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MULTIMODAL GAMES BASED ON SENSORY EXPLORATION OF EARLY CHILDHOOD SELF-AWARENESS: A MIND-BODY INTEGRATIONS APPROACH

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Abstract

Indonesian early childhood curricula position self-awareness as a learning outcome, yet classroom practice remains dominated by verbal instruction and worksheets that separate bodily experience from the process of knowing oneself. This gap leaves open the question of how deliberately designed sensory experiences may serve as an entry point for children's emerging self-awareness. This study aims to describe and analyse how multimodal play grounded in sensory exploration is designed, enacted, and interpreted by teachers and children within a mind-body integration framework in an early childhood setting. A qualitative approach with a single instrumental case study design was employed at TK Sains Batani, involving two classroom teachers, one principal, four parents, and sixteen children aged 5–6 years in Group B. Data were gathered through eight weeks of passive participant observation, semi-structured interviews, a Likert-scale teacher questionnaire, and documentation. Analysis combined reflexive thematic analysis with data reduction, display, and verification. Three principal findings emerged: sensory experiences verbally named by teachers became a bridge for children to label their bodily and emotional states; a play rhythm moving from activation to calming cultivated children's recognition of their own comfort thresholds; and self-awareness surfaced most strongly when children were granted the right to refuse or modify a stimulus. The study contributes a Sensory-Naming-Regulation framework as an operational model linking bodily experience to the formation of self-concept in early childhood education.

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Abstrak

Kurikulum pendidikan anak usia dini di Indonesia menempatkan kesadaran diri sebagai salah satu capaian pembelajaran, namun praktik di kelas masih didominasi oleh instruksi verbal dan lembar kerja yang memisahkan pengalaman tubuh dari proses mengenali diri sendiri. Kesenjangan ini memunculkan pertanyaan mengenai bagaimana pengalaman sensorik yang dirancang secara sengaja dapat menjadi pintu masuk bagi tumbuhnya kesadaran diri anak. Penelitian ini bertujuan untuk mendeskripsikan dan menganalisis bagaimana permainan multimodal yang berbasis pada eksplorasi sensorik dirancang, diterapkan, dan dimaknai oleh guru serta anak dalam kerangka integrasi pikiran-tubuh di lingkungan pendidikan anak usia dini. Pendekatan kualitatif dengan desain studi kasus instrumental tunggal diterapkan di TK Sains Batani, yang melibatkan dua guru kelas, satu kepala sekolah, empat orang tua, dan enam belas anak berusia 5–6 tahun di Kelompok B. Data dikumpulkan melalui observasi partisipan pasif selama delapan minggu, wawancara semi-terstruktur, kuesioner guru berskala Likert, dan dokumentasi. Analisis menggabungkan analisis tematik refleksif dengan tahapan reduksi, penyajian, dan verifikasi data. Tiga temuan utama muncul: pengalaman sensorik yang diberi nama secara verbal oleh guru menjadi jembatan bagi anak untuk melabeli kondisi tubuh dan emosional mereka; ritme permainan yang bergerak dari aktivasi menuju ketenangan menumbuhkan kemampuan anak dalam mengenali ambang batas kenyamanan mereka sendiri; serta kesadaran diri muncul paling kuat ketika anak diberikan hak untuk menolak atau memodifikasi stimulus. Penelitian ini berkontribusi menghadirkan kerangka kerja *Sensory-Naming-Regulation* (Sensorik-Penamaan-Regulasi) sebagai model operasional yang menghubungkan pengalaman tubuh dengan pembentukan konsep diri dalam pendidikan anak usia dini.

Kata Kunci: **Early Childhood Education**, **Mind–Body Integration**, **Multimodal Play**, **Self–Awarness**, **Sensory Exploration**

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Introduction

The Independent Curriculum for early childhood education places children's ability to recognize themselves as one of the foundations of learning achievements. Children are expected to recognize their name, body, needs, and feelings, and gradually convey these to others. This ideal is based on the assumption that self-awareness is not just a declarative knowledge of identity, but the ability to monitor internal circumstances and relate them to actions. In children aged five to six years, these abilities are a prerequisite for emotional regulation, independence, and readiness to go to school.

