative Report*, 28(8), 2363–2379. <https://doi.org/10.46743/2160-3715/2023.6478>
- Mufida, S. (2024). Peran guru dalam pembentukan karakter siswa. *Jurnal Media Akademik*, 2(6). <https://doi.org/10.62281/v2i6.448>
- Muhtar, T., & Dallyono, R. (2020). Character education from the perspectives of elementary school physical education teachers. *Jurnal Cakrawala Pendidikan*, 39(2), 395–408. <https://doi.org/10.21831/cp.v39i2.30647>
- Orakçı, Ş. (2021). Exploring the relationships between cognitive flexibility, learner autonomy, and reflective thinking. *Thinking Skills and Creativity*, 41, 100838. <https://doi.org/10.1016/j.tsc.2021.100838>
- Owens, A. D., & Hite, R. L. (2022). Enhancing student communication competencies in STEM using virtual global collaboration project based learning. *Research in Science & Technological Education*, 40(1), 76–102. <https://doi.org/10.3102/0013189X09339057>

- org/10.1080/02635143.2020.1778663
- Patton, M. Q. (2014). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). SAGE.
- Putri, N. S. E., Setiani, F., & Al Fath, M. S. (2023). Membangun pendidikan karakter berbasis Kurikulum Merdeka menuju era society 5.0. *Pedagogik: Jurnal Pendidikan*, 18(2), 194–201. <https://doi.org/10.33084/pedagogik.v18i2.5557>
- Risna, R. (2023). Analyzing the efficacy of outcome-based education in Kurikulum Merdeka: A literature-based perspective. *Curricula: Journal of Curriculum Development*, 2(2), 155–166. <https://doi.org/10.17509/curricula.v2i2.59624>
- Roldán-Álvarez, D., Bacelo, A., Martín, E., & Haya, P. A. (2020). Impact of different interaction protocols on group communication, satisfaction and learning outcomes of primary school children when using multitouch tabletops. *Computers & Education*, 152, 103875. <https://doi.org/10.1016/j.compedu.2020.103875>
- Rosala, D., & Budiman, A. (2020). Local wisdom-based dance learning: Teaching characters to children through movements. *Mimbar Sekolah Dasar*, 7(3), 304–326. <https://doi.org/10.17509/mimbar-sd.v7i3.28185>
- Rosenthal, R. (1991). *Meta-analytic procedures for social research* (Rev. ed.). SAGE.
- Sidik, P., Nurihsan, J., & Suresman, E. (2024). Character education and the crisis of national role models. *Jurnal Pendidikan Karakter*, 15(2), 98–103. <https://doi.org/10.21831/jpka.v15i2.73676>
- Siregar, T., Fauzan, A., Yerizon, Y., & Syafriandi, S. (2025). Designing mathematics teaching through deep learning pedagogy: Toward meaningful, mindful, and joyful learning. *Journal of Deep Learning*, 1(2), 188–202. <https://doi.org/10.23917/jdl.v1i2.11969>
- Suharta, R. B., Septiarti, S. W., & Kusumawardani, E. (2020). School and family partnership: Informal learning context to build children's character. *JIV-Jurnal Ilmiah Visi*, 15(2), 189–198. <https://doi.org/10.21009/JIV.1502.10>
- Sun, J., Zhang, J., & Li, H. (2025). Teacher learning in scaffolding children's collaborative dialogue in a Chinese elementary school. *ECNU Review of Education*, 8(2), 482–507. <https://doi.org/10.1177/2096531120951009>
- Suyanto, Mubarak, A. Z., Suryadi, B., Darmawan, C., Wahyudin, D., Qodir, D. A., Iskandar, H., Wiyono, H. T., Ismah, Kadir, Yuliaty, K., Maskur, Faradella, N. E., Herianingtyas, N. L. R., Waspodo, M., Purwahida, R., Indrajit, R. E., Yazid, R., Oktafiana, S., ... Damarjati, T. (2025). *Naskah akademik pembelajaran mendalam: Menuju pendidikan bermutu untuk semua*. Pusat Kurikulum dan Pembelajaran, Badan Standar, Kurikulum, dan Asesmen Pendidikan, Kementerian Pendidikan Dasar dan Menengah. <https://kurikulum.kemendikdasmen.go.id/rujukan/kajian-naskah-akademik>
- Swanson, B., & Ostersmith, S. (2023). Moving toward engagement: Teaching collaborative dance and science classes to first-year college students. *Journal of Dance Education*, 23(1), 31–38. <https://doi.org/10.1080/15290824.2021.1876237>
- Syafrina, R., Handayani, E. P., Rangkuti, N. B., Fradilla, N., Fransiska, C., & Wariyati, W. (2025). Pendidikan karakter melalui kegiatan ekstrakurikuler di sekolah dasar. *QISTINA: Jurnal Multidisiplin Indonesia*, 4(1), 847–858. <https://doi.org/10.57235/qistina.v4i1.6279>
- Taqiyya, W., Utami, R. D., Samsuri, M., & Siswanto, H. (2025). Strategies of deep learning to foster meaningful and sustainable education in the 21st century. *Journal of Deep Learning*, 1(2), 127–138. <https://doi.org/10.23917/jdl.v1i2.11609>
- Tomczak, M., & Tomczak, E. (2014). The

- need to report effect size estimates revisited: An overview of some recommended measures of effect size. *Trends in Sport Sciences*, 21(1), 19–25.
- Varlık, S., Varlık, F., & Karakuş, M. (2024). Is creative thinking and innovation in teachers enough on their own? What happens if there is no entrepreneurship and reflective thinking? *Teaching and Teacher Education*, 152, 104800. <https://doi.org/10.1016/j.tate.2024.104800>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.