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The Implementation of Learning Media to Improve Self-Identity Development in Children Aged 4–5 Years (An Experimental Study in Group A at RA Amal Bhakti)

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Abstract

Background: Self-identity recognition is an important aspect of early childhood social-emotional development. However, observations conducted at RA Amal Bhakti revealed that several children aged 4-5 years experienced difficulties in identifying and expressing personal information, such as their name, gender, age, favorite activities, and simple home address. This condition indicates the need for engaging learning stimulation appropriate to young children's developmental characteristics. **Purpose:** This study aimed to examine children's self-identity abilities before and after the implementation of the SPIDI (Self-Identity Spinner) learning media and to determine its effect on improving self-identity recognition among children aged 4-5 years. **Methods:** A quantitative approach with a one-group pretest-posttest design. Participants were six children aged 4–5 years at RA Amal Bhakti. Data were collected through observation using a validated and reliable assessment instrument. **Results:** The average score increased from 4 (pretest) to 8.5 (posttest), with a statistically significant difference ($t(5) = -7.842, p = 0.001 < .05$). Children became more capable of stating their full name, gender, favorite activities, and simple address, and demonstrated greater confidence in communication. **Conclusion:** SPIDI can be used as an effective, interactive, and enjoyable learning medium to support the development of self-identity in early childhood.

Keywords: Early Childhood Education; Learning Media; Pretest-Posttest Design; Self-Identity Recognition; SPIDI

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Introduction

Early childhood refers to individuals aged 0-6 years who are undergoing rapid growth and development. This period is often referred to as the “golden age” because various aspects of a child's development progress very rapidly and require appropriate stimulation to ensure optimal development (Rohmah, 2025). Early childhood education plays a crucial role in providing stimulation appropriate to children's developmental stages, encompassing religious and moral values, physical and motor skills, cognitive development, language, social-emotional development, and the arts (Hikmawati & Winnuly, 2025). Therefore, learning experiences for young children must be designed to be engaging, enjoyable, and aligned with children's learning characteristics through meaningful play-based activities.

Early childhood is a critical period in the process of self-identity formation. At ages 4-5, children begin to recognize themselves-including their name, gender, age, and preferences. The ability to recognize one's own identity needs to be developed early on because it forms the foundation for children's social, emotional, and communication development in daily life (Mahdi & Zahrani JF, 2020). Children who are able to recognize themselves well will find it easier to interact with their environment and will have greater self-confidence. Self-identity is a child's ability to recognize and understand themselves-including their full name, gender, age, address, family members, and personal characteristics and it serves as a crucial foundation for social-emotional development because it helps the child understand their existence as a unique individual distinct from others (Mahdi & Zahrani JF, 2020; Saputra et al., 2025). Children with a strong sense of self-identity tend to be more self-confident, able to interact positively with their environment, and better able to adapt to various social situations.

The ability to recognize one's own identity does not develop automatically but must be cultivated through various forms of stimulation provided by both the family and school environments (Oktavia, 2024). Teachers play a crucial role in helping children recognize and express information about themselves through engaging learning activities; appropriate stimulation fosters self-confidence, independence, and the ability to communicate effectively with those around them. Conversely, children who have not yet been able to recognize their own identity well will experience difficulties in introducing themselves and interacting with others (Tutut Hilda Rahma, 2023).

Based on the results of initial observations conducted at RA Amal Bhakti, it was found that the sense of self-identity among 4-5 year old children has not yet developed optimally. Some children still struggle when asked to state their full name, age, or a simple address, and some remain shy and hesitant when asked to introduce themselves in front of their teachers or classmates. These conditions indicate that children's self-identity skills require more engaging stimulation appropriate to the learning characteristics of early childhood.

Early childhood education should be conducted through play-based activities, as play is the activity most closely aligned with a child's world. Through play, children gain enjoyable learning experiences, making the material presented easier to understand. The use of engaging learning media can also enhance children's attention, motivation, and active participation, allowing them to be directly involved in learning activities and making the experience more meaningful and effective (Hasanah & Purnama, 2024). One tool that can be used to help children understand their own identity is the SPIDI (Spin Diri/Self-Identity Spinner) tool a spinning wheel containing simple pieces of information about a child's identity. Through this game, children are encouraged to recognize and share information about themselves, such as their name, age, gender, address, and favorite things, in a fun way that keeps the learning process active, interactive, and developmentally appropriate.

