

Advancing Higher-Order Thinking Skills in Early Childhood: A Conceptual Framework for a Thinking-based Pedagogy in Maltese Kindergarten Schools

Shirley Ann Gauci

Institute of Community Services, Malta College of Arts, Science and Technology

<https://orcid.org/0009-0006-3170-6876>

Abstract

This article draws on doctoral research underpinned by sociocultural theory, which initiated a thinking-based pedagogy within two Maltese kindergarten schools. A conceptual framework, developed through an iterative process informed by literature and the findings, was designed to guide incremental changes in everyday classroom practices. The framework integrates relational pedagogy, meaningful conversations, knowledge co-construction, and emergent curriculum approaches to support children's higher-order thinking skills, specifically problem-solving, critical thinking, creative thinking, and metacognition. Findings from four case studies illustrate how these pedagogical shifts facilitated children's cognitive engagement, while also revealing structural and cultural complexities deterring the authentic implementation of a thinking-based pedagogy. Although developed in a Maltese context, the framework is proposed as a transferable model for settings seeking to embed thinking skills within socio-culturally responsive early years pedagogies. It underscores the need for supportive policy, sustained professional development, and context-sensitive adaptation to bridge the gap between educational theory and classroom practice.

Keywords

Creative thinking, critical thinking, metacognition, reculturing process, relational pedagogy

Introduction

Fostering thinking skills in early childhood education and care (ECEC) has gained significant attention as educators and policymakers strive to foster higher-order thinking skills in young learners. Thinking, a multifaceted and dynamic process, is recognised as a foundational competency for the 21st century; critical for academic success and broader societal advancement (Organisation for Economic Co-operation and Development, 2018). Yet,

Contact: Shirley Ann Gauci, shirley.ann.gauci@mcast.edu.mt

This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercialNoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial reuse, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

despite broad policy endorsement, early childhood curricula often privilege academic readiness over deeper cognitive engagement, marginalising opportunities for critical thinking, creativity, problem-solving, and metacognition (Dewey, 1916; Vygotsky, 1978). In the Maltese context, although advances have been made, ECEC reflects these global trends, with kindergarten still predominantly considered as a preparatory phase for formal schooling (Camilleri, 2024). Such emphasis risks constraining child-initiated inquiry and diminishing the potential for meaningful, exploratory learning (Gauci, 2019).

The Maltese Context and Thinking Skills in ECEC

In Malta, national policy documents such as the National Curriculum Framework (NCF; Ministry for Education and Employment [MEDE], 2012) and the Learning Outcomes Framework (LOF; Directorate for Quality and Standards in Education [DQSE], 2015) explicitly promote the development of thinking skills. However, implementation remains inconsistent and fragmented. Pedagogical practice continues to be dominated by surface-level interactions and content-focused tasks, which undermine inquiry-based and experiential approaches essential for deep cognitive engagement (MEDE, 2006).

This study responds to the urgent need to bridge the gap between policy rhetoric and classroom reality by examining how Maltese kindergarten settings can meaningfully embed thinking skills in everyday practice. Drawing on doctoral research, the paper explores a reculturing process involving incremental transformations in pedagogy to promote children's problem-solving, critical thinking, creative thinking, and metacognition. These transformations are guided by a conceptual framework that integrates relational pedagogy, meaningful dialogue, knowledge co-construction, and emergent curriculum approaches driven by children's inquiries and interests.

Theoretical Foundation

Thinking and Thinking Skills

Dewey (1916), a pioneer in thinking pedagogy, conceptualised thinking as a dynamic, experience-driven process; an "adventure" into the "unknown" (p. 174) stemming from "doubt or uncertainty" (p. 345). Later scholars similarly framed thinking as a skill cultivated through sustained practice (Nisbet, 1993; White, 2002). By the late 20th century, educational discourse expanded to include constructs such as thinking strategies, dispositions, and higher-order thinking (Fisher, 1999; Perkins et al., 1993). Fisher's (2007) conceptualisation of thinking skills as "habits of intelligent behaviour learned through practice" (p. 72) remains widely regarded in the field.

While definitions vary, thinking skills are typically identified in use (Lipman, 1988; Resnick, 1987), with taxonomies outlining core competencies including analysis, evaluation, problem-solving, creativity, and reflection (Robson & Hargreaves, 2005; Swartz & Parks, 1994). These

are commonly grouped under five domains: information processing, problem-solving, critical thinking, creative thinking, and metacognition (Fisher, 1998). Information processing involves organising and analysing information (Fisher, 1999), which leads to these higher-order thinking skills: problem-solving, which transforms situations into desired outcomes (Dostál, 2015); critical thinking, which evaluates reasoning to ensure validity (Hanscomb, 2017); creative thinking, which generates original, meaningful products (He, 2017) and metacognition, which involves knowledge and strategies for self-awareness (Chatzipanteli et al., 2014).

Thinking and Thinking Skills in Early Childhood Education and Care

At the turn of the 21st century, growing attention to ECEC catalysed a research focus on fostering young children's thinking (Costello, 2000), which in turn informed policy and curriculum development (Robson & Hargreaves, 2005; Siraj-Blatchford et al., 2002; Sylva et al., 2004). Athey's (1990) schema theory, grounded in Piagetian constructivism, emphasised recurring behavioural patterns as central to cognitive development, an approach substantiated by subsequent research (Atherton & Nutbrown, 2016). However, its emphasis on individual cognition overlooks the inherently social nature of learning processes (Sutinen, 2008). In contrast, sociocultural perspectives, influenced by the work of Vygotsky (1978; 1986), Bruner (1966; 1996), and Dewey (1916), highlight the importance of social interaction and cultural context in shaping thought. From this standpoint, thinking emerges through dialogic encounters and shared meaning-making, positioning children as active participants in co-constructed learning environments.

These theoretical tensions are not merely conceptual; in Malta, they are deeply embedded in everyday pedagogical practice. Despite policy discourses advocating sociocultural and child-centred approaches, prevailing classroom routines often reflect developmentalist and individualistic legacies. Learning is frequently structured around fixed outcomes, individual progression, and narrow interpretations of school readiness. Practices such as adult-directed circle time and prescribed tasks risk marginalising collaborative inquiry and peer interaction, reinforcing the misconception that thinking is solely an internal, solitary process.

In response to these enduring challenges, it is imperative to reaffirm the foundational role of ECEC in cultivating higher-order thinking. Early childhood presents a critical window for the emergence of complex cognitive processes such as hypothesising, analysing, and reasoning (Hedges & Cooper, 2014; Robson & Flannery Quinn, 2015; Trevarthen & Delafield-Butt, 2015). Pedagogies that foster socially mediated exploration, inquiry, and reflection are essential for supporting children's holistic learning and participation in intellectually rich environments. Grounded in this sociocultural orientation, the following section outlines four interrelated constructs: relational pedagogy, meaningful conversations, knowledge co-construction, and emergent learning, each grounded in contemporary ECEC literature that positions thinking as inherently relational and culturally situated.

