



The Child's Philosophy: Preparing for an Ever-Changing World

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Abstract

The aim of this study was to explore how children's natural curiosity, viewed as a philosophical engagement, can be harnessed to prepare them for the challenges of an ever-changing world. The research analysed classical philosophical traditions and contemporary educational theories to investigate the intersection of curiosity, metacognition, and philosophical reasoning in early childhood. By conducting a systematic review of key texts and applying a thematic analysis, the study identified curiosity as a foundational element of children's engagement with ethical, existential, and epistemological questions. The findings revealed that structured educational interventions significantly enhance children's metacognitive skills, such as planning, monitoring, and evaluation, which in turn support their ability to engage with complex philosophical concepts. Quantitative data demonstrated that children participating in metacognitive training programs achieved higher scores in cognitive awareness and critical thinking compared to control groups. The study also highlighted the transformative potential of cultural narratives and digital tools in fostering inclusivity and engagement in philosophical education, showing how diverse contexts can enrich children's understanding of abstract ideas. These results underscore the need to integrate philosophical inquiry and reflective practices into early education to develop children's intellectual and moral capacities. The practical implications include the design of curricula that encourage open-ended questioning, dialogue, and the use of technology to enhance accessibility.

Keyword Youthful curiosity · Metacognition · Critical thinking · Cognitive development · Digital pedagogy

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Introduction

In the rapidly changing and unpredictable landscape of the twenty-first century, equipping young people with the skills necessary to navigate complex global challenges has become an urgent global imperative. Major challenges such as climate change, biodiversity loss, social inequality, political instability, and technological disruption demand that children be prepared to think critically, adapt to new circumstances, and address ethical dilemmas. To respond to these educational challenges, the present study conducts a systematic review of both seminal and contemporary literature on philosophy for children and metacognition, aiming to synthesise theoretical insights and pedagogical practices within this domain. Philosophy for children offers a transformative educational foundation that fosters not only intellectual abilities but also empathy, ethical awareness, and resilience in the face of uncertainty. By engaging children in philosophical inquiry, educators can help children confront profound questions about existence, justice, identity, and community, key issues that will shape their lives in the future.

A significant issue reported in several educational contexts, particularly in regions where high-stakes examinations guide curriculum design, is the prevalence of rote learning and standardised assessments, which may limit opportunities for exploratory dialogue and reflective thinking. However, it is important to note that other early childhood education settings worldwide prioritise play-based, inquiry-led, and child-centred approaches, reflecting a broader diversity of pedagogical philosophies. Matthews (2021) and Lipman (1976), pioneers in the philosophy of childhood, have long emphasized recognizing children as natural philosophers. Matthews observed that children's incessant questioning reflects a deep engagement with philosophical issues such as justice, purpose, and identity. Lipman's Philosophy for Children (P4C) curriculum demonstrated that engaging young students in structured philosophical dialogue improves their reasoning skills, self-confidence, and ability to navigate ethical dilemmas.

Although these observations provide a solid basis for the profession, this study makes a unique contribution by including metacognition into children's philosophical education. Based on the systematic review, this study examines how metacognitive techniques, such as planning, monitoring, and evaluating, enhance children's philosophical reasoning and moral engagement, in contrast to previous research that has primarily concentrated on cognitive gains. This research goes beyond current frameworks by methodically encouraging reflective thinking, offering educators a paradigm for enhancing students' intellectual prowess as well as their ability to reflect on themselves and think adaptively when faced with challenging situations.

Modern research confirms these findings. Işıklar and Öztürk (2022) investigated the impact of the P4C curriculum on 5–6 years olds and found that philosophical studies significantly improved their critical thinking and problem-solving skills. Study highlights philosophy's transformative potential for fostering higher-level cognitive abilities in young children. Similarly, research by Ab Wahab et al. (2022) found that P4C not only promotes critical and creative thinking, but also helps create a safe and democratic learning environment for philosophical discussions, enabling children to express their ideas confidently and sensitively.

Despite these promising ideas, the integration of philosophy into basic education faces significant obstacles. These include a lack of properly trained teachers, society's underestimation of children's intellectual potential, and limited awareness of the benefits of philosophical education. As A. Alam and Mohanty (2023) highlight, prevailing cultural and educational norms often emphasise ability grouping and standardised testing, which can inadvertently suppress the development of critical and philosophical thinking in young students.

Furthermore, the ethical aspects of involving children in philosophical research require careful consideration. Bodén's (2021) study challenges the notion that philosophical activities conducted "with" or "by" children are inherently more ethical than those conducted "on" or "for" them. Instead, the study argues for a nuanced understanding of ethics in childhood research, emphasising the importance of balancing structure and agency in educational contexts.

The theoretical foundations of this field draw on diverse cultural and philosophical traditions. Confucian principles emphasise family harmony and the moral development of children, advocating for an education that fosters respect, duty, and compassion. These values remain relevant in modern pedagogical approaches and are frequently referenced in discussions of value-based education in contemporary curricula. Similarly, Smita's (2023) vision of child-centered education emphasises the integration of intellectual, emotional, and spiritual growth, offering a holistic model for preparing children to thrive in a globalised society.