Practice in the field paints a different picture. Several PAUD institutions still treat self-awareness as material that is taught verbally through classical questions and answers, identity songs, or worksheets with facial pictures with certain expressions. Children are asked to point to images that represent their feelings without ever being invited to explore where in the body they feel that feeling. This approach separates the process of knowing oneself from the bodily experience that is the child's earliest source of information. As a result, the child can pronounce the word sad or angry correctly, but has difficulty recognizing the body signs that precede both situations.

This gap between curriculum ideals and learning practices intersects with a broader problem: reduced opportunities for children to engage in rich sensory exploration. The demands of calistung that come in too early, teachers' concerns about messy activities, and limited facilities often position sensory play as a recreational distraction rather than a planned means of learning. This tendency is reflected in sensory play research in Indonesia, which largely stops at media development and measuring fine motor achievements (Ningish et al., 2026). In fact, touching, kissing, and moving the body is the main channel early children use to build representations of the world and themselves.

Previous studies have shown the effectiveness of sensory play for various aspects of development. (Prasasti et al., 2026) analyzed sensory classroom programs in early childhood education institutions and found they contribute to children's physical motor skills, especially hand-eye coordination and resilience in task completion. (Norma et al., 2025) developed a treasure sensory cube media. They reported improved sensory play experiences for children aged three to four years through structured texture variations. (Widyawati et al., 2026) went further by developing an unstructured play module that integrates nature, imagination, and exploration, and argued for an orientation shift from single sensory stimulation to a holistic experience for children aged four to five. In Southeast Asia, emphasized the importance of sensory activities for toddlers' sensory skill development, while Hermawan and Dewi (2024) showed the potential of Montessori-based and

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multimodal sensory book media for the cognitive development of children aged three to five years.

At the international level, (Kurniawati et al., 2026) compared multisensory toys with traditional toys in children aged three to six years and found that multichannel engagement led to longer engagement and improved learning outcomes. The findings confirm that the added value of sensory stimulation lies in the simultaneity of the channels, not in the richness of one channel alone. Meanwhile, (Ananda et al., 2026) tested yoga-based and mindfulness interventions in children aged three to five years and found reinforcement in social-emotional development and resilience. (Afifatinnisa, 2026) reported similar findings for prosocial behavior, self-regulation, and perspective taking. (Widyasari et al., 2021) designed a large-scale randomized controlled trial that blended yoga and mindfulness in preschool social-emotional learning, and found that mindfulness and empathy-based interventions foster compassion in kindergarten. The studies work on the assumption of mind-body integration, namely that directed attention to bodily sensations can be an entrance to intrapersonal skills.

From the study map, it appears that two research groups run in parallel without much intersection. The first group researches sensory play with outputs that are almost always motor or cognitive, such as fine motor, number recognition, and creativity (Habibah et al., 2025). The second group researches body awareness practice, generally in the form of yoga or guided meditation, with social-emotional outputs. What remains underexplored is research that explicitly identifies self-awareness as an output of sensory play and explains its pedagogical mechanisms, rather than simply reporting its presence or absence (Rosanti et al., 2025).

The second gap is methodological. Most studies of sensory play in Indonesia use experimental design or classroom action research with instruments in the form of achievement checklists. Such designs are effective in measuring change, but are less able to explain how these changes occur in teacher-child interaction. Teachers' language when accompanying children, decisions to stop or continue the stimulus, and children's responses when they reject a texture are pedagogically meaningful events, but they are not captured by quantitative instruments (Ulfadhilah, 2024).

This research is novel in three ways. First, this study focuses on self-awareness, not motor or cognitive skills, as the focus of sensory play in early childhood. Second, this study uses the mind-body integration framework as an analytical lens to examine early childhood learning practices in the Indonesian context, a framework more widely used in clinical intervention studies and children's yoga programs (Pramesti & Susilowati, 2026). Third, this research produces an operational framework that links sensory experience with the

formation of self-concept through teacher language, so the findings can be translated directly into learning decisions.