Relational Pedagogy

Relational pedagogy, grounded in sociocultural theory, positions children as competent, active participants within socially and culturally mediated learning environments (Papatheodorou, 2009). It challenges readiness-based models by prioritising educator-child relationships as central to fostering critical reflection, reasoning, and exploration (Crowner & Jones, 2018; Malaguzzi, 1998; Rogoff et al., 1996). The environment is conceptualised as a co-constructive agent, the “third teacher” (Robson, 2017, p. 36), which shapes learning through intentional design and responsiveness to children’s inquiries. Carefully curated spaces support curiosity, collaboration, and pedagogical intentionality, while educators, through sustained observation and dialogue, enable deep meaning-making (Hedges & Cooper, 2018). Relational pedagogy supports collaboration, helping children develop interpersonal and critical thinking skills essential for 21st-century learning (The Council of the European Union, 2015). Its usefulness depends on balancing support within the Zone of Proximal Development (ZPD) with respect for children’s agency (Reeves & Le Mare, 2017). Through intentional, authentic interactions, shaped by adults, peers and the environment itself, relational pedagogy enriches learning experiences (Degotardi et al., 2017), as explored in the next section.

Meaningful Conversations

The role of meaningful conversations in fostering thinking dates back to Classical Antiquity, with Socrates’ questioning method prompting analyses, challenging assumptions, and discovering knowledge (Benson, 2006). Vygotsky (1978) highlighted conversations within the ZPD as tools for co-constructing knowledge and advancing cognition. Studies affirm that open-ended questions enhance reasoning, creativity, and problem-solving (Chappell et al., 2008), fostering shared thinking (Sylva et al., 2004) and argumentation (Daniel et al., 2012). Meaningful conversations balance educator guidance with opportunities for children to articulate their ideas (Bateman, 2013) while supporting integration, communication and collaboration, leading to essential social and cognitive skills advancement (Littleton & Mercer, 2013). They are central to relational pedagogy and lead to knowledge co-construction, as discussed in the next section.

Knowledge Co-construction

Sociocultural theory conceptualises the learning environment as a “shared problem space” where knowledge is co-constructed through negotiation, collaboration, and interaction (Haenen et al., 2003, p. 246). This challenges traditional hierarchies, recognising learners as competent partners in the process (Gjems, 2011). Termed “transactional constructivism” (Biesta & Burbules, 2004) or “distributed cognitions” (Salomon, 1993), this approach highlights collaboration through meaningful conversations and multimodal tools like pose and gaze (Cremin et al., 2018). Educators provide material and symbolic

tools, demonstrating their critical application to solve real-world problems (Hedges & Cooper, 2018). Funds of knowledge (Chesworth, 2016) enable children to take on the role of the more knowledgeable other among their peers, fostering intersubjectivity: a shared understanding that develops through collaboration (Mauritzson & Shiyan, 2018). Consequently, the curriculum emerges dynamically from these collective efforts and shared understandings, as discussed below.

Emergent Learning Curricular Frameworks

Emergent curriculum frameworks, inspired by the Reggio Emilia philosophy (Edwards et al., 1998), prioritise child-initiated, contextually responsive learning shaped through social interaction (Rosales, 2015). Unlike predetermined curricula, interest-responsive curricula develop through shared interactions, fostering collaborative meaning-making (Vajargah et al., 2010). Within these frameworks, the children can pursue their working theories that enhance problem-solving, critical thinking, and creativity, enabling them to hypothesise, reason, and collaborate (Peters & Davis, 2015). Educators play a pivotal role by observing interests, facilitating inquiry, and designing environments that promote exploration (Hedges & Cooper, 2016). Inquiry-based learning further complements these frameworks by emphasising the importance of direct, experiential engagement in fostering concept formation and meaning-making (Stacey, 2018). From a sociocultural perspective, inquiry-based learning is not an isolated or individualised process but a collaborative endeavour where learners and educators co-construct knowledge together (Luff, 2018), aligning with Dewey's (1938) notion of cooperative learning and project-based methods.

Theoretical Framework

This study is anchored in sociocultural theory, which foregrounds the relational, cultural, and dialogic nature of cognitive development (Vygotsky, 1978). Core constructs such as the ZPD, scaffolding, and mediation illuminate how children's higher-order thinking is fostered through guided participation with more knowledgeable others (Chaiklin, 2003; Wood et al., 1976). These interactions are mediated by cultural tools: language, symbols, and artefacts, that shape how knowledge is constructed and internalised (Kozulin, 2003). Within the Maltese ECEC context, where pedagogical practices are deeply influenced by cultural and historical legacies (Gooch, 2009), this theoretical grounding offers a critical lens for understanding and advancing thinking-based pedagogy. As previously outlined, the study draws on four interrelated constructs drawn from the literature: relational pedagogy, meaningful conversations, knowledge co-construction, and emergent curricular frameworks, each reflecting a sociocultural epistemology in which learning is viewed as socially situated, culturally mediated, and collaboratively constructed through everyday educational practices.

Methodology

This paper draws on the findings of a multiple-case study that sought to set in motion a reculturing process for a thinking-based pedagogy within two Maltese kindergarten schools (Gauci, 2019). This paper focuses specifically on the progressive transformation of classroom practices aimed at fostering children’s higher-order thinking skills, specifically, problem-solving, critical thinking, creative thinking, and metacognition. Thus, the research question is:

- 1. How can relational pedagogy, meaningful conversations, knowledge co-construction and emergent curricular practices contribute to the advancement of a thinking-based pedagogy in kindergarten settings?

Sample and Context

Each kindergarten school comprised two settings under the leadership of the same Headteacher. The purposive sample included the Headteacher, four KGEs, five learning support educators, and sixty-seven children aged three to four. These schools were selected as the researcher was deployed in both, enabling sustained engagement with pedagogical practices and facilitating access to participants. Table 1 outlines the educators and their respective settings.

Table 1
Details of Settings, Pseudonyms, Roles, Experiences, Levels, and Project Focus

Pseudonym of KGE and LSE(s) in Each Setting	Years of Experience as KGE	Pseudonym of Setting	Level of Setting	Project
KGE: Melita, LSE: Dolores	24	Rebbiegha	KG1	Birthdays
KGE: Philippa, LSE: Nina	23	Sajf	KG2	Healthy Lifestyle
KGE: Miriam, LSEs: Lucy, Carmela	22	Harifa	KG1	Trees
KGE: Victoria, LSE: Rosaria	9	Xitwa	KG2	Trains

Note. KGE = Kindergarten Educator; LSE = Learning Support Educator.
KG1 = First year of kindergarten (typically age 3-4); KG2 = Second year of kindergarten (typically age 4-5).

