

The Development of a Mindful Explorer Learning Model to Enhance Emotional Regulation in Children Aged 4–5 Years

Miranti Rachmawati, Nita Priyanti, Debie Susanti

Program Studi Magister Pendidikan Anak Usia Dini, FKIP, Universitas Panca Sakti Bekasi

ABSTRACT

This study aimed to develop and examine the feasibility and effectiveness of the Mindful Explorer learning model in improving emotional regulation in children aged 4–5 years. The study employed a Research and Development (R&D) approach using the ADDIE development model, which consists of the stages of Analysis, Design, Development, Implementation, and Evaluation. The research subjects were children aged 4–5 years at TK Negeri Pembina Purwakarta. The experimental group consisted of 10 children who received learning activities using the Mindful Explorer model. Data were collected through observations, interviews, expert validation, and assessment sheets. The results of expert validation indicated that the model was highly feasible, with a validation score of 95.56%. This result shows that the model meets the required standards in terms of content suitability, learning methods, media, evaluation instruments, and learning objectives. The effectiveness test showed an improvement in children's emotional regulation after the implementation of the Mindful Explorer model. Based on the N-Gain calculation, the average N-Gain score was 0.55 (moderate category), with a percentage increase of 31.46% from the pretest to the posttest. The improvement was reflected in children's ability to recognize emotions, control emotional responses, and express feelings more adaptively during learning activities. Therefore, the Mindful Explorer learning model is considered highly feasible and effective as an innovative learning approach to support emotional regulation development in early childhood.

Keywords: Emotional Regulation, Children Aged 4–5 Years, Learning Model Development, ADDIE Model

Corresponding author

Name: Miranti Rachmawati

Email: mirantirachmawati3@gmail.com

INTRODUCTION

Early childhood is a crucial period in human development that is often referred to as the golden age. During this stage, children experience rapid brain growth, with approximately 90% of brain development occurring before the age of five. Experiences and stimulation during this period play an essential role in shaping children's cognitive, social, and emotional capacities. Early childhood education therefore has a significant responsibility to provide meaningful learning experiences that support holistic

development, including emotional competence. One important component of emotional development is emotional regulation, which refers to the ability to recognize, manage, and appropriately express emotions in various social situations (Denham et al., 2012).

Emotional regulation is closely associated with children's social competence, learning readiness, and long-term academic success. Children who are able to regulate their emotions effectively tend to demonstrate better concentration, cooperative behavior, and positive interactions with peers and teachers. Conversely, children who experience difficulties in regulating emotions are more likely to exhibit behavioral problems, frustration, and difficulties in social relationships. Emotional regulation skills therefore play a crucial role in helping children adapt to classroom environments and social interactions (Cole et al., 2004).

Despite its importance, emotional regulation learning in early childhood education settings is often implemented in a limited and reactive manner. In many classrooms, teachers tend to address emotional issues only when behavioral conflicts occur, such as when children fight with peers or display frustration. As a result, emotional learning is frequently situational rather than systematically integrated into daily learning activities. This condition limits opportunities for children to actively develop emotional awareness and self-regulation skills through structured learning experiences.

Several previous studies have emphasized the importance of social-emotional learning approaches in early childhood education. One approach that has gained increasing attention is mindfulness-based learning. Mindfulness encourages individuals to focus their attention on present experiences with awareness and acceptance. In the context of early childhood education, mindfulness activities such as breathing exercises, sensory awareness, and guided reflection have been shown to help children recognize their emotions and regulate their emotional responses more effectively (Burke, 2010).

In addition to mindfulness practices, exploratory learning activities also play an important role in children's development. Exploration allows children to actively interact with their environment, discover new experiences, and develop problem-solving abilities. Through exploratory activities, children encounter various social and emotional situations that require them to practice emotional regulation. However, although mindfulness and exploratory learning each have potential benefits for children's development, research that integrates these two approaches into a structured learning model for improving emotional regulation in early childhood remains limited.

Based on these considerations, this study aims to develop a learning model called **Mindful Explorer**, which integrates mindfulness practices with exploratory learning activities. The research objective is to develop and examine the feasibility and effectiveness of the Mindful Explorer learning model in improving emotional regulation among children aged 4–5 years.

This research contributes to the field of early childhood education by providing an innovative instructional model that combines mindfulness-based practices and exploratory learning strategies. The development of the Mindful Explorer model is expected to provide practical guidance for educators in implementing structured learning activities that support

children's emotional regulation and socio-emotional development in early childhood classrooms.

METHOD

Research Design

This study employed a Research and Development (R&D) approach aimed at developing and evaluating an instructional model designed to improve emotional regulation in early childhood. The research utilized the ADDIE development model, which consists of five systematic stages: Analysis, Design, Development, Implementation, and Evaluation.

