

Implementation Of The Deep Learning Approach In Emotional Regulation Of 5-6-Year-Old Children At Majidi Pkk Kindergarten

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Abstract

This study aims to describe the implementation of a deep learning approach in developing emotional regulation in children aged 5-6 years at the Majidi PKK Kindergarten. Emotional regulation in early childhood plays a crucial role as a foundation for social skills, but initial observations indicate that children's emotional management still consists of situational reprimands without a process that helps children understand their own feelings. The study used a qualitative approach with a case study design, involving 10 children in Group B, 3 class teachers, and 5 parents as data sources through participant observation, semi-structured interviews, and documentation. Data were analyzed using the Miles and Huberman interactive model and strengthened by source triangulation. Implementation was designed through three stages of daily activities that reflect the three dimensions of deep learning: recognizing emotions (mindful learning), understanding the cause and effect of emotions (meaningful learning), and responding to emotions healthily (joyful learning). The results of initial observations showed that most children were in the Beginning to Develop and Developing According to Expectations categories, with the lowest achievements in the aspects of self-calming and verbal expression. After implementing the deep learning approach, achievement shifted toward Developing as Expected and Developing Very Well, which was confirmed by teacher and parent interviews regarding the child's increased ability to recognize, explain, and manage their emotions, both at school and at home. These findings confirm that emotional regulation can be developed effectively through conscious, meaningful, and enjoyable learning, with teachers acting as facilitators and parental support as a factor in strengthening sustainability.

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1. INTRODUCTION

Children between the ages of 5 and 6 begin to show signs of development in self-awareness and social relationships. During this phase, children gradually learn to differentiate between various emotional states, both those they experience themselves and those observed through the expressions and behaviors of others. However, the ability to control and express emotions appropriately is not yet fully developed. This can be seen in behaviors such as crying when disappointed, getting angry when their desires are not met, fighting with friends, or withdrawing from activities when faced with situations that do not meet their expectations.

In early childhood education, these various responses are part of the developmental process that requires consistent support. Support for children's emotional behavior should not stop at stopping

inappropriate behavior. Teachers need to help children recognize what they are feeling, understand what triggers their emotions, and choose more acceptable responses in these situations. Therefore, learning about emotional regulation should not only occur when problems arise, but should be part of the daily learning experience.

This is where the deep learning approach becomes relevant to consider. This term needs to be distinguished from deep learning in the world of artificial intelligence; in the context of education, in this study, the term Deep Learning is used in a pedagogical context, not as a term for artificial intelligence technology. This approach provides space for children to consciously engage in learning experiences, connect experiences with understood meanings, and engage in activities in a positive atmosphere. These three characteristics are then realized through the principles of mindful, meaningful, and joyful learning. These three elements form the basis for seeing how learning experiences can support the development of children's emotional regulation. Diputera and Zulpan (2024) explain that this approach is built from three interrelated domains: ontology, axiology, and epistemology of learning, which, when translated into daily practice, produce three learning characteristics: self-awareness, meaningfulness, and enjoyment. Fatihah (2025) adds that these three characteristics need to be viewed as a whole, not three separate things, because children's self-awareness will grow stronger precisely when the learning process feels meaningful and enjoyable for them.

Policy-wise, this direction is increasingly relevant because national education policy positions Deep Learning as an approach that emphasizes conscious, meaningful, and enjoyable learning experiences. Ministerial Regulation Number 13 of 2025 amends Ministerial Regulation Number 12 of 2024 and explicitly incorporates the Deep Learning approach into the curriculum framework. The revised 2025 Learning and Assessment Guidelines also explain that deep learning emphasizes the principles of conscious, meaningful, and enjoyable learning as well as the learning experience of understanding, applying, and reflecting (Ministry of Primary and Secondary Education, 2025a, 2025b).