Ethical Considerations

The study adhered to rigorous ethical standards to ensure participant protection and respect. Ethical approvals were obtained, with informed consent from adults and parents, and assent from children (United Nations Convention on the Rights of the Child, 1989). Anonymity and confidentiality were maintained, and data securely stored (Busher & James, 2007). Trustworthiness was established through credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985).

Positionality

During data collection, the researcher leveraged insider knowledge to facilitate access and cultural understanding (Atkins & Wallace, 2012). Positionality and potential bias (Drew et al., 2008) were addressed by assuring participants of the study's objective. Reflexivity, supported by a reflective journal and peer debriefing, mitigated power imbalances and upheld principles of integrity, transparency, and respect for participants' rights (Atkins & Wallace, 2012). Particular attention was given to managing power dynamics, especially during conversations where the researcher's leadership role could have influenced responses. Strategies such as adopting a collegial tone, clarifying the non-evaluative nature of the study and fostering safe spaces for dialogue helped build trust and reduce hierarchical tensions.

Research Design

Situated within the interpretivist paradigm, this multiple-case study followed a three-stage design (Stake, 2005). Data collection occurred in two phases using four instruments, including two semi-structured interviews, eight focused conversations, fifty-six hours of observations, and a reflective journal to support reflexivity and informed decision-making.

Two semi-structured interviews with the Headteacher were conducted during the first and final stages of the study. Including the school leader was critical, given their influence on curriculum change (Leithwood et al., 2019).

The second stage comprised four consecutive case studies, each involving four steps. Initially, focused conversations and two in-class observations were conducted to understand existing practices and avoid preconceived assumptions (Lenz Taguchi, 2010). Conversations encouraged openness, while observations, guided by a structured protocol, documented classroom interactions (Clough & Nutbrown, 2012). In the next step, a workshop with educators identified opportunities to promote thinking (Helm et al., 2016). This was followed by forty-eight hours of observation focused on children's application of thinking skills while developing their working theories (Hedges, 2022). Finally, educators participated in focused conversations evaluating the conceptual framework's usefulness in fostering higher-order thinking.

The researcher's reflective journal provided an additional data source, capturing insights and observations throughout the study (Basse, 1999). It enhanced reflexivity by supporting critical examination of positionality as an insider and mitigating bias (Atkins & Wallace, 2012). The journal also enriched the analysis by documenting contextual nuances not evident through other methods.

Data Analysis

The data analysis adopted a systematic approach, combining within-case analysis with the "stacking comparable cases" strategy for cross-case comparison (Miles et al., 2014, p. 103). Within-case analysis involved independently examining data from each of the four settings, while cross-case analysis corroborated findings, identifying recurring patterns and contextual variations in the intervention's implementation (Yin, 2009). Reflexive thematic analysis (Braun & Clarke, 2021) guided the development of key themes through an iterative process in which initial codes were reviewed, refined, and reorganised across multiple readings. Peer debriefing supported interpretative depth and ensured analytical rigour, while preserving the researcher's active, reflexive role in theme construction.

Findings

The findings are presented under four key themes: (1) relational pedagogy, (2) meaningful conversations, (3) knowledge co-construction and (4) emergent curriculum. Besides the participants' pseudonyms, others are used to refer to the children mentioned in the anecdotes, to facilitate narration.

Relational Pedagogy

A less rigid atmosphere fostered uninterrupted learning and revealed children's potential, with educators appreciating its positive impact on engagement. The KGEs emphasised trust and belonging, enabling children to express ideas and take intellectual risks. Philippa observed, "When children know that their ideas will be listened to and appreciated, they are more confident in sharing their thoughts. This confidence drives their curiosity and willingness to solve problems." This was evident in the Rebbiegħa setting, where children collaboratively planned a birthday party for Bella, the class puppet, and invited Sajf setting children. Inspired by Alison's suggestion to make wraps, the latter class prepared healthy food, demonstrating how shared decision-making promotes creativity (Wegerif et al., 2015).

The educators observed enhanced teamwork, reasoning, and problem-solving, exemplified by Ruth in the Xitwa setting. Initially reserved, Ruth gradually found alternative ways to express her ideas, ultimately guiding Victoria to present her joint work with Tiago. This reflects the role of inclusive environments in enabling all children to contribute meaningfully.

The physical environment also transformed, replacing template-based tasks with project webs, drawings, artefacts, dynamic learning corners, and outdoor exploration. KGEs valued these shifts for their authenticity, visibility of children's thinking, and use of space to promote creativity. As Melita remarked, "The setting is now more child-friendly and meaningful. When children see something they've created, it reminds them of the collaborative thinking process they shared with their peers."

The "pedagogy of listening" (Rinaldi, 2006, p.15) and funds of knowledge (Chesworth, 2016) informed educator practice, centring observation and dialogue to align learning with children's interests. For example, in the Xitwa setting, when interest in trains declined and construction work nearby captured children's attention, the train project was concluded, and the KGE facilitated the transition to a new one on construction.

Meaningful Conversations

The KGEs increasingly prioritised listening to children, recognising these exchanges as essential for understanding their perspectives and supporting the advancement of their thinking skills. As educators shifted towards an interest-based approach, conversations became more fluid, enabling children to articulate ideas and build on each other's contributions. Melita reflected, "I realised that I needed to give the children more time to think and respond, rather than answering the questions myself." This transformation was not incidental but supported through sustained pedagogical engagement. The workshops introduced new concepts and strategies, while the researcher's ongoing classroom presence enabled real-time reflection and guidance. End-of-day discussions provided a critical space to examine practice and address emerging challenges.

These conversations facilitated reasoning and knowledge transfer. In the Harifa setting, small-group discussions led to a collective decision to create a garden for the elves. Mark's group proposed planting seeds, while others suggested homes made of pinecones or logs. After deliberation, they agreed to plant nineteen trees, based on Mark's reasoning: "Every garden I visit has many trees." This exchange fostered persuasive communication, as children presented arguments to influence peer decisions (Hargraves, 2014). Miriam noted, "It was amazing to see how they listened to each other and changed their opinions based on what their friends said."

Such conversations were meaningful because they originated from and advanced the children's working theories. For example, Miriam facilitated a whole-group discussion to address concerns about the plants' slow growth. The children reviewed their plan and decided to construct a temporary home for the elves using garden materials. Miriam remarked, "It's their ideas that make these discussions so powerful." This example illustrates how problem-solving nurtures intuitive thinking, enabling children to anticipate possible solutions (Bruner, 1977). It also created space for metacognition, as children evaluated peer contribution, reflected

on errors, and applied insights to revise their designs (Chatzipanteli et al., 2014). These moments exemplify the potential of child-led inquiry while also raising critical questions about whose voices were most prominent, an issue unpacked further in the analysis and discussion through the lens of equity-focused pedagogy.