In the analysis stage, preliminary observations and interviews with teachers were conducted to identify problems related to children's emotional regulation abilities in classroom settings. The design stage involved developing the structure of the Mindful Explorer learning model, including learning objectives, activities, and instructional materials. The development stage focused on producing the learning model prototype and validating it through expert review. The implementation stage involved applying the learning model to children aged 4–5 years in a classroom setting. Finally, the evaluation stage was conducted to examine the feasibility and effectiveness of the developed learning model in improving children's emotional regulation abilities.

Subjects and Sample

The participants of this study were 10 children aged 4–5 years enrolled in Group A at TK Negeri Pembina Purwakarta, West Java. This age group was selected because children aged 4–5 years are in an important developmental phase in which emotional awareness and regulation abilities begin to develop rapidly.

The participants were selected using purposive sampling, considering the relevance of the age group and classroom setting for implementing the learning model. In addition to the children participants, three expert validators were involved in assessing the feasibility of the developed learning model. The validators consisted of experts in early childhood education, educational technology, and developmental psychology.

Data Collection Procedure

Data were collected through several techniques to obtain comprehensive information regarding the development and implementation of the learning model.

1. Observation

Observations were conducted to assess children's emotional regulation behaviors during learning activities. Observation sheets were used to record indicators such as recognizing emotions, expressing feelings appropriately, controlling emotional reactions, and responding to social situations.

2. Interviews

Interviews were conducted with teachers to gather information about classroom

learning practices and challenges related to children's emotional regulation development.

3. Expert Validation

The developed Mindful Explorer learning model was evaluated by expert validators using validation sheets. The assessment focused on aspects such as learning objectives, learning activities, instructional media, and the suitability of the model for early childhood development.

4. Assessment Sheets

Structured assessment sheets were used to measure children's emotional regulation abilities before and after the implementation of the learning model.

The implementation of the Mindful Explorer learning model was conducted over four weeks, consisting of 12 learning sessions. Each session lasted approximately 35–40 minutes. The learning activities integrated mindfulness techniques, such as deep breathing, body scan, and guided visualization, with exploratory learning activities involving nature exploration and sensory experiences.

Data Analysis

Data analysis was conducted using both descriptive analysis and N-Gain analysis. Descriptive analysis was used to summarize observation results, interview findings, and expert validation scores regarding the feasibility of the learning model. Meanwhile, N-Gain analysis was used to measure the improvement in children's emotional regulation abilities by comparing pretest and posttest scores obtained during the implementation stage. The N-Gain score indicates the effectiveness level of the learning model in improving children's emotional regulation abilities.

FINDING AND DISCUSSION

RESEARCH RESULT

Expert Validation Results

Expert validation was conducted to assess the feasibility of the developed Mindful Explorer learning model. The validation process involved experts in early childhood education, educational technology, and developmental psychology. The validation assessed several aspects, including learning materials, learning methods, learning media, and evaluation instruments. The results of expert validation are presented in Table 1.

Table 1: Expert Validation Results of the Mindful Explorer Learning Model

No	Aspect Evaluated	Score (%)
1	Learning Material Suitability	96%
2	Learning Method	94%
3	Learning Media	96%
4	Evaluation Instrument	96%
	Average	95.56%

Source: Research Data

The data in Table 1 show that the overall validation score of the Mindful Explorer learning model reached 95.56%.

Pretest and Posttest Results

Pretest and posttest assessments were conducted to measure children's emotional regulation abilities before and after the implementation of the Mindful Explorer learning model. The assessment was conducted using observation sheets based on several indicators of emotional regulation. The comparison between pretest and posttest scores is presented in Table 2.

Table 2: Comparison of Pretest and Posttest Scores

Measurement	Average Score
Pretest	21.70
Posttest	34.10
Maximum Score	48

Source: Research Data

The data in Table 2 show that the average score increased from 21.70 in the pretest to 34.10 in the posttest.

N-Gain Results

N-Gain analysis was conducted to measure the level of improvement in children's emotional regulation abilities after the implementation of the learning model. The analysis was carried out based on several indicators of emotional regulation. The results of the N-Gain analysis are presented in Table 3.

Table 3: N-Gain Analysis of Emotional Regulation Ability

Indicator	N-Gain Score	Category
Emotional Recognition	0.50	Moderate
Emotional Control	0.55	Moderate
Empathy	0.65	Moderate
Patience and Turn Taking	0.54	Moderate
Sharing Behavior	0.48	Moderate
Average	0.55	Moderate

Source: Research Data

Table 3 shows the N-Gain scores for each indicator of emotional regulation ability.

DISCUSSION

The findings of this study indicate that the Mindful Explorer learning model contributed to the improvement of children's emotional regulation abilities. The increase in emotional regulation scores from pretest to posttest demonstrates that the learning activities provided meaningful experiences that supported children in recognizing and managing their emotions. Through structured learning sessions, children were given

opportunities to practice identifying feelings, expressing emotions appropriately, and responding to social situations in more adaptive ways.