Previous studies indicate that interactive learning tools increase children's engagement in the learning process. Interactive multimedia-based educational videos have been shown to improve listening skills in young children (Juannita & Mahyuddin, 2022), and Augmented Reality-based learning media has likewise been found to boost children's interest and participation in learning activities. These findings demonstrate that innovative, interactive learning media consistently have a positive impact on the development of young children's abilities (Juannita & Mahyuddin, 2022).

Although various studies have examined the use of interactive learning media for early childhood, research specifically addressing the use of the SPIDI medium to enhance the self-identity skills of 4-5 year olds remains very limited. This gap motivates the present study, which examines children's self-identity skills before and after the implementation of SPIDI and the effect of this medium on self-identity development among 4-5 year olds at RA Amal Bhakti.

The novelty of this study lies in its use of the SPIDI medium-a spinning wheel based learning tool specifically designed to develop the self-identity skills of 4-5 year old children through concrete, hands-on materials. Unlike prior studies, which have predominantly used digital and interactive multimedia tools, SPIDI allows children to participate directly in play-based learning activities using a physical medium, and is thus expected to contribute an innovative, low-technology alternative to the existing body of early childhood learning media.

Theoretically, this study is grounded in Mead's (1934) theory of symbolic interactionism, which holds that self-identity is not innate but develops through interaction and communication with others as children learn to label themselves through language and symbols (as elaborated in Putri, 2012), and in Erikson's psychosocial theory, which frames children in this age range within the "initiative versus guilt" stage, during which social experience and supportive stimulation shape a child's emerging self-confidence and self-understanding (Orenstein & Kaur, 2026). These perspectives inform the design of the SPIDI

intervention, which relies on symbolic, language-based self-labeling activities delivered through playful social interaction.

Based on this background, this study seeks to answer three main questions. First, what are the self-identity skills of children aged 4-5 years before the implementation of SPIDI media? Second, what are the self-identity skills of children aged 4-5 years after the implementation of SPIDI media? Third, does the implementation of SPIDI media have an effect on improving self-identity aspects in children aged 4-5 years?

The objectives of this study are to determine children's self-identity skills before and after the use of SPIDI media, and to identify the effect of this medium on the improvement of aspects of children's self-identity. It is hoped that the findings of this study will provide an alternative learning medium for early childhood education teachers in developing children's self-identity skills and serve as a reference for future research related to the social-emotional development of young children.

Methods

Research Design

This study employed a positivist paradigm with a quantitative approach, chosen because the research data were obtained in numerical form through pretest and posttest scores, which were then analyzed to determine improvements in children's self-identity. The research design used was a pre-experimental design in the form of a one-group pretest-posttest design (Sugiyono, 2019), used to determine the effect of implementing the SPIDI learning medium on improvements in aspects of self-identity among children aged 4–5 years.

Participants and Sampling

The study was conducted at RA Amal Bhakti with children in Group A, aged 4–5 years. A total sampling technique was used, comprising all six children enrolled in Group A during the study period. Inclusion criteria were: enrolled in Group A at RA Amal Bhakti, aged 4–5 years at the time of the study, and present for both the pretest and posttest sessions.

Research Instruments

Prior to conducting the study, the researcher performed validity and reliability tests on the observation-based assessment instrument to ensure it was suitable for use. Item validity was tested using Pearson's product-moment correlation, comparing each item's computed *r*-value against the *r*-table value at $\alpha = .05$ (Sugiyono, 2019); all items exceeded the *r*-table

threshold and were therefore considered valid. Reliability was assessed using Cronbach's Alpha, yielding a coefficient of 0.99, which falls into the “very high” category (Sugiyono, 2019); the instrument was therefore deemed reliable and suitable for use in the study. The following are the results of the validity test for the research instrument used to measure aspects of self-identity in early childhood:

Table 1. Instrument Validity

No	Indicator	Validity Score	Notes
1	The child can say his or her full name.	0.95	Valid
2	The child is able to identify gender.	0.96	Valid
3	The child is able to describe the activities they enjoy.	0.91	Valid
4	The child can state a simple address.	0.96	Valid

Data Collection Procedure

The research was carried out in three stages: administering the pretest, implementing the treatment, and administering the posttest. During the pretest stage, children were given an initial activity to assess their self-identity abilities before receiving the treatment. The researcher then administered the intervention in the form of the SPIDI (Self-Identity Spinner) learning medium an educational game designed to help children recognize and express their self-identity in a simple and enjoyable way. SPIDI takes the form of a spinning wheel containing basic information about the child, such as name, gender, favorite activities, a simple address, and age; by spinning the wheel and answering the questions that appear, children are encouraged to communicate, recognize their own identity, and improve their language skills and self-confidence. The use of SPIDI provides an interactive learning experience that makes children more enthusiastic about exploring their self-concept and sharing information about themselves with peers and teachers. After the intervention, a posttest was conducted to assess the development of children's self-identity following the use of the SPIDI medium.