Gaps in current research are notable. While significant evidence supports the cognitive benefits of P4C, less attention has been paid to its impact on emotional and social development. Furthermore, the role of technological advances, such as virtual reality, in shaping philosophical engagement among children remains understudied. Kaimara et al. (2022) highlight both the opportunities and ethical challenges associated with immersive technologies, suggesting that these tools, if used responsibly, can enhance philosophical inquiry and experiential learning.

Accordingly, this systematic review aims to analyse existing pedagogical practices, identify gaps in the implementation of philosophical education, and develop a conceptual framework for integrating metacognition with philosophical inquiry in early childhood and primary education. The study focuses on how cultural and technological contexts can enhance relevance, accessibility, and engagement in philosophical education for young learners.

Materials and Methods

The study was conducted in 2024 and focused on exploring the philosophical potential inherent in children's natural curiosity and its application to prepare them for an ever-changing world.

Relevant literature was identified through systematic searches of academic databases such as JSTOR, Springer, and Google Scholar, using combinations of keywords such as "philosophy of childhood", "philosophical research for children", "moral reasoning in education", and "epistemology of childhood". Sources considered for inclusion were peer-reviewed journal articles, academic books, and seminal

philosophical texts published between 1970 and 2024, with a clear focus on the philosophical capacities of children, P4C, or the integration of moral reasoning within educational practices. Works offering theoretical arguments, conceptual frameworks, or critical analyses relevant to children's cognitive and ethical development were prioritised, while non-academic sources, publications lacking a philosophical dimension, and materials not available in English were excluded.

A total of 40 sources met the inclusion requirements and were selected for in-depth analysis. The rationale for their selection rested on their direct relevance to the research aims and their contributions to philosophical debates concerning childhood and education. Foundational works by Matthews (2021) and Lipman (1976) were included for their seminal influence on the philosophy of childhood, while contemporary studies were reviewed to provide updated perspectives and insights into how these philosophical concepts are being applied in modern educational contexts. This ensured a balanced consideration of both classic theoretical foundations and current scholarly discourse.

The theoretical analysis was structured around three main tasks. First, the study sought to identify philosophical traditions that support the concept of children as natural philosophers. Texts on the themes of wonder, curiosity, and existential inquiry were reviewed to highlight how these qualities align with traditional philosophical inquiry. Second, the study aimed to assess the relevance and adaptability of these traditions to the contemporary context, particularly in light of advances in education and technology. Third, it explored the ethical and cultural aspects of fostering children's philosophical engagement, examining the balance between encouraging inquiry and respecting the developmental stages of childhood.

The methodological framework involved a systematic review and thematic analysis of the selected literature. The review process was guided by the PRISMA methodology, which provided a structured and transparent approach to identifying, screening and analysing relevant texts. The materials were critically appraised to highlight recurring themes, theoretical arguments and practical implications relevant to the research objectives.

Ethical considerations were central to the analysis, particularly when considering how philosophical education intersects with children's autonomy and moral development. The study critically examined the arguments for and against exposing children to complex ethical dilemmas, drawing on a range of philosophical perspectives to build a balanced view.

Results and Discussion

Philosophical Foundations and Metacognitive Approaches to Childhood Curiosity and Engagement

Through the systematic review of texts by Matthews (2021), Lipman (1976), and additional contemporary analyses, it became evident that curiosity is not merely a psychological impulse but a deeply philosophical engagement with existential and

epistemological questions. Children naturally exhibit this engagement through their enquiries about fairness, identity, existence, and the unknown.

Recent scholarship positions curiosity not simply as a psychological impulse but as a metacognitive process, grounded in the recognition of knowledge gaps and the evaluation of whether exploration may yield meaningful understanding (Heggen & Lynngård, 2021). Children often express this through seemingly simple yet conceptually profound questions—"Why is the sky blue?", "What makes something right or wrong?", "How big is the universe?"—that reflect attempts to grapple with causality, morality, and existential meaning. These enquiries echo the hallmarks of philosophical thought by signalling early forms of epistemological and ethical reasoning. Matthews (2021) emphasises that dismissing such questioning as naïve overlooks its philosophical depth and potential to develop higher-order cognitive skills through structured engagement.

Lipman's (1976) seminal work on P4C frames these questioning behaviours as the foundation for structured philosophical inquiry. His framework proposes that children are capable of participating in communities of inquiry where dialogue fosters conceptual clarity, critical thinking, and reasoning. The approach supports the idea that philosophical engagement is not a specialised adult pursuit but a cognitive activity in which children can participate meaningfully when provided with dialogue tools and guided reflection. Matthews (2021) extends this argument, demonstrating how philosophical dialogue can cultivate metacognitive awareness, as children not only generate questions but also reflect on the reasoning that underpins their claims and explore possible justifications.

Contemporary empirical research reinforces this philosophical perspective by showing that curiosity plays a measurable role in cognitive development. Psychological studies have conceptualised curiosity as a metacognitive feeling, an internal signal that arises when individuals recognise a gap in their understanding and anticipate that inquiry may close that gap (Kidd & Hayden, 2015). Observational studies further reveal that young children exhibit planning, monitoring, and reflective evaluation during free exploration, demonstrating early forms of metacognitive regulation that mirror processes seen in structured philosophical dialogue (Fridman et al. 2020). These findings challenge earlier developmental theories that underestimated children's reasoning capacities and support Matthews' claim that philosophical sensitivity emerges earlier than traditional developmental models suggest.