The purpose of this research is formulated in three questions. First, how multimodal games based on sensory exploration are designed and run in Batani Science Kindergarten. Second, how children's self-awareness manifests during and after involvement in the game. Third, what pedagogical mechanisms connect sensory experiences with the emergence of children's self-awareness. This research is urgent for two reasons. Practically, PAUD teachers need more specific guidance than general recommendations to increase sensory activities. They need an explanation of which parts of the activity work and how to support them. Theoretically, this study offers contextual evidence from Indonesian PAUD institutions to enrich the debate on body-conditioned cognition, which data from European and North American contexts have dominated.

Method

This study uses a qualitative approach with a constructivist-interpretive paradigm. This choice is based on the nature of the research question, which focuses on process and meaning rather than the magnitude and relationship between variables. When the focus is on how the child begins to recognize the state of his body and how the teacher facilitates the process, the needed data are the actions, speech, and interpretations of the actors in their natural setting. Emphasized that a qualitative approach is appropriate when the researcher needs to understand a phenomenon in depth from the participant's perspective and when the relevant variables have not been fully identified. This condition applies in this study because the construct of self-awareness in early childhood is manifested in subtle behaviors and is highly context-dependent. Safarudin et al. (2023) added that the strength of qualitative research lies precisely in its ability to explain the processes that take place in a natural setting without reducing it to numbers.

The design used was a single instrumental case study. The case was limited to the practice of multimodal play based on sensory exploration in one group B at Batani Science Kindergarten during a learning period. This case was instrumental because its main interest was not in the uniqueness of the institution, but in its ability to illuminate a broader problem, namely the relationship between sensory experience and self-awareness. The case limit was set on three dimensions: the dimension of the place in the form of a classroom and an outdoor play area; the time dimension in the form of eight weeks of implementation; and the activity dimension in the form of all scheduled multimodal game sessions and accompanying conversations.

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Batani Science Kindergarten was selected purposively with three considerations. First, this institution has carried out sensory exploration activities on a scheduled basis, not incidentally, so that the practices studied are mature enough to be observed. Second, teachers in this institution are used to accompanying activities with descriptive language, a characteristic that is relevant to research questions about pedagogical mechanisms. Third, the institution is willing to provide full access to long-term observations, including audio recordings of classroom conversations. The selection of cases that are deliberately rich in information is a common strategy and is recommended in qualitative research to maximize the depth of analysis.

The study participants were determined through purposive sampling with criteria of direct involvement in the case. The participants consisted of two class B teachers who were the implementers of the activity, one principal as the holder of curricular decisions, four parents who were selected because their children showed different response patterns during the initial observation, and sixteen children of group B aged five to six years who were the subjects of observation.

Children were positioned as observed subjects and not as formal interview informants. This decision was made due to the limitations of early childhood in conducting consistent verbal self-reporting. Instead, children's spontaneous speech during activities was recorded and treated as primary data. Short object-based conversations were carried out after activities in a non-demanding format, for example, asking children to show parts of the body that felt different after playing. The object of the research was the practice of multimodal play based on sensory exploration itself, which included activity planning, arrangement of the play environment, choice of materials, sequence of stimuli, teacher assistance language, and children's responses. The focus of the analysis was directed at the meeting point between the three elements, not on the assessment of children's achievement per individual.

Table 1. Composition of Research Participants

Yes	Participants	Quantity	Role in Research
1	Teachers of class B	2 people	Key informants; activities implementers
2	Principal	1 person	Institutional curricular policy informant
3	Parents	4 people	Supporting informants; children's behavior at home
4	Children of group B (5–6 years)	16 children	Subject of observation; source of spontaneous speech

Source: Field data, processed by researchers.