Data were collected through observation and assessment of the children's activity outcomes using an observation sheet aligned with the self-identity development indicators for children aged 4-5. The tools and materials used included the SPIDI learning medium, the observation sheet, writing materials, and photographic documentation of the learning activities.

Data Analysis

Pretest and posttest data were analyzed descriptively by calculating children's mean developmental scores, and inferentially using a paired-sample t-test to determine whether

the improvement in children's self-identity scores following the SPIDI intervention was statistically significant.

Ethical Considerations

Informed consent was obtained from the parents/guardians of all participating children prior to data collection, including consent for the photographic documentation used in Figures 1–3. Children's identities were kept confidential, participation was voluntary, and children could withdraw from any activity at any time without consequence.

Results

Pretest Condition

During the pretest phase, most children had difficulty clearly stating their full names, were confused about distinguishing their gender, and did not yet accurately state their age and simple address (Figure 1).



Figure 1. Pretest Drawing Activity

Intervention

After being exposed to the SPIDI program, children showed changes in their ability to recognize their own identities: they appeared more active, enthusiastic, and confident in answering questions about themselves, and had the opportunity to gradually review

information about themselves through the questions that appeared on the spinner (Figure 2).



Figure 2. Treatment (Intervention

Posttest Condition

In the posttest phase, most children were able to state their full names, gender, favorite activities, and simple addresses more accurately than before the intervention, and appeared more confident when speaking in front of their peers (Figure 3).



Figure 3. Posttest

Comparison of Pretest and Posttest Scores

The comparison between children's pretest and posttest scores after using the SPIDI medium is shown in Table 2.

Table 2. Pretest and Posttest Scores

No	Name	Pretest	Posttest
1	A	3	6
2	B	4	8
3	C	3	7
4	D	5	10
5	E	4	10
6	F	5	10
Mean		4.0	8.5

As shown in Table 2, pretest scores ranged from 3 to 5 ($M = 4.0$), while posttest scores increased to a range of 6–10 ($M = 8.5$). A paired-sample t -test indicated that this improvement was statistically significant, $t(5) = -7.842$, $p = 0.001 < .05$, supporting acceptance of the alternative hypothesis (H_a) that the SPIDI medium has an effect on children's self-identity abilities.

Discussion

Interpretation of Key Findings

The findings indicate that the use of the SPIDI (Self-Identity Spinner) medium had a positive impact on the self-identity development of 4-5 year old children at RA Amal Bhakti. Children's average scores increased from 4 in the pretest to 8.5 in the posttest, and this increase was confirmed as statistically significant, $t(5) = -7.842$, $p = 0.001 < .05$. This result indicates that SPIDI contributed meaningfully to children's ability to recognize and communicate information about themselves, and that the improvement is unlikely to be attributable to chance alone.

George Herbert Mead's theory of symbolic interactionism explains that self-concept or identity is not innate but is formed through a process of interaction and communication with others (Putri, 2012). According to Mead, children begin to recognize themselves through the use of language and symbols provided by their surroundings, learning to label themselves-such as by saying their names, recognizing their gender, and understanding their roles-through interactions with those closest to them, including parents and teachers as significant "particular others." This aligns closely with the concept of the SPIDI game, which helps children recognize and label themselves: through play, children are encouraged to identify aspects of their identity, such as their name, age, gender, preferences, and

personal characteristics, so that SPIDI serves not only as a medium for play but also as a learning tool that helps children understand their identity through direct interaction and experience.

these findings also align with Erik Erikson's theory of psychosocial development, which situates young children in the "initiative versus guilt" stage, in which children begin to understand themselves through social experiences, interactions with their environment, and opportunities to try new activities (Orenstein & Kaur, 2026). Children who receive support and positive learning experiences find it easier to build self-confidence and better understand their own identity, whereas children who lack stimulation tend to feel hesitant and lack confidence in expressing themselves (McLeod, 2025a). Findings from the pretest phase also showed that some children were not yet able to state a simple address, instead using situational markers such as "near the shop" or "next to the mosque," indicating that young children's understanding is still concrete and directly tied to everyday experience. This is consistent with Jean Piaget's theory of cognitive development, which explains that young children are in the preoperational stage, in which they understand concepts through concrete objects, simple symbols, and direct experiences closely related to their daily lives (McLeod, 2026).

