



Narrative Pedagogy and Cognitive Development: Storytelling for Problem-Solving Skills in Early Childhood through Islamic Literature

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Abstract

Problem-solving is a foundational cognitive competency in early childhood development, yet many preschool-aged children exhibit limited capacity to manage interpersonal conflicts and task-related challenges independently. This study aimed to examine the development of problem-solving competencies in early childhood through storytelling-based learning at KB Nurul Athfal, Bekasi, Indonesia. A qualitative descriptive research design was employed, with purposive sampling yielding 20 children aged 3–4 years and 3 classroom teachers as participants. Data were collected through structured observations across six intervention sessions, semi-structured interviews with all three teachers, and documentary evidence. Data analysis followed the interactive model of Miles, Huberman, and Saldaña (2014), comprising data condensation, display, and conclusion drawing. Findings revealed meaningful improvements across four behavioral indicators of problem-solving: independent task-attempt behavior increased from 2 to 15 out of 20 children; turn-taking without adult prompting improved from 4 to 16 children; peer cooperation in group tasks increased substantially; and children demonstrated greater capacity to manage physical and academic setbacks. These results suggest that structured storytelling, particularly fable-based narratives emphasizing prosocial values, effectively scaffolds problem-solving and socioemotional development in early childhood. The findings contribute to the growing literature on narrative-based pedagogy in Indonesian early childhood education contexts.

INTRODUCTION

Play-based learning is widely recognized as a foundational approach in early childhood education, serving as the primary medium through which children develop cognitive, emotional, and social competencies (Hirsh-Pasek et al., 2021; Pyle et al., 2017). Despite its documented benefits, a significant proportion of preschool-aged children continue to experience difficulties in problem-solving and emotional regulation — skills that are essential for school readiness and lifelong learning

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(McClelland et al., 2017; D. N. Putri et al., 2025).

Among the cognitive competencies targeted in early childhood education, problem-solving has received growing attention as a key predictor of academic achievement and adaptive functioning (Clements & Sarama, 2009). Problem-solving in young children encompasses the ability to recognize a challenge, generate strategies, and evaluate outcomes — processes closely linked to executive function and emotional self-regulation (Blair & Raver, 2015; V. M. Putri, 2016). However, the development of these skills is not uniform; environmental and pedagogical factors play a critical role in shaping children's problem-solving capacities during the preschool years.

Storytelling has been identified as a promising instructional strategy for fostering cognitive and socioemotional development (Yanti et al., 2025) in early childhood settings. Through narrative engagement, children are exposed to problem scenarios, consequence-effect relationships, and character-based decision-making that mirror real-life challenges (Wasik & Bond, 2001). Shared reading and storytelling sessions create dialogic spaces in which educators scaffold children's reasoning, encouraging them to connect narrative events to personal experiences (Embarek-Hernández et al., 2022).

Nevertheless, empirical studies specifically examining the effect of storytelling methods on problem-solving ability among children in Indonesian kindergarten settings remain limited (V. M. Putri, 2023). Preliminary observations conducted at KB Nurul Athfal revealed that a number of children exhibited challenges in resolving interpersonal conflicts and managing frustration — behaviors associated with underdeveloped problem-solving skills. These findings highlight the need for evidence-based interventions tailored to this context.

Therefore, this study aims to examine the effect of storytelling-based learning on the development of problem-solving abilities in early childhood at KB Nurul Athfal. The findings are expected to contribute to the growing body of literature on play-based and narrative-centered pedagogies in early childhood education, particularly within the Indonesian context.

METHODS

This study employed a qualitative descriptive research design, which is appropriate for exploring and describing phenomena in their natural context without manipulation of variables (Creswell, 2014). This design was selected because the primary aim of the study is to describe and interpret the process of problem-solving development in early childhood through storytelling-based learning as it occurs in a real classroom setting. The study was conducted at KB Nurul Athfal, located in Kampung Cilampayan, Desa Pasirtanjung, Kecamatan Cikarang Pusat, Kabupaten Bekasi, Indonesia, during the period of January to March 2026. Participants were selected using purposive sampling (Patton, 2015), consisting of 20 children aged 3–4 years (11 boys, 9 girls) and 3 classroom teachers with a minimum of two years of teaching experience at the early childhood level. Inclusion criteria for children required active enrollment in the program and observable difficulties in problem-solving and emotional self-regulation as identified during preliminary observations. All three teachers participated in semi-structured interviews as key informants regarding children's behavioral development throughout the intervention.