This approach has recently gained attention in national education policy as an alternative to learning that tends to be superficial and solely results-oriented. Rahman (2025) noted that implementing deep learning at the early childhood education level actually requires complex preparation, from teachers' understanding of the concept to the ability to translate it into concrete activities appropriate to the child's age. Similar findings were presented in a study published in *Edukasiana: Jurnal Inovasi Pendidikan*, which stated that implementing deep learning in early childhood education can strengthen meaningful, conscious, and enjoyable learning, but faces challenges such as teacher preparedness, limited infrastructure, and a curriculum that is not yet flexible enough to accommodate it. When this principle is applied to the context of emotional regulation, children are not simply asked to stop crying or getting angry, but are encouraged to recognize what they are feeling, why those feelings arise, and how to respond in a way that is acceptable to their social environment.

Emotional regulation skills are an important aspect of learning for children aged 5–6 years, as they begin to learn to adjust their emotional responses when interacting, dealing with rules, resolving conflicts, and participating in group activities. Gross (1998) explains that this process involves several stages, from selecting and modifying situations, directing attention, changing perspectives on situations, to modulating the emotional response itself. This five-strategy framework has even been adapted to the context of early childhood care in Indonesia, as demonstrated by Puspitasari and Hidayat (2023), who developed an emotional regulation measurement tool for parents based on these five strategies. During childhood, these skills are not yet fully developed, so the development of emotional regulation still requires examples, guidance, and support from adults in the child's environment.

The ability to recognize one's own feelings is the starting point for children to learn to manage emotions and build relationships with others (Goleman, 1995). In this process, social support from adults plays a crucial role. Vygotsky's (1978) perspective helps explain that children's abilities develop through interaction and support from a more competent environment. Thus, emotional regulation in children is viewed not only as an individual ability but also as a skill developed through experiences with teachers and parents. This view is also reflected in a study in the journal *GOLDEN AGE*, which positions teacher sensitivity to children's emotions as a factor that accelerates meaningful learning during the transition from the pre-operational to the concrete operational stage.

Children's emotional states cannot always be managed independently. In daily activities, these difficulties can be seen when children cry for long periods, display anger, engage in aggressive behavior, or choose to withdraw from activities. These situations highlight the need for learning experiences that intentionally provide opportunities for children to recognize emotions and develop appropriate response strategies. These difficulties can manifest themselves in the form of emotional outbursts, aggressive behavior, or a tendency to withdraw from social interactions. One cause is the lack of learning approaches intentionally designed to support the development of children's emotional regulation, rather than simply responding to symptoms as they emerge in class. This situation is exacerbated by changing parenting patterns in the digital age, where quality time between parents and children is diminished due to screen time, a trend that demands a more important role for schools in developing children's emotional skills.

Despite this growing body of literature, most existing studies on the deep learning approach in early childhood education have concentrated on policy implementation, teacher readiness, or general learning outcomes, while comparatively few have directly examined how its three dimensions, mindful, meaningful, and joyful learning, can be operationalized as a structured framework for developing emotional regulation in young children. Studies such as Rahman (2025) and the report in *Edukasiana: Jurnal Inovasi Pendidikan* describe the challenges of implementing deep learning in PAUD in general terms, but do not specifically trace how each dimension corresponds to a concrete stage of practice that teachers can follow, nor how such stages relate to measurable shifts in children's emotional regulation. This gap points to the need for a study that connects the conceptual principles of deep learning with a field-based, stage-by-stage implementation model specific to emotional regulation. The contribution of this study lies in offering such a model, a three-stage framework, recognizing emotions, understanding the cause and effect of emotions, and responding to emotions in a healthy way, that translates the mindful, meaningful, and joyful learning dimensions into concrete classroom practices, together with empirical evidence of their relationship to changes in children's emotional regulation at the Majidi PKK Kindergarten.

Based on this background, this article was written to examine the characteristics of emotional regulation in 5–6-year-old children at the Majidi PKK Kindergarten, as well as how a deep learning implementation framework can be designed to develop these abilities, complete with supporting factors and challenges that teachers may face in its implementation. This study is important because the ability to manage emotions is the foundation for social skills and children's readiness for the next level of education, as well as providing initial provisions before more in-depth field research is carried out in the same location.