Data Collection Techniques

Data collection was carried out through four complementary techniques. Passive participatory observation was carried out for eight weeks with a frequency of three sessions per week, resulting in twenty-four observation sessions with an average duration of sixty minutes per session. The researcher was in the activity room without being involved in classroom management, recording the child's behavior, teacher speech, and interaction dynamics in a two-column field record that separated the event description from the researcher's reflective record.

Semi-structured interviews were conducted with teachers, principals, and parents. Teacher interviews were conducted twice, namely in the first week to explore the rationale for designing activities and in the eighth week to explore the changes they observed. The principal interview was conducted once with a focus on curricular policies. Parent interviews were conducted once with a focus on children's behavior at home. All interviews were recorded with consent and transcribed verbatim, resulting in a total of seven transcripts with a duration of between thirty-five and sixty minutes.

The teacher's questionnaire was used as supporting data, not as the main measuring instrument. The questionnaire contained twelve four-point Likert scale statements that asked about the frequency of the emergence of behaviors indicative of self-awareness in children. The use of an even scale was intended to avoid the tendency to choose a neutral position. The questionnaire was filled out twice by both teachers, namely before and after the observation period, resulting in four sets of answers that served to clarify the direction of the qualitatively observed changes. The documentation included a daily learning implementation plan, photos of the arrangement of the play environment, children's work, and children's development records compiled by the teacher. The document was used to verify the suitability between the design and implementation, as well as to track the traces of the child's experience that were not recorded in the observation.

RESEARCH RESULTS

This section presents the findings of the field systematically without theoretical interpretation. The interpretation is presented in the discussion section. The names of the children and teachers that appear are pseudonyms. Multimodal games at Batani Science Kindergarten are run three times a week in the morning session with a duration of sixty minutes. Each session is arranged in four fixed phases: the opening in the form of a brief body examination, the free exploration phase, the directed exploration phase, and the closing phase in the form of calming. The teacher calls this structure an up-and-down flow, referring to the level of activation of the child's body that is deliberately raised and then lowered.

The materials used varied and were mostly derived from the surrounding environment. The eight-week learning plan documentation noted twenty-four different configurations of materials. Table 2 presents a summary of the game modules based on the activated sensory channels.

Table 2. Summary of Multimodal Game Modules Based on Sensory Channels

Yes	Game Module	Dominant Sensory Channels	Main Ingredients	Emphasis Phase
1	Texture pool	Tactile, visual	Flour, water, grains	Free exploration
2	Tread path	Tactile plantar, proprioceptive	Pebbles, sponges, dry leaves	Directional exploration
3	Aroma box	Olfactory, visual	Spices, orange peel, pandan leaves	Directional exploration
4	Body noise	Auditory, proprioceptive	Tapping, stomping, mouth sounds	Free exploration
5	Moving dough	Tactile, proprioceptive	Flour dough, oil	Free exploration
6	Body scales	Vestibular, proprioceptive	Balance board, rope	Directional exploration
7	Breath and color	Interoceptive, visual	Color fabric, water bottle	Calming
8	Flavor map	Gustatori, olfactory	Local fruit cut	Directional exploration

Source: Daily learning implementation plan and field notes, weeks 1–8.

Observations of sixteen children over twenty-four sessions resulted in behavioral records categorized according to five indicators of self-awareness. Table 3 presents a recapitulation of the frequency of occurrence of indicative behaviors in the first four weeks compared to the last four weeks.

Table 3. Recapitulation of Behavioral Frequencies Indicative of Self-Awareness

Indicator	Weeks 1–4 (frequency)	Weeks 5–8 (frequency)	Child showing (of 16)
Recognition of body sensations	34	96	16
Emotional labeling	19	52	14
Introduction of comfort limits	12	48	13
Decision-making on stimulus	15	41	12

Disclosure of needs to others	9	23	9
Total appearances	89	260	—

Source: Field records of 24 observation sessions; frequency is calculated per event, not per child.

The most notable improvements occurred in indicators of labeling body sensation and recognition of comfort boundaries. Indicators of disclosure of needs to others showed smaller increases, and the distribution between individuals on these indicators was wider.