Data were collected through three complementary methods. First, structured observations were conducted during storytelling sessions across six intervention meetings (three sessions per phase) to document children's behavioral responses and problem-solving strategies, using a pre-developed observation checklist. Second, semi-structured interviews were conducted with all three classroom teachers to gather in-depth perspectives on children's development and the implementation of storytelling methods (Kvale & Brinkmann, 2015). Interview sessions were audio-recorded with participants' consent. Third, documentary evidence — including photographs and field notes — was collected to provide contextual data supporting the observational and interview findings (Bowen, 2009). Data were analyzed using the interactive model proposed by Miles, Huberman, and Saldaña (2014), comprising three concurrent phases: (1) data condensation, in which raw data from observations of the 20 child participants and interviews with the 3 teachers were systematically reduced; (2) data display, in which condensed data were organized into narrative text to facilitate pattern identification; and (3) conclusion drawing and verification, in which interpretations were cross-checked against original data sources.

To establish the credibility of the findings, this study employed methodological triangulation by cross-referencing data from observations, interviews with all three teachers, and documentation (Denzin, 2017). Member checking was conducted by returning preliminary findings to the three participating teachers for verification. Thick description was used to support transferability (Lincoln & Guba, 1985). Prior to data collection, informed consent was obtained from the school principal and all three classroom teachers. As participants included young children, parental consent was secured for all 20 child participants. All identifying information was anonymized in the final report.

RESULT AND DISCUSSION

Results.

A total of 20 children (aged 3–4 years; 11 boys, 9 girls) and 3 classroom teachers participated in this study. Based on preliminary observations prior to the intervention, all 20 children exhibited varying degrees of difficulty in problem-solving. Documented baseline behaviors included emotional outbursts when unable to complete tasks, frequent conflicts over toys during free play, inability to take turns without adult intervention, and full dependency on teacher assistance when encountering academic or social challenges. These observations, corroborated by all three teachers during initial interviews, confirmed the need for a structured storytelling-based intervention. The first phase utilized animal fable narratives centered on the themes of friendship and cooperation. Three storytelling sessions were conducted over three consecutive weeks. Prior to Phase 1, observational checklists recorded that 17 out of 20 children (85%) consistently refused to engage in collaborative play and exhibited egocentric behavior in group settings.

Following the three sessions, behavioral observations documented a notable shift: the majority of children began initiating verbal interaction with peers

and showed willingness to engage in small-group activities. All three teachers independently reported consistent observations of this change during post-session interviews.

"Sebelumnya anak-anak susah sekali untuk mau bermain bersama, tapi setelah mendengar cerita tentang binatang yang bersahabat, mereka mulai mau duduk bareng dan ngobrol dengan teman yang tadinya tidak mau mereka ajak main."

— Teacher 1, Interview Session, February 2026

The second phase introduced narratives emphasizing mutual respect, active listening, and tolerance of differing perspectives. Three additional storytelling sessions were conducted. Observational checklists from Sessions 4–6 indicated a progressive reduction in turn-taking conflicts: by Session 6, 16 out of 20 children (80%) were observed waiting for their turn during play without adult prompting, compared to only 4 children (20%) at the start of Phase 2.

"Yang paling kelihatan perubahannya itu waktu main berkelompok. Mereka sudah mau mengalah kalau temannya mau duluan, tidak langsung marah seperti sebelumnya."

— Teacher 2, Interview Session, March 2026

Cumulative observational and interview data from both phases documented four key behavioral indicators of emerging problem-solving competence across the 20 participants, summarized in Table 1.

Table 1. Behavioral indicators of problem-solving development before and after the storytelling intervention (N = 20).

