THE POWER OF CURIOSITY: EXPLORING THE INTEGRATION OF SCIENCE AND EMPAHTY IN EARLY CHILDHOOD THROUGH MELA'S STORY IN "TARI SI BUNGA MATAHARI" BY YERSITA

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Abstract. Integrating scientific concepts with social-emotional learning is crucial in early childhood. This study aims to analyze the pedagogical value of a fable about the friendship between Mela (Jasmine) and Tari (sunflower), especially examining how Mela's initial curiosity drives integrated learning. The research employed a qualitative content analysis method to dissect the narrative, focusing on Mela's emotional transition, her investigate process and the resulting social outcome. The analysis reveals that Mela's sustained curiosity effectively models the process of scientific inquiry (observation and discovery of heliotropism). Crucially, this inquiry leads to informed emphaty and patience, demonstrating strengthens social harmony. In conclusion, this fable provides an excellent resource for educators to cultivate a scientific attitude and deepen emotional intelligence in young learners by revealings how curiosity can bridge complex scientific concepts with harmonious interpersonal relationship.

Keywords: Curiosity, Early Childhood, Emphaty and Science

INTRODUCTION

Curiosity is recognised as a primary driver of lifelong learning. It is not merely an innate trait but a cognitive skill that actively motivates children to explore, ask questions, and bridge the information gaps they encounter. In the context of early childhood education, triggering curiosity and wonder is considered a crucial factor in fostering learning motivation, especially in natural science education (Bjerknes dkk., 2024). This mechanism lies at the core of the scientific inquiry process, where children learn to understand the world through observation, simple experimentation, and reflection on their direct experiences.

In line with this, early childhood education (ECE) is no longer viewed merely as a transitional stage toward formal schooling but as a holistic foundation that plays a strategic role in shaping 21st-century competencies. In today's global era—marked by complexity and rapid change—children need not only scientific literacy as a body of knowledge but also socio-emotional skills such as empathy, which are integral to character formation. For young children, science is perceived as something fascinating and engaging, encouraging them to explore, ask questions, and investigate the phenomena around them (Risnawati, 2020).

Thus, science education in ECE does not merely transmit factual knowledge but also nurtures natural curiosity and develops scientific process skills as a foundation for understanding the environment (Izzuddin, 2019). The integration of curiosity, scientific literacy, and empathy creates an educational harmony in early childhood learning, fostering a generation that is critical, caring, and well-prepared to face future challenges. Therefore, integrating scientific literacy with empathy development forms an educational harmony that not only provides a solid foundation for holistic child development but also enriches learning experiences in a more meaningful way. This approach not only strengthens the cognitive dimension but also hones social sensitivity and nurtures environmental awareness (Vadilla & Hidayanti, 2024).

This need aligns with the integrated curriculum paradigm, which emphasises combining scientific understanding with socio-emotional interaction in early childhood learning. Within this framework, science does not stand alone as a body of knowledge but rather serves as a medium for developing children's social and emotional awareness in an integrated manner. One effective strategy to realise this integration is to use narrative to transmit values and knowledge. Narrative plays a crucial role

in bridging cognitive facts with children's affective experiences, making the learning process more contextual, reflective, and meaningful. The use of storybooks or interactive media is a strategic way to implement narrative in early childhood learning. Through stories presented in various engaging formats such as illustrations, interactive visuals, or participatory activities children can more easily grasp the values conveyed and connect them with their everyday experiences (Kurdi, 2024). Consequently, the learning process becomes not only informative but also transformative, shaping a harmony among the cognitive, socio-emotional, and moral aspects of the child.

In the context of early childhood education, illustrated storybooks play an essential role as early literacy media, conveying moral messages and integrating multiple dimensions of learning. One relevant and contextual example is the illustrated children's storybook "Tari Si Bunga Matahari" by (Yersita, 2023). This book explores themes of nature and movement, aligning with efforts to enhance scientific literacy at the ECE level. The story centres on the friendship between Mela (a jasmine flower) and Tari (a sunflower). It presents a simple conflict arising from biological differences, when Mela feels neglected because Tari always faces the sun. This situation evokes feelings of worry and sadness in Mela. However, instead of being trapped in negative emotions, Mela chooses to observe out of curiosity. Through this storyline, the fable effectively transforms an abstract problem into a tangible experience that children can observe, making it a potential case study for integrating science and empathy in ECE learning.

Previous studies have shown that using children's storybooks as learning media can instil character values. For example, a study on the book "Dongeng Bermagi Jadikan Anak Berbakti" at TK Kusuma Bangsa Keben Turi Lamongan revealed that the consistent use of integrated storybooks in daily learning schedules increased children's engagement and understanding of Pancasila values (Siti Fatimah, 2024). Unlike that study, which focused on character development grounded in Pancasila values, the present study aims to integrate scientific literacy and empathy through children's storybooks.