Furthermore, large-scale studies demonstrate that curiosity correlates positively with academic achievement, particularly in reading and mathematics, and may have a compensatory effect for children from lower socioeconomic backgrounds (Ji, 2025). Such evidence illustrates the value of creating educational settings that nurture and structure children's enquiries rather than suppress them. Philosophy for Children and similar approaches operationalise this by embedding dialogical practices, collaborative reasoning, and ethical reflection into daily learning routines. In these settings, children learn to articulate their assumptions, evaluate competing explanations, and reflect on the quality of their reasoning, core components of metacognitive engagement (Lipman, 1976; Matthews, 2021). These perspectives present a strong case for viewing children as capable of genuine philosophical engagement when supported by appropriate pedagogical frameworks. Their natural curiosity is best understood as

an emergent form of metacognitive awareness, one that signals a readiness to move from wonder toward guided exploration and reflective thinking. Rather than offering superficial claims about children as “natural philosophers”, this approach situates the concept within current philosophical analyses, cognitive research, and applied pedagogies, demonstrating how philosophical sensitivity can be cultivated and extended in early education.

In the domain of ethics, children’s questions such as “Why do people fight?” or “Why is stealing bad?” point to an early awareness of moral dilemmas and the nature of human relationships. These inquiries mirror discussions in classical ethical philosophy, akin to those of Aristotle in his exploration of human behavior and the pursuit of the good life (*Nicomachean Ethics*) (Kim, 2024a). Children naturally attempt to make sense of moral complexities in their social interactions. Goupil and Proust (2023) identify metacognitive processes in children as crucial for understanding their own limitations and evaluating the moral implications of their thoughts and actions.

The alignment between childhood curiosity and philosophical traditions underscores the argument that children’s natural curiosity forms the basis for critical thinking and moral reasoning. By engaging with their innate curiosity, children begin to construct a framework for evaluating evidence, analysing ethical dilemmas, and navigating social complexities. This capacity, as noted by Hedges (2022), is vital for cultivating empathy and citizenship in a globalised and interconnected world. Metacognition—the ability to evaluate one’s own cognitive processes—plays a pivotal role in fostering this philosophical curiosity. As a higher-order thinking skill, metacognition enables children to reflect on their thoughts, identify gaps in understanding, and devise strategies for acquiring new knowledge (Silver et al., 2023). This theoretical framework positions curiosity as a form of metacognitive competence (Abdelghani et al., 2023), highlighting its emergence from the recognition of knowledge gaps and the drive to seek meaningful information to address these gaps.

Recent research by Chen et al. (2022) has provided empirical support for the transformative role of metacognition in shaping children’s philosophical and moral reasoning. Their study highlighted how deliberate educational interventions can enhance metacognitive skills. The Circling Curriculum for Metacognition Training (CCMT), developed for kindergarten settings in China, integrates reflective dialogue, teacher-guided observation, and structured play to promote metacognitive skills among young children. In this quasi-experimental study, a total of 47 children aged 5–6 years, including both girls and boys, were assigned to either an experimental or a control group. Over a three-month intervention, children in the experimental group engaged in activities designed to foster planning, monitoring, and evaluation skills, which are core components of metacognition, while the control group received routine educational activities without any additional interventions. Data on metacognitive development were collected through pre- and post-intervention tests specifically designed to assess planning, monitoring, and evaluation skills. The study revealed that children in the experimental group demonstrated significantly higher gains in these areas compared to their counterparts in the control group. Table 1 shows the values of means (M), standard deviations (SD), maximum scores (Max), and Mann–Whitney test results (u and p) for the increase in scores on various metacognitive

Table 1 Results of comparison of the increase in metacognitive indicators between the experimental and control groups of children aged 5–6 years.*Source:* Compiled by the authors based on Chen et al. (2022)

	Experimental			Control			<i>u</i>	<i>p</i>
	M	SD	Max	M	SD	MAX		
Knowledge of cognition	3.92	2.33	9	1.68	1.46	5	112.5	0.00**
Knowledge of persons	1.04	0.98	3	0.45	0.91	3	174.5	0.02*
Knowledge of tasks	1.44	1.39	4	0.41	1.14	3	156.5	0.01*
Knowledge of strategies	1.44	1.29	5	0.82	1.10	3	198.5	0.09
On-line metacognition	9.36	4.79	21	2.36	5.43	12	92.0	0.00**
Planning	4.32	3.54	11	0.73	3.03	8	120.0	0.00**
Monitoring	5.20	3.73	12	1.41	3.76	10	123.5	0.00*
Debugging	0.16	2.90	4	0.23	2.20	3	255.0	0.67
Off-line metacognition	1.28	1.10	3	0.64	0.66	2	179.5	0.03*
Prediction	0.64	0.57	2	0.41	0.50	1	218.0	0.17
Evaluation	0.64	0.81	2	0.23	0.53	1	187.0	0.04*

measures between the experimental and control groups, supporting the reliability and transferability of the findings.