Furthermore, the KGEs observed that conversations extended beyond scheduled learning time. Victoria noted, "I was surprised when I heard them discussing the projects among themselves, even during lunchtime." She later used these informal dialogues to support individual learning. After hearing Stephen and Aaron discuss train tracks, she observed Aaron struggling with spacing while using lollipop sticks. Drawing on their earlier exchange, she prompted him to reflect, leading to self-correction. This anecdote highlights opportunities to cultivate self-reflexivity, a core metacognitive capacity central to critical thinking and reasoning (Chatzipanteli et al., 2014).

Knowledge Co-Construction

Knowledge co-construction emerged as a central theme, fostering collaboration, inquiry, and critical thinking. Children and educators jointly explored ideas, solved problems, and built shared understanding. This process was sustained through educator scaffolding that guided children's thinking without imposing solutions.

A clear example occurred in the Rebbiegħa during preparations for Bella's gifts. Melita adopted a dialogic stance, prompting Luca and Ben to reconsider their bracelet design when they realised it would not fit Bella. By posing open-ended questions, she encouraged reflective thinking, experimentation, and adaptive problem-solving. This strengthened their critical reasoning (Hanscomb, 2017) and supported learning through trial and error (Bruner, 1977). Another instance was observed in the Xitwa during a discussion on building a mobile train. When the children expressed a desire to construct their own, Victoria invited them to propose ideas. They suggested using large boxes, which she extended by encouraging them to consult books and online resources. This dialogic interaction fostered creative thinking (He, 2017), collaborative engagement, and ownership of the process. It exemplified possibility thinking (Craft, 2015), as the children generated and tested hypotheses to pursue their evolving working theories (Hedges, 2014).

Co-construction also occurred among peers. Tiago, drawing on personal experiences of train travel, shared knowledge about carriages, tracks, and tunnels. His insights captivated his peers, sparking questions and inspiring imaginative play as they integrated his contributions into their narratives. This reflects peer-led knowledge-sharing consistent with Vygotsky's (1978) more knowledgeable other, demonstrating how children scaffold one another's learning. The integration of these concepts into individual play illustrates internalisation, whereby social interactions are gradually transformed into individual understanding (Vygotsky, 1978).

The KGEs reflected on the transformative potential of co-construction, noting its effectiveness in fostering deeper thinking, motivation, and engagement. Initially sceptical, some found the approach practical and rewarding, while others observed that the children were more motivated when they themselves actively participated in the inquiries.

Emergent Curriculum

The implementation of the emergent curriculum was a transformative element of the intervention, enabling children's interests and inquiries to drive the learning process. It facilitated authentic exploration and sustained shared thinking (Siraj-Blatchford & Sylva, 2004). Educators noted that this approach created meaningful opportunities to advance children's thinking. As reflected in the dialogue:

- Melita: ...because this curricular approach has a ripple effect if you think about it. First, you elicit the interest, you involve them and stimulate them to say what they would like to know...
- Dolores: ...so, there is already a lot of thinking involved...
- Melita: ...yes, then, you give them the chance, and assist them in answering their own questions...
- Dolores: ... which leads them to ask more questions...

During circle time, children and KGEs reviewed project webs to evaluate completed inquiries, identify ongoing ones, and introduce new questions. Shared interests prompted group collaboration, while individual interests were explored independently, supporting both cooperative and autonomous learning. End-of-day discussions offered space for children to reflect on their learning, track how their interests evolved, and articulate their discoveries.

The educators actively supported the children throughout these tasks, engaging with their working theories and prompting further inquiry. These interactions often elicited more complex questions, extending the original lines of thought. Children demonstrated reflective thinking, indicating active engagement with their learning processes. For instance, in the Ħarifa setting, Karla's curiosity about seed dispersal led to a deeper inquiry supported by online videos. Miriam reflected, "I realised that children are capable of asking more complex questions once they see that their inquiries are taken seriously and addressed thoughtfully." This approach suggests the nurturing of sustained shared thinking (Siraj-Blatchford & Sylva, 2004) and promotes intersubjectivity (Göncü, 1993).

Fieldwork enriched the curriculum by integrating real-world contexts into learning. In the Ħarifa setting, the children engaged in outdoor exploration, observing trees and insects, conducting bark rubbings, and gathering materials for further analysis in class. The Sajf setting class conducted on-site fieldwork to address an inquiry about desired playground equipment and resources, providing valuable insights into how the children merged their critical and logical thinking concurrently to evaluate the feasibility of their creative ideas (Daniel et al., 2012).

However, not all children's voices were equally present. Some quieter or less confident children appeared more hesitant to contribute, highlighting the need for intentional strategies to ensure all children are heard, as sustained by Kalliala (2014), an aspect further explored in the discussion on equity-focused pedagogy.

Analysis and Discussion

Relational pedagogy (Papatheodorou, 2009) underpinned the observed transformations in classroom dynamics by cultivating a climate of trust and belonging, which enabled children to engage in "interthinking" (Littleton & Mercer, 2013, p. 1) and collaboratively construct meaning in the development of their working theories (Hedges, 2014). This trust-driven environment facilitated children's capacity to articulate ideas and engage in collective problem-solving, grounded in Vygotsky's (1978) assertion of learning as a fundamentally social process. The emphasis on a "pedagogy of listening" (Rinaldi, 2006) further amplified dialogic exchanges, whereby children's contributions were not only heard but became the foundation for collaborative meaning-making. The birthday party project exemplified how shared decision-making prompted creativity, with children drawing upon their unique perspectives and competencies, thereby illustrating the generative power of collaboration (He, 2017).

The flexibility afforded to children to collaborate based on personal affinities reinforced the inclusivity of this pedagogy, particularly for learners requiring differentiated modes of expression. Ruth's engagement in "transactional constructivism" (Biesta & Burbules, 2004, p. 8) with Tiago, a peer with whom she felt secure, demonstrated the value of relational spaces for expressing complex thinking. Through multimodal communication, including speech, gestures, and embodied expressions, she was able to convey her ideas (Cremin et al., 2018; Pramling & Säljö, 2015). These instances reflect a pedagogy attuned to diversity in communicative repertoires and grounded in principles of equity and access.

Meaningful conversations emerged as key drivers of metacognition (Siraj & Asani, 2015), persuasive reasoning (Dovigo, 2016), and reflective dialogue (Craft, 2015), fostering critical engagement through the evaluation of alternatives and justification of decisions (Hargraves, 2014). The KGEs' adoption of dialogic strategies, such as open-ended questioning and extended wait times, cultivated richer, more reflective exchanges. Classroom dialogue evolved into an open-ended discursive space, enabling children to articulate, refine, and extend their thinking in collaborative ways, thereby enhancing intersubjectivity (Göncü, 1993). The projects of garden design and train construction offered compelling illustrations of how prior knowledge was transferred and transformed through dialogue, promoting higher-order thinking (Bruner, 1977). Nevertheless, the findings point to uneven levels of participation, with some children initially disengaging or contributing less frequently. This reinforces the necessity for equity-focused pedagogy, one that is intentionally scaffolded and reflexive, to ensure that all learners are meaningfully included in the dialogic process.