2. RESEARCH METHODS

This research uses a qualitative approach with a case study type. This choice was made because the research focuses on an in-depth understanding of the development process of children's emotional regulation in the context of learning at the Majidi PKK Kindergarten. The research subjects consisted of 10 Group B children aged 5–6 years old, coded A1–A10, 3 teachers, coded G1–G3, and 5 parents, coded OT1–OT5. Teachers and parents were used as supporting data sources and for triangulation. The use of codes was done to maintain the confidentiality of participants' identities.

Table 1. Summary of Research Subjects

Code	Amount	Group/Characteristics	Data source
A1–A10	10 children	Ages 5–6 years, Group B	Observation of emotional regulation
G1–G3	3 teachers	2 Class B teachers, 1 homeroom teacher for Class A	Interview and observation of teacher roles
OT1–OT5	5 parents	Parents of the observed child	Supporting interviews/triangulation

Ethical aspects of the research were addressed through the use of participant codes and identity restrictions in reporting. Documentation presented in the manuscript must be approved for use by the school and/or the child's guardian, in accordance with applicable regulations, before the manuscript is submitted for publication.

The case study procedure in this research was carried out through several stages in the field. The first stage was orientation and entry, during which the researcher obtained permission from the school, introduced the research to teachers and parents, and conducted preliminary observations to become familiar with the daily routines and classroom dynamics at Majidi PKK Kindergarten. The second stage was intensive data collection, in which participant observation of children's emotional behavior was conducted repeatedly across several weeks of learning activities, accompanied by field notes recorded immediately after each session to minimize the loss of contextual detail. The third stage involved semi-structured interviews with teachers and parents, which were scheduled after sufficient observational data had been gathered so that interview questions could be tailored to patterns already emerging in the field. The final stage was verification and member checking, in which preliminary findings were cross-checked with teachers and, where possible, with parents, to confirm that the researcher's interpretation of the observed behavior aligned with the participants' own understanding. These stages were carried out iteratively rather than strictly linearly, allowing the researcher to return to the field for additional observation or clarification whenever the collected data required further depth.

Data collection techniques included participant observation to observe children's emotional behavior during learning activities, semi-structured interviews with teachers and parents to explore their perceptions and experiences in dealing with children's emotional issues, and documentation in the form of anecdotal notes, activity photos, and relevant curriculum documents. These three techniques were chosen so that the collected data could complement each other, both in terms of observed behavior and in terms of teachers' and parents' interpretations of that behavior.

Data analysis using the interactive analysis model of Miles and Huberman (1994), which includes data reduction, data presentation, and conclusion drawing, was carried out repeatedly throughout the data collection process. Data validity was strengthened through source triangulation, namely comparing the results of observations of children with the results of interviews with teachers and parents, so that the resulting findings are not only based on one perspective. Children's emotional regulation was assessed using a developmental scale commonly used in early childhood education units, namely Not Yet Developing (BB), Beginning to Develop (MB), Developing According to Expectations (BSH), and Very Well Developing (BSB), in five aspects: awareness of feelings, managing reactions, calming down, verbal expression, and sensitivity to the emotions of others.

3. RESULTS AND DISCUSSION

This section presents findings regarding the initial conditions of children's emotional regulation, the three-stage implementation process of deep learning, and the developments that

occurred after this approach was consistently implemented during the observation period at Majidi PKK Kindergarten.

Initial Conditions for Children's Emotional Regulation

The results of observations of 10 children in the early stages showed variations in the development of emotional regulation, as summarized in Table 2. Of the 50 assessments in the five aspects observed, 44% were in the Starting to Develop category, 50% in the Developing According to Expectations category, 6% in the Developing Very Well category, and there were no assessments in the Not Yet Developing category.