These results clearly illustrate the effectiveness of the CCMT program in increasing children's metacognitive abilities. In particular, cognitive knowledge, which includes understanding one's own cognitive processes, tasks, and strategies, increased significantly in children in the experimental group ($M=3.92$, $SD=2.33$, $Max=9$) compared to the control group ($M=1.68$, $SD=1.46$, $Max=5$, $p<0.01$). There was also a significant increase in online metacognitive skills such as planning ($M=4.32$, $SD=3.54$ in the experimental group compared to $M=0.73$, $SD=3.03$ in the control group, $p<0.01$) and monitoring ($M=5.20$, $SD=3.73$ vs. $M=1.41$, $SD=3.76$, $p<0.01$), indicating an improvement in children's ability to assess their progress on tasks. Although there were no significant differences between groups in the error correction (debugging) score ($p=0.67$), this is likely due to a decrease in the number of errors during task completion due to improvements in other metacognitive skills. In the area of offline metacognitive abilities, the experimental group showed higher results in the evaluation of activities ($M=0.64$, $SD=0.81$) compared to the control group ($M=0.23$, $SD=0.53$, $p<0.05$), demonstrating the ability of children to better evaluate the results of their actions after completing the task. The increase in scores was calculated as the difference between the posttest and pretest results for each metacognitive dimension, and the nonparametric Mann–Whitney test was used to analyse the data, which allows comparing the distributions of scores in small samples with uneven distribution. These results confirm that the CCMT program not only improves individual metacognitive skills, but also contributes to the formation of reflective and investigative thinking in children, which is necessary for solving complex tasks in the modern world. Although the CCMT intervention demonstrated clear improvements in metacognitive skills, it is important to recognize the cultural specificity of the educational context in which it was implemented. The study was conducted in a Chinese kindergarten, where pedagogical practices are shaped by specific cultural expectations regarding teacher authority, classroom discipline, and collective learning. These characteristics may have positively influenced children's engagement

in structured dialogue and reflective play, as such interactions closely align with traditional educational norms in the Chinese context. Therefore, the effectiveness of CCMT may not be fully replicated in educational systems that place greater emphasis on individual autonomy or less hierarchical teacher-student relationships. Recognition of these cultural aspects is important for the careful interpretation of results and assessment of their transferability to different cultural and pedagogical contexts.

The results of the CCMT study align closely with the principles of philosophical inquiry. When children reflect on their cognitive processes during structured play, they engage in critical and systematic thinking that mirrors philosophical methods of inquiry. Child's ability to plan a task, monitor their progress, and evaluate outcomes mirrors the philosophical practices of questioning assumptions, seeking evidence, and assessing validity. This structured approach transforms curiosity into a deliberate inquiry process, enabling children to explore complex concepts such as fairness, empathy, and justice. As Chen et al. (2022) observe, the metacognitive strategies cultivated during play activities allow children to evolve from asking simple questions such as "What is fairness?" to exploring how fairness might vary across different cultural or situational contexts. This variability emphasizes that children's philosophical activity cannot be fully understood without taking into account the cultural norms that shape their learning environment. Therefore, the results of the CCMT study should be viewed as a consequence of the cultural pedagogical system rather than as universal generalized conclusions.

Furthermore, environments that prioritise dialogue, inquiry, and reflection significantly enhance children's engagement with philosophical ideas. This finding is consistent with the P4C approach, which has been shown to foster higher levels of critical reasoning, empathy, and engagement (Ye et al., 2024). By adopting such strategies, educators can provide children with opportunities to practice metacognition in ways that deepen their understanding of philosophical concepts. Teachers who facilitate rather than direct discussions, employing open-ended questions and encouraging reflective thinking, are more successful in fostering meaningful engagement (Cassidy, 2023). These methods enable children to integrate new knowledge with existing frameworks, refine their conceptual models, and tackle increasingly abstract questions.

The integration of metacognition and philosophical inquiry is not only beneficial for cognitive development but also essential for cultivating moral and emotional intelligence. By reflecting on their values, beliefs, and assumptions, children develop the ability to consider multiple perspectives and make reasoned judgments (Ye et al., 2024). The CCMT study underscores the importance of structured play and reflective practices in fostering these skills. Through collaborative inquiry and teacher-guided reflection, children develop cognitive flexibility and resilience, which are critical for navigating the complexities of an ever-changing world.

It is crucial to address critical viewpoints that warn against an unduly instrumental vision of philosophical education, even though the transformative potential of P4C has been widely acknowledged. According to Biesta (2011), P4C runs the risk of being reduced to a pedagogical "technique" that serves preset educational aims when it is positioned primarily as a way to improve metacognitive or social abilities. He cautions that this kind of approach may unintentionally conform to a functional-

ist conception of the “ideal” student, who is logical, independent, and cognitively skilled, so reducing the goals of education to quantifiable proficiencies. From this perspective, philosophy ceases to be a mode of being and instead becomes a means.

Biesta (2011), on the other hand, suggests that philosophy is an open-ended, relational experience with otherness that is characterised by dialogue, receptivity, and uncertainty. Based on this criticism, the current study intentionally frames philosophical inquiry as an ethical and existential arena where kids can interact with ambiguity, diversity, and vulnerability, rather than just as a means of enhancing cognitive abilities. Thus, this study supports Biesta's argument that philosophy should continue to be a place of exposure rather than closure, where the value of education is found in fostering democratic engagement, empathy, and an openness to things that cannot be predicted or quantified in addition to skill development.

This study advances a dual perspective by combining Biesta's (2011) concerns with the empirical results of metacognitive interventions like the CCMT: metacognitive strategies can support philosophical reasoning, but their value is maximised only when they are integrated into dialogical, relational, and ethically responsive practices. Therefore, this research's contribution is to bridge the gap between cognitive development and a more comprehensive philosophical perspective, one that acknowledges children's capacity to think not just more effectively but also to think with others in ways that promote empathy, democratic engagement, and thoughtful citizenship.