The co-construction of knowledge redefined the educator's role to one of inquiry facilitator, actively scaffolding children's working theories while resisting prescriptive teaching. This repositioning is consistent with socio-constructivist theories (Vygotsky, 1978) and views learning as socially mediated (Rogoff, 1990). Educators enabled children to contribute meaningfully to collective endeavours, affirming their agency and intrinsic motivation. The application of Vygotsky's (1978) more knowledgeable other concept was evident in peer-led interactions, such as Tiago's knowledge-sharing about trains, which sparked collective exploration and imaginative play. Collaborative projects, including the design of a playground for the elves, exemplified how dialogic negotiation and cognitive adaptability emerged through shared inquiry (Gjems, 2010).

The study demonstrates how the implementation of an emergent curriculum repositioned children's interests as central to pedagogical practice. This shift enabled authentic exploration, whereby sustained shared thinking (Siraj-Blatchford & Sylva, 2004) facilitated deeper and more reflective engagement with experience. Educator reflections revealed the iterative nature of emergent inquiry: children's questions generated exploration, which in turn fuelled further inquiry. The use of daily project web reviews consolidated this cycle by fostering reflective thinking and metacognition (Siraj-Blatchford & Sylva, 2004). Miriam's observation that children posed increasingly sophisticated questions when inquiry stemmed from their interests underscores the intellectual rigour afforded by this approach. Fieldwork and real-world contexts further anchored learning, providing authentic opportunities for the application of logical reasoning and critical thought (Daniel et al., 2012). These findings align with Dewey's (1938) argument that inquiry-based learning cultivates curiosity, engagement, and intellectual independence, illustrating the transformative potential of emergent curriculum within ECEC.

However, the application of the conceptual framework also surfaced several challenges, particularly the complex nature of reculturing educational practice (Fullan, 2014; Hargreaves et al., 2010). Malta's ECEC system remains deeply influenced by its colonial history, particularly British educational traditions that have shaped institutional structures, curricula, and pedagogical approaches (Bezzina, 2015; Cutajar, 2007). While these foundations have contributed to a coherent and structured system, they have also institutionalised content-driven pedagogies that reflect dominant epistemologies, often marginalising local knowledge and children's lived experiences. These practices frequently manifest in meticulously planned activities that, although thorough in design, fail to engage meaningfully with children's interests or recognise them as competent knowledge producers. The reculturing process, therefore, demands not only pedagogical but also epistemological transformation; one that interrogates whose knowledge is privileged. The concepts of epistemic injustice (Fricker, 2007) and curriculum decolonisation (Andreotti, 2011) offer valuable lenses for understanding how historical legacies continue to shape what counts as valid knowledge. Thus, fostering pedagogical strategies that promote higher-order thinking and children's agency necessitates an ongoing commitment to disrupting these entrenched epistemic hierarchies.

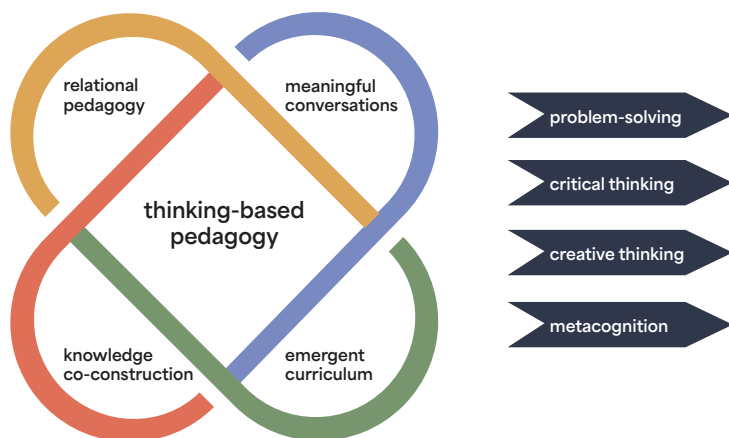
Conclusion

The Interdependence of the Four Components

The findings accentuate the transformative potential of the conceptual framework (Fig. 1) as it was implemented to set in motion a reculturing process for a thinking-based pedagogy, which positions children as protagonists in their learning journey, showcasing their potential as capable collaborators, critical thinkers, and creative problem-solvers. The framework highlights the interconnected nature of the four components, demonstrating that a thinking-based pedagogy requires their simultaneous presence and integration.

Figure 1

Conceptual Framework for a Thinking-Based Pedagogy



Although developed in a specific context, the framework is adaptable to diverse educational settings, including those with limited resources or distinct cultural foundations. Its core principles can support pedagogical innovation if interpreted according to local values, structural challenges, and socio-cultural priorities. This is especially relevant in post-colonial contexts, where tensions between dominant educational paradigms and indigenous practices demand thoughtful, context-responsive adaptation.

Implications for Policy and Practice

Ongoing professional development is vital for supporting educators in critically reflecting on their practice. Participation in reflective practitioner communities cultivates awareness of how behaviours such as controlling dialogue may constrain children's creative thinking.

Sustained professional learning ensures that interventions, such as the one initiated in this study, lead to lasting, meaningful change rather than cosmetic changes. At the policy level, this requires the development of specialised courses to equip KGEs with strategies that foster children's thinking. Targeted initiatives can strengthen the implementation of national policy at the classroom level, enabling the interconnected elements of thinking-based pedagogy, illustrated in the conceptual framework (Fig. 1), to take root.

Limitations of the Study

As a case study, this research does not seek generalisability; however, transferability is supported through rich contextual detail and methodological transparency. This enables readers to assess the relevance and applicability of the conceptual framework within their own educational contexts. The framework may be adapted in settings that foster reflective practice, support educator agency, and operate within policy environments open to pedagogical innovation. The qualitative design offered a nuanced understanding of the processes shaping the implementation of a thinking-based pedagogy. While insider research introduced potential bias, measures addressing positionality were employed, though the researcher's authoritative role remained a contextual influence.

Future Directions

Longitudinal studies could assess the sustainability of a thinking-based pedagogy in ECEC and its long-term effect on the fostering of higher-order thinking skills. Comparative research across cultures and educational contexts could illuminate how sociocultural factors influence reculturing processes. Additionally, exploring parents' and policymakers' perspectives could provide a holistic understanding of systemic changes required to support its implementation.