Table 2. Initial Conditions of Emotional Regulation of 10 Children

Child	Awareness of Feelings	Managing Reactions	Calm Yourself	Verbal Expression	Sensitivity to the emotions of others
A1	BSH	MB	MB	BSH	MB
A2	BSH	BSH	MB	BSH	BSH
A3	MB	MB	MB	MB	MB
A4	BSB	BSH	BSH	BSB	BSH
A5	BSH	MB	BSH	BSH	MB
A6	MB	MB	MB	BSH	MB
A7	BSH	BSH	BSH	BSH	BSH
A8	MB	BSH	MB	MB	MB
A9	BSH	BSH	BSB	BSH	BSH
A10	MB	MB	BSH	MB	BSH

Description: BB = Not Yet Developed; MB = Starting to Develop; BSH = Developing as Expected; BSB = Developing Very Well.

Initial observations indicate that children's emotional regulation abilities are at varying levels of development. Some children are able to recognize their feelings, but this ability is not always accompanied by the ability to control their responses when faced with unpleasant situations. Some children still need teacher assistance to calm themselves, wait their turn, or express their feelings through words.

These differences were evident in the behavior of several children during the activity. A3, A6, and A8 still required questions or assistance from the teacher when asked to identify their feelings. Meanwhile, A4, A7, and A9 appeared better able to recognize emotions and explain their causes. These findings suggest that the development of emotional regulation occurs gradually, and each child may exhibit varying levels of ability. This is in line with Gross's (1998) view that emotional regulation involves a series of hierarchical processes, not a single ability that emerges simultaneously. Therefore, support needs to be tailored to each child's individual needs and abilities.



Figure 1. Observation of the initial conditions of children's emotional regulation in group activities at the Majidi PKK Kindergarten

Recognizing Emotions as a Form of Mindful Learning

The initial stage is aimed at increasing children's awareness of their current emotional state. This activity involves a feeling check at the beginning or end of the lesson. Children can choose an emotion card or describe how they felt that day. When children haven't found the right words, the teacher provides vocabulary options to assist them without judging the emotions they experience. This approach positions the teacher not only as a transmitter of material but also as a companion who is sensitive to the child's emotional state. This role, Munawar and Nisfa (2026) refer to as teacher mindfulness, is the teacher's readiness to be fully present and sensitive to the child's emotional state before directing further learning.

Field findings at this stage are consistent with observed indicators of mindful learning, namely active participation, the ability to wait one's turn, recognizing emotional reactions, and involvement in play. Children who are accustomed to being asked about their feelings daily, without being judged as right or wrong, appear to more easily develop a rich emotional vocabulary, something that is important for the next stage of regulation. Teacher G1 said that initially, some children easily cry, fight, or get angry when their desires are not met, but after getting used to recognizing emotions, the children become easier to talk to. Puspitasari and Hidayat (2023) note that the ability to provide a positive response to emerging negative emotions is one indicator of healthy emotional regulation, and this indicator can only develop if children are first able to recognize their own negative emotions without fear.



Figure 2. Activity to check children's feelings and participation in the stage of recognizing emotions (mindful learning)

Understanding the Cause and Effect of Emotions as a Form of Meaningful Learning

The second stage is understanding the cause and effect of emotions, which reflects the principle of meaningful learning. Children are encouraged to connect their feelings to real-life events through simple discussions after a conflict in class, using reflective questions such as “What is happening?”, “How are you feeling?”, “How is your friend feeling?”, and “What can we do next?”. This activity is not intended as a reprimand, but as an opportunity for children to reflect on the relationship between the event they experienced and the feelings and responses that arose. This approach aligns with the findings of Fransiska, Dewita, and Mufaro'ah (2024) that collaborative play activities, such as building blocks, can provide a natural space for teachers to teach about the cause and effect of emotions when minor conflicts arise during play.

Teacher G2 explained that the activities were designed to be as close as possible to the children's real experiences so they could connect feelings, events, and choices of action by reducing punitive responses and using more stimulating questions and behavioral examples. The choice to place reflection after conflict, rather than simply punishment or prohibition, is also in line with the findings of Fitriyani and Kriswanto (2025) regarding educators' communication strategies in handling tantrums in early childhood, who found that an approach oriented towards understanding the causes of tantrums led to children calming down more quickly and less frequent repetition of the same pattern of emotional outbursts. This pattern signals that understanding the cause of an emotion is actually part of the process of calming it, not a separate step that comes later.