Teacher questionnaires filled out before and after the observation period showed a direction consistent with the observation results. Table 4 presents the average scores of the two teachers on the twelve statements grouped according to five indicators.

Table 4. Average Teacher Questionnaire Score Before and After the Observation Period

Indicator	Prates (average)	Postcards (average)	Differences
Recognition of body sensations	1,8	3,4	+1,6
Emotional labeling	2,0	3,2	+1,2
Introduction of comfort limits	1,6	3,3	+1,7
Decision-making on stimulus	1,9	3,1	+1,2
Disclosure of needs to others	2,1	2,8	+0,7
Overall average	1,9	3,2	+1,3

4-point Likert Scale: 1 = never, 2 = rarely, 3 = often, 4 = always. n = 2 teachers, filled twice.

Analysis of the teacher's speech during the session resulted in three repeated patterns of mentoring. The first pattern is sensation naming, where the teacher mentions the sensory quality of the material the child is touching. The second pattern is attention to the body, where the teacher directs questions from objects to the child's internal state. The third pattern is choice offering, where the teacher provides alternative actions instead of giving a single instruction.

Theme	Subtheme	Examples of Supporting Data
Naming as a bridge	Quality description by teacher	Teacher says "cold, slippery, rough" before the child touches (Session 4)
	Vocabulary acquisition by children	The child said "very cold" spontaneously (Session 9)
	Transfer to the home context	Parents report the child expressing heat (OT Interview 2)

Rhythm as a boundary builder	Up-and-down activation structure	Four-phase flow in the entire daily plan (RPPH Document)
	Saturation point recognition	The child declares "my hands are tired" and rests (Session 17)
The right to refuse as a door to consciousness	Optional offers by teachers	"Can be held, can be seen first, can be done later" (Teacher Interview 2)
	Gradual engagement after rejection	The child observes for 4 minutes before touching (Session 9)

DISCUSSION

The first finding, namely the role of naming as a bridge, can be read as an affirmation as well as an extension of the body-conditioned cognition argument. Tsomokos (2025) shows that early psychomotor functions are related to cognitive abilities, social cognition, and self-regulation later in life, and interprets these relationships as evidence that the sensorimotor system is the basis for more complex psychological structures. The findings of this study add one element that is not seen in such longitudinal data, namely the role of language intermediaries. The sensations experienced by children do not in themselves become knowledge about the self. It becomes so when one provides a linguistic category to accommodate these sensations. In the data of this study, the teacher performs the function consistently before the child takes over.

This observation is in line with Ms. Ratna's report on the shift from action instructions to quality descriptions. Instructions such as let's squeeze direct behavior, but do not provide a tool to reflect experience. Descriptions like this are cold and slippery, providing such tools. After a few weeks, the child uses that vocabulary to report circumstances that are not directly related to the game, as recorded in the parents' reports of children beginning to convey a sense of heat. This shift indicates a transfer from the context of play to the context of daily life, although the amount of such transfer cannot be claimed with certainty from qualitative data.

The second finding on activation rhythm is related to the literature on interoception and self-regulation. Found that children with higher levels of physical activity were perceived to have better interoceptive sensitivity to emotions and bodily energy, and linked this sensitivity to more effective emotion regulation (Kusmara et al., 2025). The up-and-down structure carried out in Batani Science Kindergarten functionally provides a similar condition: the child experiences a perceptible increase in activation, then is given space to feel the decrease. It is the

contrast between the two circumstances that seems to allow the child to recognize the limit.

Comparison with studies of mindfulness-based interventions clarifies the position of these findings. Report the strengthening of self-regulation and social-emotional skills through yoga and mindfulness exercises in preschoolers. Both interventions require children to direct attention to the body in a relatively still state. The findings of this study suggest an alternative pathway that may be more appropriate for the character of early childhood in the context of the Indonesian classroom, namely directing attention to the body in an active and exploratory state, then utilizing the calming phase as a moment of contrast (Wardhani & Mahedradhani, 2024). Sop and in their review of mindfulness research in early childhood, note that the success of the intervention is highly dependent on its suitability to the developmental stage; the play-based pathways found in this study can be seen as adapting to these conformity demands (Adawiah, 2022).