Notes on Contributor

Shirley Ann Gauci is a Senior Lecturer in Early Childhood Education and Care (ECEC) at the Malta College of Arts, Science and Technology (MCAST), contributing to undergraduate, postgraduate and doctoral programmes and supervising dissertations. She holds a B.Ed. (Hons) from the University of Malta, an MSc from the University of Leicester, and a PhD in ECEC from the University of Sheffield. Her doctoral research focused on pedagogy of thinking, curriculum change, and school reculturing. With a background in school leadership, Shirley has led curriculum initiatives and Erasmus+ projects on literacy, well-being, and digital literacy. Her research interests include ECEC curriculum change, inclusive leadership, intergenerational learning, and teacher education. She leads Supporting Early Childhood Education in Blue Skills with Generative Artificial Intelligence (SELBI); a nationally funded project, linking AI, blue skills, and ECEC, and regularly presents at international conferences. She also serves as a peer reviewer for academic journals and books.

References

- Andreotti, V. (2011). *Actionable Postcolonial Theory in Education*. Palgrave Macmillan.
- Atherton, F., & Nutbrown, C. (2016). Schematic pedagogy: Supporting one child's learning at home and in a group. *International Journal of Early Years Education*, 24(1), 63-79. <https://doi.org/10.1080/09669760.2015.1119671>
- Athey, C. (1990). *Extending Thought in Young Children: A parent-teacher partnership*. Paul Chapman.
- Atkins, L., & Wallace, S. (2012). *Qualitative research in education*. SAGE Publications. <http://methods.sagepub.com/sheffield.idm.oclc.org/Book/atkins-qualitative-research-in-education>
- Bassey, M. (1999). *Case Study Research in Educational Settings*. Open University Press.
- Bateman, A. (2013). Responding to children's answers: Questions embedded in the social context of early childhood education. *Early Years*, 33(3), 275-288. <https://doi.org/10.1080/09575146.2013.800844>
- Benson, H. H. (2006). *A companion to Plato*. Wiley-Blackwell. https://archive.org/details/58871954ACompanionToPlato_201801
- Bezzina, C. (2015). Malta. In W. Hörner, H. Döbert, L. Reuter, & B. von Kopp (Eds.), *The Education Systems of Europe* (2nd ed., pp. 523-543). *Global Education Systems Series*. https://link.springer.com/referenceworkentry/10.1007/978-3-319-07473-3_31
- Biesta, G. J. J., & Burbules, N. (2004). *Pragmatism and Educational Research*. Rowman & Littlefield Publishers, Inc.
- Braun, V., & Clarke, V. (2021). *Thematic Analysis: A practical guide*. Sage Publications Ltd.
- Bruner, J. S. (1966). *Toward a Theory of Instruction*. Harvard University Press.
- Bruner, J. S. (1977). *The Process of Education* (2nd ed.). Harvard University Press.
- Bruner, J. S. (1996). *The Culture of Education*. Harvard University Press.
- Busher, H., & James, H. (2007). Ethics of research in education. In A. Briggs & M. Coleman (Eds.), *Research Methods in Educational Leadership and Management* (pp. 106-122). Sage.
- Camilleri, T. (2024). The dis/continuity of the implementation of play-based learning from kindergarten 2 to Year 1 in a Maltese school. *Malta Journal of Education*, 5(1), 31-51.
- Chaiklin, S. (2003). The zone of proximal development in Vygotsky's analysis of learning and instruction. In A. Kozulin, B. Gindis, V. S. Ageyev, & S. M. Miller (Eds.), *Vygotsky's Educational Theory in Cultural Context* (pp. 39-64). Cambridge University Press.
- Chappell, K., Craft, A., Burnard, P., & Cremin, T. (2008). Question-posing and question-responding: The heart of 'possibility thinking' in the early years. *Early Years*, 28(3), 267-286. <https://doi.org/10.1080/09575140802224477>
- Chatzipanteli, A., Grammatikopoulos, V., & Gregoriadis, A. (2014). Development and evaluation of metacognition in early childhood education. *Early Child Development and Care*, 184(8), 1223-1232. <https://doi.org/10.1080/03004430.2013.861456>
- Chesworth, L. (2016). A funds of knowledge approach to examine play interests: Listening to children's and parents' perspectives. *International Journal of Early Years Education*, 24(3), 294-308. <https://doi.org/10.1080/09669760.2016.1188370>
- Clough, P., & Nutbrown, C. (2012). *A Student's Guide to Methodology: Justifying enquiry* (3rd ed.). SAGE.
- Costello, P. J. M. (2000). *Thinking Skills and Early Childhood Education*. David Fulton Publishers.

- Craft, A. (2015). Possibility thinking: From what is to what might be. In R. Wegerif, L. Li, & J. C. Kaufman (Eds.), *The Routledge International Handbook of Research on Teaching Thinking* (pp. 153-167). Routledge.
- Cremin, T., Flewitt, R., Swann, J., Faulkner, D., & Kucirkova, N. (2018). Storytelling and story-acting: Co-construction in action. *Journal of Early Childhood Research*, 16(1), 3-17. <https://doi.org/10.1177/1476718X17750205>
- Crownover, A., & Jones, J. (2018). A relational pedagogy: A call for teacher educators to rethink how teacher candidates are trained to combat bullying. *Journal of Thought*, 52(1/2), 17-70.
- Cutajar, M. (2007). Educational reform in the Maltese islands. *Journal of Maltese Education Research*, 5(1), 3-21.
- Daniel, M. F., Gagnon, M. C., & Pettier, J. (2012). Philosophy for children and the developmental process of dialogical critical thinking in groups of preschool children. *Advances in Early Education and Day Care*, 16, 159-181. [https://doi.org/10.1108/S0270-4021\(2012\)0000016010](https://doi.org/10.1108/S0270-4021(2012)0000016010)
- Degotardi, S., Page, J., & White, E. J. (2017). (Re)conceptualising relationships in infant-toddler pedagogy. *Contemporary Issues in Early Childhood*, 18(4), 355-361. <https://doi.org/10.1177/1463949117742760>
- Dewey, J. (1916). *Democracy and Education: An Introduction to the Philosophy of Education*. The Macmillan Company. <https://archive.org/details/democracyandedu05dewegoog/page/n7>
- Dewey, J. (1938). *Experience and Education*. Macmillan. <https://archive.org/details/experienceeducat00john>
- Directorate for Quality and Standards in Education [DQSE]. (2015). *Learning Outcomes Framework [LOF]*. Ministry for Education, Culture, Youth and Sport.
- Dostál, J. (2015). Theory of problem solving. *Procedia - Social and Behavioral Sciences*, 174, 2798-2805. <https://doi.org/10.1016/j.sbspro.2015.01.970>
- Dovigo, F. (2016). Argumentation in preschool: A common ground for collaborative learning in early childhood. *European Early Childhood Education Research Journal*, 24(6), 818-840. doi: 10.1080/1350293X.2016.1239327.
- Drew, C. J., Hardman, M. L., & Hosp, J. L. (2008). *Designing and conducting research in education*. SAGE Publications. <http://methods.sagepub.com/sheffield.idm.oclc.org/book/designing-and-conducting-research-in-education>
- Edwards, C., Gandini, L., & Forman, G. (Eds.). (1998). *The Hundred Languages of Children: The Reggio Emilia approach - advanced reflections* (2nd ed.). Ablex Publishing Corporation.
- Fisher, R. (1998). Thinking about thinking: Developing metacognition in children. *Early Child Development and Care*, 141(1), 1-15. doi: 10.1080/0300443981410101.
- Fisher, R. (1999). Thinking skills to thinking schools: Ways to develop children's thinking and learning. *Early Child Development and Care*, 153(1), 51-63. doi: 10.1080/0300443991530104.
- Fisher, R. (2007). Teaching thinking in the classroom. *Education Canada*, 47(2), 72-74. <https://www.edcan.ca/wp-content/uploads/EdCan-2007-v47-n2-Fisher.pdf>
- Fricker, M. (2007). *Epistemic Injustice: Power and the Ethics of Knowing*. Oxford University Press.
- Fullan, M. (2014). The Principal: Three keys to maximizing impact. <https://ebookcentral.proquest.com/lib/sheffield/reader.action?docID=1603261>
- Gauci, S. A. (2019). *Towards the advancement of thinking skills in two Maltese kindergarten schools* [Doctoral dissertation]. University of Sheffield.
- Gjems, L. (2010). Teachers talking to young children: Invitations to negotiate meaning in everyday conversations. *European Early Childhood Education Research Journal*, 18(2), 139-148. doi: 10.1080/13502931003784479.