Also, teachers who act as facilitators in philosophical discussions, rather than directing learning, are more successful in fostering deep philosophical engagement among children. Teachers who employ open-ended questions, encourage reflective thinking, and create opportunities for students to explore their own ideas contribute to a more dynamic and meaningful learning experience (Lee, 2009). These strategies help children develop not only critical thinking skills but also moral and emotional intelligence, as they are encouraged to consider multiple perspectives and reflect on their values and beliefs.

Engaging children in philosophical discussions significantly influences their ability to navigate complex social and ethical challenges. Children involved in conversations about concepts like fairness and justice are better equipped to express their views on real-world issues, such as bullying and environmental concerns. This ability to apply philosophical reasoning to practical scenarios emphasises the transformative potential of incorporating philosophy into early childhood education.

In conclusion, curiosity in children serves as a foundational aspect of their philosophical engagement with the world, revealing a natural inclination to explore complex questions about existence, morality, and knowledge. These inquiries, such as those concerning fairness and identity, echo classical philosophical thought and provide entry points for developing critical thinking and ethical reasoning. Metacognition, or the ability to reflect on one's cognitive processes, plays a vital role in structuring this curiosity, allowing children to evaluate their knowledge gaps and seek meaningful information. Educational approaches that foster dialogue, inquiry, and reflection, like P4C, were found to enhance children's philosophical thinking and emotional development. The exploration of cultural and technological relevance in

Table 2 Philosophical themes embedded in cultural narratives. *Source:* Compiled by the authors

Cultural narrative	Philosophical concept
Aesop's Fable "The Tortoise and the Hare"	Virtue ethics (perseverance)
Grimm Brothers' Tale "Little Red Riding Hood"	Ethics (trust, caution)
Japanese Legend of Urashima Taro	Metaphysics (nature of time, consequences of actions)
Buddhist Parable of the Mustard Seed	Ethics (acceptance of impermanence, humility)
African Tale of Anansi the Spider	Ethics (cleverness, resourcefulness), social philosophy (community interaction)
Indian Parable of the Blind Men and the Elephant	Epistemology (limitations of perception, relativity of truth)

philosophical education further highlighted how these methods, combined with the right tools, enriched children's engagement with philosophical concepts.

Cultural and Technological Relevance in Philosophical Education for Children

Philosophical education for children, deeply rooted in fostering curiosity, empathy, and critical reasoning, is increasingly shaped by the dynamic influences of cultural contexts and technological advancements (Uthaphan, 2024). These interconnected factors have emerged as crucial elements in redefining educational frameworks, offering opportunities to enhance pedagogical approaches and address systemic inequalities. This chapter investigates the interplay between these forces, demonstrating how they shape not only the delivery of philosophical education but also the depth and quality of children's engagement with abstract concepts (Zadorozhna, 2022). By integrating long-standing philosophical traditions with the transformative potential of modern technology, a new paradigm for early childhood education is being constructed, one that aligns with contemporary global and cultural realities.

Cultural narratives, as a central aspect of children's philosophical engagement, serve to anchor abstract concepts within the tangible realities of their experiences. These narratives are imbued with moral, ethical, and existential themes that allow children to encounter and explore complex philosophical ideas in ways that resonate with their developmental stages and cognitive capacities. They act as conduits through which children can engage with the fundamental questions of life, fostering deeper intellectual reflection and emotional resonance. The relationship between these narratives and philosophical engagement underscores the importance of connecting philosophical education to culturally relevant contexts. This alignment ensures that children can navigate intricate ethical and social dilemmas by drawing on familiar frameworks that are both meaningful and accessible to them (Murphy, 2024).

Table 2 provides examples of cultural narratives from various traditions and the philosophical concepts they convey. These stories, drawn from diverse cultural contexts, highlight the universal nature of philosophical inquiry while emphasising its adaptability to local values and traditions. Story "The Hare and the Tortoise" (Fables

of Aesop, 2016) convey lessons in virtue ethics and perseverance, illustrating the value of consistent effort over time. Similarly, Grimm Brothers' tale "Little Red Riding Hood" (Child Stories, 2024) offers a rich ethical exploration, emphasising the importance of trust and caution in decision-making, making it a powerful medium for introducing children to critical concepts of ethics and personal accountability.

The Japanese legend of Urashima Taro (Ozaki, 1908) delves into metaphysical questions about the nature of time and the consequences of actions. This story encourages children to think about the long-term effects of their decisions and the interconnectedness of actions and outcomes, fostering an early understanding of complex philosophical principles like causality and temporality. Likewise, the Buddhist parable of the mustard seed (Patheos, 2016) introduces children to ethics through the acceptance of life's impermanence and the cultivation of humility, guiding young learners toward empathy and a broader understanding of human suffering.

African folktales, such as the stories of Anansi the Spider (Anansi Story, 2023), serve as dynamic tools for exploring social philosophy and ethics. Through themes of cleverness, resourcefulness, and community interaction, these narratives emphasise the value of cooperation and the role of individual actions within a collective framework. These stories not only encourage reflective thinking but also help children recognise the interconnectedness of society and the importance of ethical behavior in fostering harmonious relationships.