The third finding, namely the right to refuse as a door to consciousness, is the finding that is furthest from the existing literature. Most studies of sensory play in Indonesia measure success through the level of child participation. (Kadek Evi Susilawati et al., 2024) place children's involvement with the media as positive indicators. This kind of framework implicitly treats rejection as a failure of the program. The data of this study show the opposite. The event R, standing and observing for four minutes before touching with the fingertips, and the event F, stopping to rest, are the moments when self-awareness is most clearly documented. The child who refuses is making an assessment of his or her internal state and acting on that judgment.

The implications of this reading are quite large for practice. If rejection is treated as a failure, the teacher will be more likely to persuade or coerce, and the action actually negates the conditions that allow self-awareness to emerge. Conversely, when rejection is treated as data, the teacher obtains information about the child's boundaries while giving the child the experience that his or her assessment of his or her own body is acknowledged. The shift in the way of asking questions reported by Mrs. Wulan illustrates this mechanism concretely. (Wikaningtyas & Afandi, 2024) show that teachers' strategies are the main determinants of early childhood social character formation; the findings of this study extend the argument to the intrapersonal realm by showing that teachers' questioning strategies also determine the formation of children's self-awareness.

Based on these three themes, this study proposes a Sensory-Naming-Regulation framework as a theoretical contribution. This framework consists of three sequential but repetitive components. The sensory component provides a body experience that is clear enough to be perceived. The naming component

provides a linguistic category that transforms sensations into thinkable objects. The regulatory component provides the authority to act on the naming. Self-awareness, in this framework, is not the result of one of the components, but of the completeness of all three. Sensory activity without naming produces an unreflective experience; naming without acting authoritatively produces a vocabulary that is not consequential.

This framework also offers an explanation for the observed variation in responses between children. Children in the first group appear to have sufficient sensory sensitivity to immediately benefit from the naming component. Children in the second group spend longer on the sensory component due to their initial avoidance; for this group, the regulatory component is the entry point, not the end point. The child in the third group has strong sensory involvement but is weak in the regulatory component, so they need more support in the calming phase.

The findings of this study strengthen the argument that the simultaneity of the sensory channels results in higher engagement than single-channel stimulation, while adding important qualifications. High involvement does not automatically mean developmental significance. In the third group in this study, very high involvement was actually correlated with difficulty in self-regulation. Thus, the design of multimodal games needs to pay attention not only to the intensity of stimulation, but also to the structure that allows the child to get out of the stimulation.

This study has several advantages. The duration of the observation of eight weeks allows observation of gradual changes and reduces the risk of drawing conclusions from a single event. The use of four data collection techniques allows for fairly robust triangulation, particularly in verifying teachers' reports with direct observation and parental information. Focusing on mechanisms, rather than on the magnitude of influence, results in findings that can be directly translated into pedagogical decisions by other teachers.

This study also has limitations that need to be stated. First, the study was conducted in one institution with unusual characteristics, namely an institution that has carried out sensory activities on a scheduled basis and has teachers with descriptive accompanying habits. The transferability of the findings to institutions with different conditions needs to be further tested. Second, the child's self-awareness is observed through behavior and speech; the internal state that is not expressed cannot be reached by this design. Third, an eight-week period is not enough to assess whether the observed changes persist in the long term. Fourth, as stated in the methods section, the literature mapping is limited to the databases that researchers can access.

The practical implications of this research can be formulated in three recommendations for early childhood education teachers. Teachers are encouraged to replace action instructions with descriptions of sensory qualities in the early phases of the activity, so that children gain vocabulary for their experiences. Teachers are encouraged to design sessions with a structure of activation that rises and falls deliberately, rather than simply providing engaging material. Teachers are encouraged to treat children's rejection as information and as a learning opportunity, not as an obstacle to overcome. At the institutional policy level, these findings support scheduling sensory activities as a routine part of the daily learning plan, rather than as a weekly recreational activity.