Figure 3. Block playing activity as a space for reflection on emotional cause and effect (meaningful learning)

Responding to Emotions in a Healthy Way as a Form of Joyful Learning

The third stage is responding to emotions in a healthy way, which represents the principle of joyful learning. At this stage, children are introduced to several simple strategies they can use when dealing with emotions, including regulating their breathing, taking time to calm down, asking for help from others, and expressing feelings verbally rather than physically. These activities are packaged through role-playing and illustrated stories to make them feel fun, rather than like burdensome rules. This aligns with findings in Walada: Journal of Primary Education that simple breathing exercises packaged as games can help children find a pause before overreacting to situations that trigger their emotions.

After repeated practice, children were seen to use verbal responses and self-calming strategies more frequently than in the initial stage. Children such as A2, A4, A7, and A9, who were relatively able to recognize their emotions at an early stage, showed more consistent development in verbally expressing their feelings and calming themselves down independently, while children like A3, who at an early stage still needed teacher assistance to calm themselves

down, began to be able to use the strategy of sitting quietly, although they still needed guidance in managing their reactions. Hermahayu, Rasidi, and Zahra (2025), in their study of positive discipline, found that implementing an approach that emphasized reinforcing positive behavior and warm communication, rather than punishment or threats, made it easier for children to internalize social norms independently. These findings reinforce the idea that responding to emotions healthily needs to be learned in a psychologically safe environment, not one that makes children wary or afraid of being blamed.



Figure 4. Children continue playing with blocks independently as a form of self-regulation (joyful learning)

Development of Emotional Regulation After Implementation

After the three stages of deep learning were consistently applied, children's emotional regulation achievements showed a fairly clear shift, as summarized in Table 3. Of the 50 assessments in the five observed aspects, the proportion of the Beginning to Develop category decreased to 2%, while the Developing According to Expectations category increased to 70% and Developing Very Well to 28%, with no assessments in the Not Yet Developing category.

Table 3. Condition of Emotional Regulation After Implementing the Deep Learning Approach

Child	Awareness of Feelings	Managing Reactions	Calm Yourself	Verbal Expression	Sensitivity to the emotions of others
A1	BSH	BSH	BSH	BSH	BSH
A2	BSB	BSH	BSH	BSB	BSH
A3	BSH	MB	BSH	BSH	BSH
A4	BSB	BSB	BSH	BSB	BSH
A5	BSH	BSH	BSH	BSH	BSH
A6	BSH	BSH	BSH	BSH	BSH
A7	BSB	BSB	BSB	BSB	BSH

Child	Awareness of Feelings	Managing Reactions	Calm Yourself	Verbal Expression	Sensitivity to the emotions of others
A8	BSH	BSH	BSH	BSH	BSH
A9	BSB	BSH	BSB	BSB	BSH
A10	BSH	BSH	BSH	BSH	BSH

Description: BB = Not Yet Developed; MB = Starting to Develop; BSH = Developing as Expected; BSB = Developing Very Well.

The most prominent changes were seen in the ability to verbally express emotions and the use of self-soothing strategies, two areas that were initially weakest. Interviews with G3's teacher reinforced these findings: the child began to be more able to wait, ask for help, apologize, and verbally express dissatisfaction. G3 also noted that consistency takes time because children's habits vary and responses at home are not always the same as at school. This observation emphasizes that the development of emotional regulation is gradual and individual, and therefore cannot be generalized across children, even though the general trend is positive.



Figure 5. Children show positive emotional expressions in classroom activities after the implementation of the deep learning approach.