RESEARCH METHOD

This research uses a descriptive qualitative approach aimed at examining the integration of science literacy and empathy through the medium of illustrated children's storybooks within the context of early childhood education (ECE). This approach was chosen as it is deemed capable of providing a comprehensive understanding of the processes, situations, and meanings of learning that emerge from children's interactions with narrative and visual media.

The content analysis method is employed to uncover both explicit and implicit messages in the internalization of character values in the storybook "Tari si Bunga Matahari." The primary focus of the analysis is directed toward the illustrated storybook "Tari Si Bunga Matahari" by Yersita (2023) as the main object of study, as it is considered to have significant potential in blending elements of science literacy and strengthening children's empathy.

The analysis procedure is carried out through three main stages:

1. Data Reduction This is the process of selection, reorganization, and categorization of information relevant to the topics of science literacy, empathy, and early childhood learning.
2. Data Presentation: This involves organizing the results of the analysis into thematic narratives that illustrate the relationship between curiosity, socio-emotional values, and scientific concepts within the storyline.
3. Conclusion Drawing and Verification: This is the process of interpreting the conceptual meanings and implications of the analysis results for narrative-based scientific learning practices in ECE.

Furthermore, this analysis aims to demonstrate that narratives in children's storybooks can serve as a bridge between scientific understanding and emotional experiences, resulting in a holistic, contextual, and meaningful learning process.

RESULT AND ANALYSIS

1. Curiosity as the Foundation of Scientific Inquiry in Early Childhood

Findings indicate that curiosity is the primary driver of children's exploration and scientific inquiry. When children encounter phenomena that spark wonder, they tend to observe, ask questions, and seek explanations. This aligns with (Bjerknes dkk., 2024), who emphasised triggering curiosity and wonder as the core of early scientific learning. In "Tari Si Bunga Matahari", the character Mela (a jasmine flower) embodies curiosity by investigating why Tari (a sunflower) constantly faces the sunlight. Through this narrative, children are introduced to the concept of heliotropism—a plant's movement toward light—allowing them to connect storytelling with real-world scientific phenomena in an age-appropriate manner.

2. Empathy as an Affective Dimension in Science Learning

Beyond cognition, the story also embeds strong emotional and social lessons. When Mela feels ignored and sad, children learn to recognise and relate to others' emotions. This emotional engagement stimulates affective reflection, enabling science learning that also nurtures empathy and compassion.

These findings support (Vadilla & Hidayanti, 2024), who highlighted that integrating empathy into science literacy fosters educational harmony in early childhood. In this way, science becomes not only a logical discipline but also a vehicle for building environmental awareness and moral sensitivity.

3. Narrative as a Bridge between Cognitive and Affective Learning

The analysis reveals that narrative storytelling effectively connects children's cognitive understanding with emotional experiences. Through storylines, illustrations, and simple conflicts, learners can contextualise abstract concepts and internalise values meaningfully. This reflects the integrated curriculum paradigm, which views learning domains as interconnected rather than isolated. Furthermore, picture books enhance children's engagement and participation, consistent with (Siti Fatimah, 2024) findings, which showed that storytelling-based learning improves moral comprehension and classroom involvement. In this context, "Tari Si Bunga Matahari" serves as a medium that transmits both scientific ideas and social-emotional lessons.

Implications for Early Childhood Learning

4. The integration of science literacy and empathy through narrative media offers innovative pedagogical strategies for early childhood educators.

This approach aligns with the principle of learning through play, enabling children to explore scientific ideas while expressing emotions and values. Teachers can extend storytelling sessions into discussions, simple experiments, or art activities that reinforce both scientific concepts and empathy.

CONCLUSION

Based on the findings, illustrated children's storybooks play a significant role as integrative learning media, connecting science literacy with the development of empathy in early childhood. Through a combination of engaging narratives and appealing illustrations, children not only learn to understand natural phenomena but also develop emotional understanding, appreciate differences, and enhance their social interaction skills.

The integration of science literacy and empathy at the early childhood level has been shown to support transformative learning, in which cognitive, socio-emotional, and moral domains develop harmoniously. This aligns with the spirit of 21st-century education, which emphasises curiosity, critical thinking, and social awareness as the foundation for lifelong learning.

Therefore, the use of narrative media such as "Tari Si Bunga Matahari" serves not only as a teaching aid but also as an instrument for character building and the strengthening of scientific literacy in

early childhood education in an integrated manner. Hence, early childhood educators are encouraged to optimise the use of illustrated storybooks as a pedagogical approach that fosters curiosity, empathy, and environmental awareness from an early age.

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