The Indian parable of the blind men and the elephant (Baldwin, 2019) is an epistemological exploration of perception and the relativity of truth. By illustrating the limitations of human understanding and the importance of diverse perspectives, this narrative provides a foundation for children to question and expand their own viewpoints. It fosters an appreciation for intellectual humility and the pursuit of holistic knowledge, critical skills for navigating complex philosophical dilemmas.

These examples demonstrate how stories act as vehicles for introducing children to philosophical inquiry. They provide relatable contexts through which children can explore abstract ethical, metaphysical, and epistemological ideas in an accessible learning form, facilitating deeper engagement and understanding. By incorporating these culturally significant narratives into philosophical education, educators can bridge the gap between abstract philosophical concepts and the lived experiences of children. This approach not only enriches the learning process but also validates the diverse cultural identities of students, fostering a more inclusive and comprehensive educational framework.

The integration of philosophical education with cultural narratives not only enhances comprehension but also transforms the way children approach abstract ideas (Pala, 2022). Through the deliberate use of culturally significant content, children are encouraged to think critically and reflectively, fostering a sense of intellectual autonomy and confidence. This approach emphasises the importance of tailoring educational content to reflect the lived realities and values of diverse cultural contexts, promoting inclusivity and equity within the learning environment. When children encounter philosophical ideas framed through culturally resonant narratives, they are better positioned to engage with concepts that might otherwise seem remote or inaccessible (Grant, 2024). This process fosters an environment of intellectual

curiosity, where philosophical education becomes a bridge between abstract theoretical constructs and the concrete experiences of daily life.

By rooting philosophical concepts in culturally significant narratives, children develop the capacity to explore ideas that transcend their immediate understanding, allowing them to grapple with deeper moral and ethical questions (Kim, 2024b). These narratives provide the scaffolding necessary for children to engage with ideas that challenge their perspectives and encourage growth in their cognitive and emotional reasoning. The process of connecting lived experiences to philosophical inquiry equips children with the tools to approach complex ethical and social questions with nuance and sensitivity. As they engage with these ideas, their ability to reason critically and empathise with diverse perspectives is cultivated, laying the foundation for broader intellectual and emotional development. This dynamic interplay between cultural contexts and philosophical education redefines the landscape of early childhood learning, demonstrating the transformative potential of this integrated approach.

Technological advancements enable greater philosophical engagement among children. Interactive apps, virtual discussion platforms, and digital storytelling tools enhance the accessibility and inclusivity of philosophical education (Brod et al., 2023). These technologies allow children from diverse backgrounds to participate in collaborative discussions, exchange viewpoints, and explore philosophical ideas in new and innovative ways. Technology also plays a key role in democratising access to philosophical education, particularly for children in marginalised or remote areas (Ching-Chiang et al., 2022). By providing platforms for dialogue and reflection, digital tools bridge the gap between abstract philosophical concepts and real-world applications, making philosophy more relevant and engaging for children. The potential of digital tools to enhance philosophical engagement is further explored in Hamilton et al. (2019), who examined digital storytelling as a means of fostering reflection. Their study revealed that creating digital stories allows students to weave together personal experiences and disciplinary thinking, promoting deeper reflection and intercultural understanding. This aligns with the current study's emphasis on the role of technology in making philosophical education more accessible and engaging. Digital storytelling, as a reflective practice, can serve as a bridge between abstract philosophical concepts and children's lived experiences, thereby enriching their understanding of complex ideas.

Additionally, Tveiterås and Bjørner (2024) propose a VR engagement model for early childhood teacher education, suggesting that immersive technologies like Virtual Reality (VR) can transform learning environments. Their theoretical framework combines cultural-historical theory with engagement theory, highlighting how VR can create interactive and reflective spaces for philosophical inquiry. This complements the current study's findings on the transformative potential of technology in fostering critical thinking and narrative skills, particularly in marginalized or remote communities.

Interactive storytelling platforms, multimodal learning environments, and AI-driven tools exemplify the transformative potential of technology in fostering critical thinking and narrative skills. The "Colin" system integrates AI and visual storytelling to encourage children to build connections between story elements, thereby enhanc-

ing their narrative and analytical skills (Ye et al., 2024). This multimodal approach enables children to engage with philosophical concepts in dynamic and accessible ways.

The philosophy of technology, as applied to education, highlights the relational dynamics between learners, educators, and technological tools. Technology should not merely be seen as a functional aid but as a medium for cultivating deeper educational experiences. This perspective aligns with the concept of “*techne*” in philosophy, which values the creative and reflective processes facilitated by technological engagement. Educational technology, therefore, should be designed to promote inquiry, self-reflection, and critical engagement, fostering philosophical thinking that transcends traditional classroom boundaries (An & Oliver, 2021).

The synthesis of philosophical inquiry and technology offers unique opportunities to enrich children's educational experiences. Structured programs such as the CCMT demonstrate how play-based activities, combined with reflective dialogue, can significantly enhance metacognitive skills (Chen et al., 2022). These programs utilise digital tools to guide children through tasks that require planning, monitoring, and evaluation, fostering both cognitive and philosophical growth. By creating interactive environments where children can explore abstract concepts such as fairness and justice, educators can bridge the gap between technology and philosophy.