Comparison with Prior Literature

These findings are consistent with the theory of learning through play in early childhood, which holds that play is the primary medium of learning for children and that social interaction during play helps children build a sense of self and the ability to communicate with their surroundings (Brusdal & Frones, 2014). The improvement observed here is also consistent with previous research showing that game-based and interactive learning media can enhance participation and communication skills in early childhood, as children learn actively through direct experience (Juannita & Mahyuddin, 2022), reinforcing that interactive learning tools such as SPIDI can support the social-emotional development of young children in ways comparable to digital multimedia interventions, while relying on simpler, low-technology materials.

However, this study also found that individual children's development varied: some children remained shy about speaking or were unable to answer questions accurately. This variation suggests that the development of a child's self-identity is influenced by multiple factors, including the family environment, stimulation from teachers and parents, language skills, and each child's individual characteristics (Hurlock, 1956), reinforcing the need for repeated and consistent stimulation to support the development of self-identity in young children.

Theoretical and Practical Implications

Theoretically, these findings support Erikson's theory of psychosocial development, Piaget's theory of cognitive development, and Mead's theory of symbolic interactionism, which together explain that a child's self-identity develops through social interaction, direct experience, and the use of meaningful symbols in daily life. Practically, the use of SPIDI media can serve as an engaging alternative learning tool for early childhood education teachers introducing self-identity concepts to young children: it helps children recognize themselves while also improving their confidence in speaking, communication skills, and social interaction with peers and teachers. Through fun, play-based learning, children can more easily grasp educational concepts and build a positive sense of self directly through practice, rather than through memorization of abstract material (Helista, 2023). Play-based learning is therefore an effective strategy for supporting the social-emotional development of young children, and the SPIDI game, in particular, can serve as a tool that inspires children to get to know themselves through name, age, gender, address, and preference identification in an active, engaging, and enjoyable way.

Limitations and Future Directions

This study has several limitations. It was conducted with a limited number of subjects (six children) and used a pre-experimental one-group design without a control group; consequently, the findings cannot yet be widely generalized. In addition, although the assessment instrument comprises four distinct indicators (full name, gender, favorite activities, and simple address) that were each validated individually (Table 1), the results in this study are reported only as an aggregate pretest-posttest score. Future research is therefore recommended to (a) involve a larger sample size, (b) employ a stronger experimental design for example, a design incorporating a control group, (c) report per-indicator gains in addition to the aggregate score, to provide a more granular picture of which specific aspects of self-identity improved most, and (d) develop the SPIDI medium with a wider variety of materials.

Conclusion

Based on the results of this study, the use of the SPIDI (Spinner Diri) learning medium had a statistically significant, positive effect on self-identity development among 4-5 year old children in Group A at RA Amal Bhakti, $t(5) = -7.842$, $p = 0.001 < .05$. Children's ability to state their full name, gender, favorite activities, and simple address improved from pretest to posttest, alongside increased self-confidence, courage to speak, and communication skills. Children's ability to state their full name, gender, favorite activities, and simple address improved from pretest to posttest, alongside increased self-confidence, courage to

speak, and communication skills. Theoretically, these findings support Erikson's theory of psychosocial development, Piaget's theory of cognitive development, and Mead's theory of symbolic interactionism, which together explain that a child's self-identity develops through social interaction, direct experience, and meaningful symbolic activity. The novelty of this study lies in its use of the SPIDI medium as a concrete, game-based learning tool specifically designed to help children recognize their self-identity through interactive, enjoyable activities tailored to the developmental needs of early childhood.

Early childhood education teachers are encouraged to adopt SPIDI, or similarly designed play-based interactive media, as an alternative tool for stimulating children's self-identity recognition. Parents are encouraged to provide ongoing, consistent stimulation at home through everyday conversation about the child's name, age, family, and preferences, so that children's self-identity can continue to develop optimally. Future researchers are encouraged to test SPIDI with a larger sample and a stronger experimental design (e.g., a design incorporating a control group), and to report both aggregate and per-indicator outcomes to better identify which specific aspects of self-identity benefit most from the intervention.

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Declaration on the Use of Artificial Intelligence

The authors declare that artificial intelligence (AI) tools, including ChatGPT, Claude, and Perplexity, were used solely to assist with language editing, grammar improvement, literature exploration, and manuscript preparation. Google Scholar was used to search for and access relevant scholarly literature. All research ideas, study design, data collection, data analysis, interpretation of findings, and conclusions were developed and conducted independently by the authors. The authors take full responsibility for the accuracy, integrity, originality, and content of this manuscript.

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