Teachers as Facilitators, Not Judges

In implementing this approach, teachers function as companions who help children recognize and manage their emotional experiences. Teachers do not judge emerging emotions as right or wrong, but rather guide children to understand and respond appropriately to those emotions. Thus, teachers function not only as conveyors of material but also as companions who help children understand their emotional experiences. Teachers' responses to children when they are angry, disappointed, afraid, or experiencing conflict can be learning experiences for children to recognize and manage their emotions. Of course, this position requires teachers to be prepared, both in terms of understanding the concept of deep learning and patience in facing a process that is not always instantaneous. Experience with Raudhatul Athfal teacher training in Bogor, for example, shows that strategies such as modeling, labeling emotions, storytelling, role-playing, positive communication, and simple breathing exercises can be learned by teachers through short

workshops, provided they are accompanied by hands-on simulations, not just theoretical explanations.

However, conceptual readiness alone is not enough. Rahman (2025) reminds us that the biggest challenge in implementing deep learning in early childhood education (PAUD) arises when theoretically understood concepts must be translated into concrete activities that are appropriate to everyday classroom conditions, including the number of children, time availability, and the diversity of children's characters within a group. This situation becomes even more relevant when learning is designed through an approach that provides space for children to experience, understand, and reflect on their learning process. This aligns with the experience of teachers at the Majidi PKK Kindergarten, which shows that teachers who understand the principles of mindful, meaningful, and joyful learning theoretically still need ongoing support to ensure that understanding is truly realized in daily interactions with children.

Support and Alignment with Parents

Interviews with five parents provided additional information that some children were beginning to carry over habits learned at school into the home environment, such as naming feelings, talking about problems, and trying to calm down before speaking. OT2's parent reported that her child was more likely to say "I'm angry" or "I'm sad" rather than immediately crying or screaming, while OT5 reported that the most noticeable change was in her child's ability to wait their turn and speak up when they didn't like something, especially after parents reminded them of the conventions also practiced at school, such as taking turns and apologizing.

The triangulation matrix in Table 4 shows that findings from child observations, teacher interviews, and parent interviews consistently reinforce each other on four main themes: awareness of feelings, management of impulsive reactions, verbal expression of emotions, and sensitivity to the emotions of others.

Table 4. Data Triangulation Matrix

Her	Child observation	Teacher interview	Parent interview	Conclusion
Awareness of feelings	Observation: children are increasingly able to name emotions and their causes.	Teacher: children are easier to get to identify emotions.	Parents: some children start to talk about their feelings at home.	The data reinforce each other.
Managing impulsive reactions	Observation: children are better able to wait and reduce physical reactions.	Teacher: breathing and pausing strategies are used during conflict.	Parents: children begin to use self-soothing methods.	Data tends to be consistent.
Verbal expression of emotions	Observation: children begin to use simple sentences to convey feelings.	Teacher: Leading questions help children talk.	Parents: Children begin to talk about events and their feelings.	The data reinforce each other.
Sensitivity to the emotions of others	Observation: children start to entertain or help friends.	Teacher: reflection makes children consider their friends' feelings.	Parents: children begin to share experiences with friends.	Data supports the findings.

The role of deep learning approaches	Observation: changes are visible after reflective and enjoyable activities.	Teacher: learning means connecting experiences with feelings and actions.	Parents: Emotional regulation habits are easier to continue at home.	Triangulation shows a directional pattern.
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A comparison of the three data sources reveals relatively similar trends between children's classroom behavior, teacher assessments, and parents' experiences at home. This alignment suggests that the observed changes are not only occurring within the context of school learning but are beginning to carry over into the family environment. These findings support the importance of continuous stimulation between schools and families, aligning with a number of studies that suggest that changes in parenting patterns in the digital age, including increased screen time, can reduce opportunities for direct interaction, which is essential for developing children's emotional sensitivity.

Supporting Factors and Implementation Challenges

Several challenges were identified in implementing this framework at the Majidi PKK Kindergarten. A study in *Edukasiana: Jurnal Inovasi Pendidikan* (Educational Innovation Journal) highlighted limited infrastructure and an insufficiently flexible curriculum as common obstacles to implementing deep learning at the early childhood education (PAUD) level. Similar conditions were also found at the Majidi PKK Kindergarten, indicating that limitations persist in PAUD units in various regions. Limited learning time, coupled with other activities, also poses a challenge, as recognizing, understanding, and responding to emotions require space that cannot be rushed.