Technology's role in facilitating philosophical discussions has shown promising results in increasing children's engagement with abstract concepts. Interactive platforms enable educators to pose open-ended questions, encouraging children to explore ideas in collaborative and dynamic settings. This approach aligns with the P4C model, which emphasises critical reasoning and emotional intelligence as cornerstones of philosophical education. Digital tools extend these discussions, allowing children to reflect on their values and beliefs within frameworks that promote inclusivity and dialogue.

The integration of cultural and technological dimensions in philosophical education provides a robust framework for fostering children's intellectual and moral development. By addressing cultural contexts and leveraging technological tools, educators can create inclusive and engaging learning environments that prepare children for the complexities of the modern world. This approach not only enhances individual growth but also contributes to broader societal goals of equity, empathy, and critical reasoning. As cultural and technological landscapes continue to evolve, philosophical education must adapt, embracing innovations that enrich children's engagement with the world and their understanding of themselves.

Philosophical Implications of Childhood Inquiry and Practical Applications

One of the central outcomes of this study is the identification of curiosity as a foundational element in children's engagement with philosophical concepts. Far from being a simple psychological impulse, curiosity emerges as a deeply philosophical engagement with questions of fairness, identity, existence, and morality. This was aligned with the perspectives of Matthews and Lipman, who argue that children's persistent questioning reflects an innate philosophical potential. The findings confirm that children's inquiries, such as “What makes something right or wrong?” or “What

happens when we die?” are not naïve but represent early steps into emergent ethical and epistemological reasoning within early childhood learning environments. These questions, often dismissed as simplistic, reveal a profound desire to grapple with the fundamental principles that shape human understanding and behavior. Such curiosity, when nurtured, can act as a powerful catalyst for intellectual and emotional development. These results underscore the importance of fostering environments where such questioning is encouraged and valued, ensuring that children feel supported in their exploration of abstract and meaningful concepts.

The study’s results also highlight the transformative role of metacognition in shaping philosophical reasoning. The evidence that structured educational interventions, like the CCMT, significantly enhance children’s metacognitive skills is particularly compelling. Improved planning, monitoring, and evaluation capabilities not only enable children to navigate complex tasks but also mirror philosophical practices of inquiry and reflection. Metacognition empowers children to recognise gaps in their understanding and to approach problem-solving with a strategic and reflective mindset. By cultivating metacognitive competencies, educators can help children transition from asking simple questions to co-constructing more complex ideas through guided philosophical play and dialogue, such as cultural relativism or justice in varying contexts. Recent research by Arda Tuncdemir et al. (2022) further supports the transformative impact of philosophical inquiry on children’s social-emotional development. Their study, which focused on preschool children aged 3–5, demonstrated that a Philosophical Ethics in Early Childhood approach significantly improved social-emotional competence and Theory of Mind. Through games, dialogue, and extension activities, children in the experimental group showed a deeper understanding of their own and others’ emotions compared to a comparative group. This aligns with the findings of this study, which highlight the role of metacognition in fostering reflective thinking and ethical reasoning. Arda Tuncdemir et al.’s work underscores the importance of structured philosophical engagement in early childhood, as it not only enhances cognitive skills but also nurtures empathy and social awareness, key components for navigating complex ethical dilemmas.

This finding suggests that metacognition is not just a cognitive skill but a philosophical tool that allows children to critically assess their thoughts and engage deeply with ethical dilemmas. Moreover, the integration of metacognition with philosophical education equips children with the resilience and adaptability needed to navigate an increasingly complex and interconnected world, making it an essential component of modern pedagogy.

The findings of this study are consistent with international research on children’s philosophical potential and the benefits of metacognitive education. Hedges (2022) emphasises the importance of nurturing curiosity to cultivate empathy and global citizenship, aligning with this study’s conclusion that curiosity serves as the basis for navigating social complexities. Similarly, Goupil and Proust (2023) identify metacognitive processes as critical for children’s moral reasoning, supporting the observed impact of CCMT on children’s ability to reflect on ethical issues and evaluate the implications of their actions.

However, the findings diverge from some traditional views that downplay the philosophical capacity of young children. Earlier models of cognitive development, such

as Piaget's stage theory (1976), suggest that abstract philosophical reasoning only emerges in adolescence. This study, along with recent work by Chen et al. (2022), challenges this notion by demonstrating that even young children (aged 5–6 years) can engage with abstract ideas when provided with appropriate educational scaffolding. This divergence highlights the need to revisit developmental theories in light of contemporary evidence and underscores the importance of viewing children as active participants in philosophical inquiry.

The practical implications of these findings are significant, particularly for educators and policymakers. By integrating metacognitive training into early childhood education, teachers can create learning environments that not only enhance cognitive skills but also promote critical thinking and ethical reasoning. This has broader societal implications, as children who develop these skills are better equipped to navigate ethical challenges and contribute to civic life in meaningful ways. Leng (2020) provides further evidence of the impact of philosophical inquiry on student engagement, particularly among adolescents. Leng's study found that philosophical inquiry (PI) fosters a safe and positive classroom environment, which is fundamental for learning. Students reported that engaging in PI, through asking questions, sharing ideas, and making connections, enhanced their academic engagement and social inclusion. This aligns with the current study's emphasis on the importance of dialogue and reflective practices in philosophical education. Leng's findings suggest that PI not only improves cognitive skills but also cultivates a sense of community and belonging, which are essential for children's holistic development.