- Gjems, L. (2011). Why explanations matter: A study of co-construction of explanations between teachers and children in everyday conversations in kindergarten. *European Early Childhood Education Research Journal*, 19(4), 501-513. doi: 10.1080/1350293X.2011.623537.
- Góncú, A. (1993). Development of intersubjectivity in the dyadic play of preschoolers. *Early Childhood Research Quarterly*, 8(1), 99-116.
- Gooch, K. (2009). Forging and fostering relationships in play: Whose zone is it anyway? In T. Papatheodorou & J. Moyles (Eds.), *Learning together in the early years: Exploring relational pedagogy* (pp. 139-151). Routledge.
- Haenen, J., Schrijnemakers, H., & Stufkens, J. (2003). Sociocultural theory and the practice of teaching historical concepts. In A. Kozulin, B. Gindis, V. S. Ageyev, & S. M. Miller (Eds.), *Vygotsky's Educational Theory in Cultural Context* (pp. 246-266). Cambridge University Press.
- Hanscomb, S. (2017). *Critical Thinking: The basics*. Routledge.
- Hargraves, V. (2014). Complex possibilities: 'Working theories' as an outcome for the early childhood curriculum. *Contemporary Issues in Early Childhood*, 15(4), 319-328. doi: 10.2304/ciec.2014.15.4.319.
- Hargreaves, A., Leberman, A., Fullan, M., & Hopkins, D. (2010). *Second International Handbook of Educational Change* (Vol. 23) [Kindle edition]. Springer. <http://www.amazon.co.uk>
- He, K. (2017). *A Theory of Creative Thinking: Construction and verification of the dual circulation model*. Springer. <https://www.springer.com/gp/book/9789811050527>
- Hedges, H. (2014). Young children's 'working theories': Building and connecting understandings. *Journal of Early Childhood Research*, 12(1), 35-49. doi: 10.1177/1476718X13515417.
- Hedges, H. (2022). *Children's Interests, Inquiries and Identities: Curriculum, pedagogy, learning and outcomes in the early years*. Routledge.
- Hedges, H., & Cooper, M. (2014). Inquiring minds, meaningful responses: Children's interests, inquiries, and working theories. Teaching and Learning Research Initiative. [http://www.tlri.org.nz/sites/default/files/projects/TLRI_Hedges%20Summary\(final%20for%20website\)1.pdf](http://www.tlri.org.nz/sites/default/files/projects/TLRI_Hedges%20Summary(final%20for%20website)1.pdf)
- Hedges, H., & Cooper, M. (2016). Inquiring minds: Theorizing children's interests. *Journal of Curriculum Studies*, 48(3), 303-322. doi: 10.1080/00220272.2015.1109711.
- Hedges, H., & Cooper, M. (2018). Relational play-based pedagogy: Theorising a core practice in early childhood education. *Teachers and Teaching*, 24(4), 369-383. doi: 10.1080/13540602.2018.1430564.
- Helm, J. H., Katz, L. G., & Wilson, R. (2016). *Young Investigators: The project approach in the early years*. Teachers College Press.
- Kalliala, M. (2014). Toddlers as both more and less competent social actors in Finnish day care centres. *Early Years*, 34(1), 4-17. doi:10.1080/09575146.2013.854320.
- Kozulin, A. (2003). Psychological tools and mediated learning. In A. Kozulin, B. Gindis, V. S. Ageyev, & S. M. Miller (Eds.), *Vygotsky's educational theory in cultural context* (pp. 15-38). Cambridge University Press.
- Leithwood, K., Harris, A., & Hopkins, D. (2019). Seven strong claims about successful school leadership revisited. *School Leadership and Management*, 1-18. doi:10.1080/13632434.2019.1596077.
- Lenz Taguchi, H. L. (2010). Doing collaborative deconstruction as an 'exorbitant' strategy in qualitative research. *Reconceptualizing Educational Research Methodology*, 1(1), 41-53. doi: 10.7577/term.170
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.