The theoretical implication of this study lies in the placement of teacher language as an intermediate variable that has been undertaken in the study of sensory play. The existing literature tends to treat materials and media as the main determinants of learning outcomes, as seen in a series of studies on the development of sensory media in Indonesia. The findings suggest that the same material can produce different experiences depending on how the teacher names it. Thus, investing in teacher-assisted language training can yield equal or greater results than investing in media procurement.

Conclusion

This study concludes that multimodal play based on sensory exploration contributes to the growth of early childhood self-awareness through three interrelated mechanisms. Sensory experiences provide the raw material in the form of bodily sensations that are clear enough to be felt. The teacher's descriptive language transforms these sensations into categories that children can recognize and communicate. The child's authority to reject or modify stimuli has real consequences for such recognition, so that self-awareness does not stop at vocabulary but becomes the basis for action.

The strongest self-awareness appears when the child stops himself, delays involvement, or sets boundaries. These findings challenge the assumptions prevalent in the study of sensory play in Indonesia, which tend to place participation levels as indicators of success. This study proposes a Sensory-Naming-Regulation framework as an operational model that links bodily experience with self-concept formation and positions the teacher's mentoring language as an equally important component in material selection.

The limitations of this study include focusing on a single institution with characteristics that do not represent the general condition of PAUD institutions, an eight-week observation duration that does not allow an assessment of the resilience

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of change, reliance on observed behavioral manifestations to infer the child's internal state, and limited literature search coverage in open access databases.

Further research is recommended in three directions. First, testing the Sensory-Naming-Regulation framework in institutions with different resources and teacher backgrounds to test its transferability. Second, research with a mixed design that combines in-depth observation with standardized instruments to measure the magnitude of change while explaining the mechanism. Third, longitudinal research that explores whether sensory vocabulary formed at an early age survives and functions as a regulatory resource at the next level. In addition, research on companion language training for PAUD teachers is a relevant direction, given that this study's findings identify teacher language as a key component.

Reference

Adawiah, A. R. (2022). Perkembangan Kognitif Anak Usia Dini 3-4 Tahun : Bermain Tebak Gambar Bola Hewan. *Jurnal Bunga Rampai Usia Emas*, *8*(2), 74. https://doi.org/10.24114/jbrue.v8i2.39651

Afifatinnisa, A. (2026). Pola Asuh Digital (Digital Parenting) dan Dampaknya terhadap Perkembangan Sosio-Emosional Anak di Era Literasi Digital. *THIFLY: Jurnal Pendidikan Anak Usia Dini*, *1*(01), 12–24.

Ananda, Kaysa, Fajriah, Febi, Sirait, Yuken, … Faisal. (2026). Peran Orang Tua Dalam Membangun Karakter Anak Di Era Digital. *Jurnal Insan Cita Pendidikan (ICENI)*, *3*(3), 1–5.

Habibah, Sulhatul, Junaidi, Mahbub, Umroh, Ida, … Ahsanul. (2025). Membangun Pola Asuh Positif Berbasis Filsafat Pendidikan Islam Dan Penyembuhan Inner Child. *Dedikasi: Jurnal Pengabdian Kepada Masyarakat*, *5*(2).

Kadek Evi Susilawati, N., Kadek Elvi Susilawati, N., Made Gede Anadhi, I., Komang Suardika, I., Wayan Suyanta, I., Pendidikan Guru Pendidikan Anak Usia Dini, J., … Bagus Sugriwa Denpasar, G. (2024). Strategi Permainan Tradisional Meong-Meong melalui Implementasi Kegiatan Bermain untuk Anak Usia Dini Strategies of The Traditional Game Meong-Meong through The Implementation of Play Activities for Young Children. *Jurnal Ilmiah PESONA PAUD*, *11*(1). Diambil dari http://ejournal.unp.ac.id/index.php/paud/index

Kurniawati, Agnes, Fibriana, Triayomi, Ria, Handoko, … Petrus. (2026). Pembinaan Orang Tua Peserta Didik Sebagai Upaya Penguatan Pendidikan Karakter Anak

Usia Sekolah Dasar. *Jurnal Dehasen Mengabdi*, *5*(2), 111–116.