Another equally important factor is alignment between school and home. As G3 noted, consistently implementing emotion regulation strategies takes time because children's habits vary, and responses at home don't always align with those established at school. This emphasizes the need for parental support at home to be consistently aligned with the patterns established by teachers at school, so that children don't receive conflicting messages about how to deal with their own feelings.

On the other hand, the natural inclination of 5-6-year-olds to enjoy stories, role-playing, and activities involving physical movement has proven to be a key factor in successfully implementing this approach. The three stages outlined essentially capitalize on these natural tendencies, rather than counteract them, so the potential for success is quite high if teachers are given adequate space and guidance.

Critical Reflection on the Relationship Between the Three Dimensions of Deep Learning and Emotional Regulation

The findings above indicate that mindful, meaningful, and joyful learning did not function as three separate techniques but as interconnected stages that reinforced one another over the course of implementation. This relationship, however, deserves a more critical reading than a simple description of positive outcomes. The mindful stage, recognizing emotions, appears to be a necessary precondition rather than a parallel component: children who struggled to name their feelings, such as A3, A6, and A8, also showed slower progress in the meaningful and joyful stages, suggesting that the three dimensions operate in a largely sequential rather than simultaneous manner, at least for children at the early stages of emotional development. This raises a concern that framing the approach as three equally weighted dimensions may understate the foundational role of mindful learning, and that programs implementing deep learning without first securing children's capacity to recognize their emotions risk building meaningful and joyful activities on an unstable base.

A further critical point concerns the direction of the relationship between deep learning and emotional regulation. The design of this study does not allow a causal claim to be made with certainty; the improvements documented in Tables 2 and 3 coincide with the implementation period but could also be influenced by children's natural developmental maturation over the observation period, by the general attentiveness that accompanies any structured intervention, or by concurrent support from parents at home, as reflected in the triangulation findings. What can be argued more confidently is that consciously structuring the mindful, meaningful, and joyful principles into sequential classroom activities gave teachers a clearer framework for responding to children's emotions than the ad hoc, symptom-based responses described in the introduction. Whether this framework is uniquely responsible for the observed shift, or whether it functions mainly by making teachers' existing emotional support more consistent and intentional, remains an open question that a comparative or longitudinal design would be better positioned to answer.

4. CONCLUSION

In summary, this study shows that children's emotional regulation at the Majidi PKK Kindergarten developed most clearly after the deep learning approach was implemented through three interconnected stages: recognizing emotions (mindful learning), understanding the cause and effect of emotions (meaningful learning), and responding to emotions in a healthy way (joyful learning). Achievement shifted from a majority of children in the Beginning to Develop and Developing as Expected categories to a majority in the Developing as Expected and Developing Very Well categories, with the clearest gains in self-calming and verbal expression, the two aspects that were weakest at the outset. This shift was corroborated by teacher and parent interviews, and teachers' role as facilitators rather than judges, together with consistent parental support at home, emerged as key conditions for sustaining these gains.

These findings should be read with two main limitations in mind. First, the small, single-site sample, consisting of 10 children in one group at one kindergarten, limits generalizability and leaves open the possibility that factors other than the deep learning approach, such as children's natural developmental maturation, also contributed to the observed changes. Second, the qualitative case study design, while well suited to capturing the depth of children's emotional experiences, cannot by itself establish a causal relationship between the intervention and the outcomes recorded.

For practice, these findings suggest that teacher training should prioritize the mindful stage as a foundation before introducing meaningful and joyful activities, and that schools should build routine communication with parents to keep emotional support consistent between home and school. For future research, studies with larger samples, longer observation periods, and comparative or longitudinal designs across multiple PAUD units are needed to confirm whether the relationship between the deep learning approach and children's emotional regulation observed here holds more broadly, and to clarify the causal mechanisms underlying it.

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