Behavioral Indicator	Before Intervention	After Intervention	Evidence Source
Response to task difficulty	Immediate crying or task abandonment (18/20 children)	Attempted independently before seeking help (15/20 children)	Observation; Teacher 1, 2, 3
Turn-taking during play	Frequent conflicts; adult intervention required (17/20)	Waited without prompting (16/20)	Observation checklist
Response to physical setbacks	Immediate crying; sought adult help only	Sought own solution or asked peer for help (14/20)	Observation; Teacher 3
Peer cooperation in group tasks	Refused to share or collaborate (17/20)	Initiated interaction and shared materials (16/20)	Observation; Teacher 2, 3

Discussion

Storytelling as a Scaffold for Problem-Solving Development

The findings of this study demonstrate that storytelling-based learning contributed meaningfully to the development of problem-solving competencies among the 20 participating children at KB Nurul Athfal. These results are consistent with Vygotsky's (1978) sociocultural theory, which posits that higher-order cognitive functions — including problem-solving — emerge through socially mediated experience. In this study, storytelling functioned as a mediation tool through which children vicariously encountered and processed problem scenarios prior to facing analogous situations in real life (Mar & Oatley, 2008).

The behavioral improvements documented across both intervention phases — particularly the increase in independent task-attempt behavior (from 2/20 to 15/20 children) and turn-taking without adult prompting (from 4/20 to 16/20 children) — align with prior research showing that shared narrative experiences enhance children's perspective-taking and emotional regulation, both of which are foundational components of problem-solving competence (Tompkins et al., 2013; Zevenbergen & Whitehurst, 2003).

Role of Fable Narratives in Reducing Egocentric Behavior

The use of animal fable narratives in Phase 1 proved particularly effective in facilitating children's openness to peer interaction. This finding corroborates evidence from Nicolopoulou et al. (2015), who found that animal characters in children's stories are especially effective in conveying social and moral reasoning in developmentally appropriate ways (Nicolopoulou et al., 2015). The anthropomorphized characters in fable stories appear to allow young children to process social dilemmas with sufficient emotional distance, thereby reducing defensiveness and increasing receptivity to prosocial values (Egan, 1989). Data from interviews with all three teachers highlighted the critical role of the educator as a co-facilitator of problem-solving development. Teacher prompts and post-story discussions created dialogic spaces in which children were encouraged to connect narrative events to personal experiences, a practice consistent with the dialogic reading approach described by Wasik and Bond (2001). The variation in outcomes reported by the three teachers — particularly Teacher 3's observation that five children still required adult prompting after Phase 1 — suggests that individual differences in children's responsiveness to narrative-based interventions warrant further investigation (Wasik & Bond, 2001).

Several limitations should be acknowledged. First, the single-site design with 20 participants limits the generalizability of the findings to broader populations. Second, the absence of a control group means that observed behavioral changes cannot be exclusively attributed to the storytelling intervention; maturation effects and other contextual factors cannot be ruled out. Third, the

reliance on observational checklists and teacher interviews — while appropriate for qualitative inquiry — introduces the possibility of observer bias. Future studies should employ a quasi-experimental design with pre- and post-test measures and a matched control group to strengthen causal inference. Longitudinal follow-up with the same cohort of children is also recommended to assess the durability of behavioral changes over time. Additionally, expanding the sample across multiple early childhood settings in Indonesia would enhance the transferability of findings.

CONCLUSION

This study demonstrated that storytelling-based learning effectively supported problem-solving development among 20 children aged 3–4 years at KB Nurul Athfal. Across six intervention sessions, meaningful behavioral improvements were documented in four key indicators: independent task-attempt behavior, turn-taking during play, response to physical setbacks, and peer cooperation — with positive changes observed in 14 to 16 out of 20 participants per indicator.

These findings provide empirical support for the use of narrative-based pedagogy as a scaffold for early childhood cognitive and socioemotional development, particularly in the Indonesian context. Educators are encouraged to integrate structured storytelling sessions into the early childhood curriculum as a consistent strategy for fostering children's problem-solving competencies. Future research should employ quasi-experimental designs with larger samples and longitudinal follow-up to further validate these findings.

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