Furthermore, Marulis et al. (2020) argue for the integration of metacognition and executive function to enhance young children's agency in their learning. Their theoretical framework posits that combining these constructs can improve children's perceptions of their learning and self-regulatory agency. This resonates with the current study's focus on metacognition as a tool for fostering reflective thinking and adaptability. Marulis et al.'s work suggests that interventions targeting both metacognition and executive function can empower children to become active agents in their own learning, a goal that aligns with the broader objectives of philosophical education. Furthermore, the study's results suggest that curricula should be designed to encourage open-ended questioning, reflective dialogue, and collaborative exploration, aligning with the P4C approach, which has been shown to foster critical reasoning and empathy.

Technological advancements also present opportunities to extend these educational strategies. Digital tools, such as interactive storytelling platforms and virtual discussion forums, can democratise access to philosophical education, particularly for children in marginalised or remote areas. These technologies can facilitate collaborative inquiry and provide children with diverse perspectives on philosophical questions, enriching their understanding and promoting inclusivity. Policymakers should consider investing in these technologies and ensuring their integration into schools to maximise their potential benefits. Beyond accessibility, the interactive nature of digital tools fosters active participation, enabling children to engage dynamically with philosophical content. Virtual platforms can simulate real-world scenarios or philosophical dilemmas, encouraging deeper cognitive and ethical engagement. Further-

more, these tools allow for real-time feedback and personalised learning experiences, ensuring that each child's unique developmental needs and interests are addressed.

This study makes several important contributions to the field of philosophical and educational research. First, it expands the understanding of how curiosity and metacognition intersect to foster children's philosophical reasoning, offering empirical evidence to support theoretical claims. Second, it demonstrates the effectiveness of structured interventions like CCMT in enhancing metacognitive skills, providing a model for educators seeking to integrate philosophical inquiry into early childhood education. Finally, it challenges traditional developmental theories by showing that young children are capable of engaging with abstract philosophical concepts when supported by appropriate pedagogical strategies. These findings not only validate the potential of philosophical education but also emphasise the necessity of innovative approaches to meet the cognitive and emotional needs of today's learners.

The practical significance of these findings cannot be overstated. By equipping children with the tools to reflect on their thoughts, question assumptions, and engage with diverse perspectives, philosophical education prepares them for the complexities of the modern world. These skills are particularly critical in an era characterised by rapid technological and social change, where the ability to think critically and act ethically is more important than ever.

Conclusion

Through a comprehensive analysis of philosophical traditions and pedagogical interventions, several key findings were established, offering both theoretical insights and practical applications for education.

The research confirmed that childhood curiosity is more than a psychological impulse; it represents a profound engagement with existential, ethical, and epistemological questions. Children's inquiries, often dismissed as naive, reflect an intrinsic philosophical potential that serves as a foundation for critical thinking and moral reasoning. Structured educational approaches, such as the CCMT, were demonstrated to significantly enhance metacognitive skills, enabling children to better plan, monitor, and evaluate their cognitive processes.

The results underscore the importance of integrating metacognitive training and philosophical inquiry into early childhood education. By fostering environments that encourage reflective thinking and open-ended questioning, educators can nurture children's ability to navigate complex ethical and social dilemmas. These findings align with the study's primary objectives, demonstrating that metacognition acts as a vital bridge between curiosity and deeper philosophical engagement. Moreover, the study challenges traditional developmental theories, showing that even young children can engage with abstract ideas when provided with appropriate pedagogical support.

The significance of these findings extends beyond theoretical contributions. Practically, the results highlight the need for inclusive and adaptive educational strategies that promote intellectual and emotional growth. Implementing curricula that incorporate philosophical inquiry and metacognitive practices can prepare children to

address contemporary challenges with critical thinking and ethical sensitivity. These approaches are particularly relevant in fostering empathy, resilience, and adaptability—skills essential for thriving in an interconnected and rapidly evolving world.

To further advance this field, several recommendations are proposed. First, educators should prioritise professional development to effectively integrate metacognitive and philosophical practices into their teaching. Second, policymakers should consider investing in digital tools and platforms that facilitate collaborative and reflective learning. Third, longitudinal studies are needed to examine the sustained impact of metacognitive training on children's cognitive and moral development. Expanding research across diverse cultural and educational contexts would also enhance the generalisability of these findings.

Despite its contributions, this study acknowledges certain limitations. The brief intervention period may not fully capture the long-term impact of metacognitive training, particularly in developing error-correction skills, and the culturally specific nature of the sample may limit the generalizability of the findings to more diverse educational contexts. Additionally, the sample was taken from a culturally distinct Chinese school context where teaching methods and social norms may differ from Western or individualistic pedagogical systems. These environmental factors may have affected children's CCMT answers, limiting generalisability. Comparative research across cultures are needed to establish if different educational traditions yield similar advantages. Future research should explore the effects of longer-term interventions and expand participant groups to encompass a broader range of cultural backgrounds and educational settings, thus increasing the relevance and applicability of the findings across different global contexts.

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Data availability The authors confirm that the data supporting the findings of this study are available in the article.

Declarations

Conflict of interest The authors have no conflict of interest to declare.

Ethical approval We confirm that all the research meets ethical guidelines and adheres to the legal requirements of the study country. A study was approved by the Taraz University named after M.Kh. Dulaty, No. 67803. We confirm that this work is original and has not been published elsewhere, nor is it currently under consideration for publication elsewhere.

Human or Animal Participants The study was conducted without human or animal participation. Ethical approval is not required.

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