The improvement in emotional regulation abilities can be associated with the integration of mindfulness practices and exploratory learning activities within the learning model. Mindfulness techniques such as deep breathing, body scanning, and guided visualization encouraged children to focus on their internal emotional experiences. These activities helped children become more aware of their emotional states and develop strategies to calm themselves when experiencing frustration or negative feelings. At the same time, exploratory learning activities allowed children to interact with their environment and peers, creating natural opportunities to practice emotional regulation in social contexts.

The results of this study are consistent with previous research highlighting the role of mindfulness in improving children's emotional awareness and self-regulation skills. Research by Burke (2010) suggests that mindfulness-based interventions in educational settings can help children develop greater attention control and emotional awareness. Similarly, Denham et al. (2012) emphasize that structured social-emotional learning activities contribute significantly to the development of children's social competence and emotional adjustment. The findings of the present study support these perspectives by demonstrating that combining mindfulness techniques with experiential learning activities can provide an effective approach to strengthening emotional regulation in early childhood education.

Despite these promising results, several limitations should be considered. First, the study involved a relatively small sample size consisting of only ten participants from a single early childhood education institution. This limitation may affect the generalizability of the findings to broader populations. Second, the duration of the implementation was relatively short, lasting only four weeks with twelve learning sessions. A longer implementation period might provide more comprehensive insights into the long-term impact of the learning model on children's emotional development.

Future research is recommended to involve larger samples and multiple early childhood education institutions in order to examine the effectiveness of the Mindful Explorer learning model in different contexts. In addition, longitudinal studies could be conducted to explore the long-term effects of mindfulness-based exploratory learning activities on children's emotional and social development.

From a practical perspective, the findings of this study provide implications for early childhood educators. The Mindful Explorer learning model offers an alternative instructional strategy that integrates emotional awareness activities with exploratory learning experiences. By implementing structured mindfulness-based activities within daily classroom practices, educators may support children's emotional regulation development in a more engaging and meaningful manner.

CONCLUSION

This study aimed to develop and examine the effectiveness of the **Mindful Explorer learning model** in improving emotional regulation among children aged 4–5 years. The results showed that the implementation of the learning model was associated with an improvement in children's emotional regulation abilities, as indicated by the increase in scores between the pretest and posttest assessments.

The integration of mindfulness practices and exploratory learning activities provided structured opportunities for children to develop emotional awareness, self-control, and positive social behavior. These findings suggest that the Mindful Explorer learning model can serve as a promising instructional approach for supporting socio-emotional development in early childhood education.

Further research involving larger samples and longer implementation periods is recommended to strengthen the evidence regarding the effectiveness of this learning model and its potential application in various early childhood education settings.

REFERENCES

- Burke, C. A. (2010). Mindfulness-based approaches with children and adolescents: A preliminary review of current research in an emergent field. *Journal of Child and Family Studies, 19*(2), 133–144. <https://doi.org/10.1007/s10826-009-9282-x>
- Cole, P. M., Martin, S. E., & Dennis, T. A. (2004). Emotion regulation as a scientific construct: Methodological challenges and directions for child development research. *Child Development, 75*(2), 317–333. <https://doi.org/10.1111/j.1467-8624.2004.00673.x>
- Denham, S. A., Bassett, H. H., & Wyatt, T. (2012). The socialization of emotional competence. In K. H. Rubin & W. M. Bukowski (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 590–613). New York, NY: Guilford Press.
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*(1), 405–432. <https://doi.org/10.1111/j.1467-8624.2010.01564.x>
- Goleman, D. (1995). *Emotional intelligence: Why it can matter more than IQ*. New York, NY: Bantam Books.
- Hurlock, E. B. (1978). *Child development* (6th ed.). New York, NY: McGraw-Hill.
- Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: Past, present, and future. *Clinical Psychology: Science and Practice, 10*(2), 144–156. <https://doi.org/10.1093/clipsy.bpg016>
- Lillard, A. S. (2011). Mindfulness practices in education: Montessori's approach. *Mindfulness, 2*(2), 78–85. <https://doi.org/10.1007/s12671-011-0045-2>
- Mayer, J. D., Salovey, P., & Caruso, D. R. (2004). Emotional intelligence: Theory, findings, and implications. *Psychological Inquiry, 15*(3), 197–215.
- Piaget, J. (1964). Development and learning. *Journal of Research in Science Teaching, 2*(3), 176–186.
- Santrock, J. W. (2011). *Educational psychology* (5th ed.). New York, NY: McGraw-Hill.

- Shapiro, S. L., Brown, K. W., & Astin, J. A. (2011). Toward the integration of meditation into higher education: A review of research. *Teachers College Record*, 113(3), 493–528.
- Siegel, D. J. (2012). *The developing mind: How relationships and the brain interact to shape who we are* (2nd ed.). New York, NY: Guilford Press.
- Thiagarajan, S., Semmel, D. S., & Semmel, M. I. (1974). *Instructional development for training teachers of exceptional children: A sourcebook*. Bloomington, IN: Indiana University.
- Tomlinson, C. A. (2014). *The differentiated classroom: Responding to the needs of all learners* (2nd ed.). Alexandria, VA: ASCD.