- Lipman, M. (1988). Critical thinking - What can it be? *Educational Leadership*, 46(1), 38. https://search-proquest-com.sheffield.idm.oclc.org/docview/224859179?rfr_id=info:xri/sid:primo
- Littleton, K., & Mercer, N. (2013). *Interthinking: Putting talk to work*. Routledge.
- Luff, P. (2018). Early Childhood Education for Sustainability: Origins and Inspirations in the Work of John Dewey. *Education* 3-13, 46(4), 447-455.
- Malaguzzi, L. (1998). History, ideas, and basic philosophy: An interview with Leila Gandini. In C. Edwards, L. Gandini, & G. Forman (Eds.), *The Hundred Languages of Children: The Reggio Emilia-advanced reflections* (2nd ed., pp. 49-97). Ablex Publishing Corporation.
- Mauritzson, U., & Shiyan, I. (2018). Theory of other minds, children's dialectical thinking and abilities to reflect and communicate on new opportunities. In N. Veraksa & S. Sheridan (Eds.), *Vygotsky's Theory in Early Childhood Education and Research* (pp. 68-80). Routledge.
- Miles, B., Huberman, A., & Saldaña, J. (2014). *Qualitative Data Analysis: A methods sourcebook* (3rd ed.). Sage.
- Ministry for Education and Employment [MEDE]. (2006). *Early Childhood Education and Care: A national policy*. Floriana: Ministry for Education and Employment.
- Ministry for Education and Employment [MEDE] (2012). *A national curriculum framework for all [NCF]*. Gzira, Malta: Salesian Press.
- Nisbet, J. (1993). The thinking curriculum. *Educational Psychology*, 13(3-4), 281-290. doi: 10.1080/0144341930130306.
- Organisation for Economic Co-operation and Development [OECD]. (2018). *Engaging young children: Lessons from research about quality in early childhood education and care, Starting Strong*. Retrieved January 2, 2025, from <https://www.oecd.org/education/engaging-young-children-9789264085145-en.htm>
- Papatheodorou, T. (2009). Exploring relational pedagogy. In T. Papatheodorou & J. Moyles (Eds.), *Learning together in the early years: Exploring relational pedagogy*. (pp. 3-17). Routledge.
- Perkins, D., Jay, E., & Tishman, S. (1993). Beyond abilities: A dispositional theory of thinking. *Merrill-Palmer Quarterly*, 39(1), 1-21. <https://www-jstor-org.sheffield.idm.oclc.org/stable/pdf/23087298.pdf?refreqid=excelsior%3A5cffbdfa76cc84efdd7ecda254f57ed3>
- Peters, S., & Davis, K. (2015). Babies, Boys, Boats and Beyond: Children's working theories in the early years. In S. Robson & S. Flannery Quinn (Eds.), *The Routledge international handbook of young children's thinking and understanding* (pp. 251-261). Routledge.
- Piaget, J. (1954). *The Construction of Reality in the Child*. Basic Books. <https://archive.org/details/constructionofr100piag/page/n3>
- Pramling, N., & Säljö, R. (2015). The clinical interview: The child as a partner in conversations versus the child as an object of research. In S. Robson & S. Flannery Quinn (Eds.), *The Routledge International Handbook of Young Children's Thinking and Understanding*. (pp. 87-95). Routledge.
- Reeves, J., & Le Mare, L. (2017). Supporting teachers in relational pedagogy and social-emotional education: A qualitative exploration. *International Journal of Emotional Education*, 9(1), 85-98.
- Resnick, L. B. (1987). *Education and learning to think*. Washington, DC: National Academy Press.
- Rinaldi, C. (2006). *In dialogue with Reggio Emilia: Listening, researching and learning*. London: Routledge.

- Robson, K. (2017). Review of the literature on the Reggio Emilia approach to education with a focus on the principle of the environment as the third teacher. *The International Journal of Holistic Early Learning and Development*, 4, 35–44.
- Robson, S., & Flannery Quinn, S. (Eds.). (2015). *The Routledge International Handbook of Young Children's Thinking and Understanding*. Routledge.
- Robson, S., & Hargreaves, D. (2005). What do early childhood practitioners think about young children's thinking? *European Early Childhood Education Research Journal*, 13(1), 81–96. doi: 10.1080/13502930585209571.
- Rogoff, B. (1990). *Apprenticeship in Thinking: Cognitive development in social context*. Oxford University Press.
- Rogoff, B., Matusov, E., & White, C. (1996). Models of teaching and learning. In D. R. Olson & N. Torrance (Eds.), *The Handbook of Education and Human Development* (pp. 388–414). Blackwell.
- Rosales, A. C. (2015). *Mathematizing: An emergent math curriculum approach for young children*. Redleaf Press.
- Salomon, G. (1993). Editor's introduction. In G. Salomon (Ed.), *Distributed cognitions: Psychological and educational considerations* (pp. xi–xxi). <https://archive.org/details/distributedcogni0000unse>
- Siraj, I., & Asani, R. (2015). The role of sustained shared thinking, play and metacognition in young children's learning. In S. Robson & S. Flannery Quinn (Eds.), *The Routledge International Handbook of Young Children's Thinking and Understanding* (pp. 403–415). Routledge.
- Siraj-Blatchford, I., & Sylva, K. (2004). Researching pedagogy in English pre-schools. *British Educational Research Journal*, 30(5), 713–730. doi: 10.1080/0141192042000234665.
- Siraj-Blatchford, I., Sylva, K., Muttock, S., Gilden, R., & Bell, D. (2002). Researching effective pedagogy in the early years, DfES research report 356. [REPEY]. <https://dera.ioe.ac.uk/4650/>
- Stacey, S. (2018). *Inquiry-based Early Learning Environments: Creating, supporting, and collaborating*. Redleaf Press.
- Stake, R. (2005). Qualitative case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage Handbook of Qualitative Research* (3rd ed., pp. 443–466). Sage.
- Sutinen, A. (2008). Constructivism and education: Education as an interpretative transformational process. *Studies in Philosophy and Education*, 27(1), 1–14. doi: 10.1007/s11217-007-9043-5.
- Swartz, R., & Parks, S. (1994). *Infusing the Teaching of Critical and Creative Thinking into Content Instruction*. Critical Thinking & Software.
- Sylva, K., Melhuish, E. C., Sammons, P., Siraj-Blatchford, I., & Taggart, B. (2004). The effective provision of pre-school education (EPPE) project: Final report. <http://discovery.ucl.ac.uk/10005309/>
- The Council of the European Union. (2015). 2015 Joint Report of the Council and the Commission on the implementation of the strategic framework for European cooperation in education and training (ET 2020): New priorities for European cooperation in education and training (2015/C 417/04). *Official Journal of the European Union*, 58, 25–35. [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015XG1215\(02\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015XG1215(02)&from=EN)
- Trevarthen, C., & Delafield-Butt, J. (2015). The infant's creative vitality, in projects of self-discovery and shared meaning: How they anticipate school and make it fruitful. In S. Robson & S. Flannery Quinn (Eds.), *The Routledge International Handbook Of Young Children's Thinking and Understanding* (pp. 3–18). Routledge.
- United Nations Convention on the Rights of the Child [UNCRC] (1989). *Convention on the Rights of the Child*. <https://www.ohchr.org/en/professionalinterest/pages/crc.aspx>

- Vajargah, K., Arefi, M., & Taraghija, A. (2010). Teacher's role in the formation of emergent curriculum inspired by the Reggio Emilia Approach (An experience from Iran). *New Educational Review*, 20(1), 206-224.
- Vygotsky, L. (1978). *Mind in Society: The development of higher psychological processes*. Harvard University Press.
- Vygotsky, L. (1986). *Thought and Language*. MIT Press.
- Wegerif, R., Li, L., & Kaufman, J. C. (2015). Introduction. In R. Wegerif, L. Li, & J. C. Kaufman (Eds.), *The Routledge International Handbook of Research on Teaching Thinking* (pp. 1-7). Routledge.
- White, J. (2002). *The Child's Mind*. RoutledgeFalmer.
- Wood, D., Bruner, J., & Ross, G. (1976). The role of tutoring in problem-solving. *Journal of Child Psychology and Psychiatry*, 17, 89-100. doi: 10.1111/j.1469-7610.1976.tb00381.x.
- Yin, R. (2009). *Case Study Research: Design and methods* (4th ed.). Applied Social Research Methods Series. Sage