Kusmara, Eka, Fitrianurddini, Syaodih, Ernawulan, Agustin, & Mubiar. (2025). Bermain Bermakna Melalui Pendekatan Quranic Sains Pada Fase Fondasi. *AWLADY: Jurnal Pendidikan Anak*, *11*(1), 10–26.

Ningish, Sulastya, Sodik, Nurul, Aini, M, … Fadila. (2026). Mendidik Anak Diera Digital: Tantangan dan Solusinya. *JPMNT JURNAL PENGABDIAN MASYARAKAT NIAN TANA*, *4*(1), 37–43.

Norma, Bunga, Ashar, Ashar, Fitri, & Riskal. (2025). Pola Asuh Orang Tua Terhadap Sosial-Emosional Anak: Studi Deskriptif Di TK Al Ikram Moncongloe. *Ihya Ulum: Early Childhood Education Journal*, *3*(2), 522–531.

Pramesti, F. A., & Susilowati, E. (2026). Pengaruh Pola Asuh dan Stimulasi Orang Tua terhadap Perkembangan Bahasa Anak Usia Dini: Literatur Review. *Jurnal Kolaboratif Sains*, *9*(2), 1886–1894.

Prasasti, Angelique, Monica, Hardiyanti, Fitrih, Ansori, & Ansori. (2026). Pola Asuh Orang Tua dalam Membantu Karakter Kedisiplinan Siswa. *Jurnal Ilmu Terapan Dan Multidisipliner (JITM)*, *1*(2), 159–168.

Rosanti, Rita, Komala, Zultiar, Indra, Poppyariyana, … Ashshidiqi. (2025). Pola Asuh Orang Tua Terhadap Pekembangan Sosial Emosional Anak Usia Dini di Paud Tunas Bangsa Desa Padamulya Kecamatan Pasirkuda Kabupaten Cianjur. *Calakan: Jurnal Sastra, Bahasa, dan Budaya*, *3*(1), 142–153.

Ulfadhilah, K. (2024). Penanganan Kekerasan Mental Anak (Pola Asuh yang Merusak Kekerasan Mental Anak Usia Dini). *Kindergarten: Jurnal Pendidikan Anak Usia Dini Indonesia*, *3*(01).

Wardhani, N. K. S. K., & Mahedradhani, G. A. A. R. (2024). BERMAIN PENCAMPURAN WARNA SEBAGAI ASPEK PERKEMBANGAN KEMAMPUAN SAINS PADA ANAK TK PRATAMA WIDYALAYA KUMARA GIRI KUSUMA KABUPATEN JEMBRANA. *Pratama Widya: Jurnal Pendidikan Anak Usia Dini*, *9*(2), 200–205.

Widyasari, C, Ariatmi, S, Z, Hidayat, & N. (2021). Efektifitas pembacaan buku cerita bergambar sebagai metode pencegahan kekerasan seks pada anak. *Varidika*, *33*(1), 108–115. https://doi.org/10.23917/varidika.v33i1.15335

Widyawati, Nia, Nada, Qotrotun, Lokuwaka, Indrawati, … Abul. (2026). Peran

Strategis Guru dalam Menumbuhkan Disiplin dan Kemampuan Regulasi Diri Anak pada Era Digitalisasi. *QOSIM: Jurnal Pendidikan Sosial & Humaniora*, *4*(3), 1183–1201.

Wikaningtyas, A., & Afandi, N. K. (2024). Efektivitas Bermain Kartu Huruf dalam Meningkatkan Kemampuan Berpikir Simbolik pada Anak Usia 5-6 Tahun. *Hadlonah : Jurnal Pendidikan dan Pengasuh Anak*, *5*(1), 66–76.