

Embodied Reflection and Teacher Advocacy: Rebalancing the Digital Day in Early Childhood Education

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Abstract

This qualitative, intergenerational case study explores how embodied micro-practices and participatory reflection supported a novice kindergarten teacher's pedagogical reasoning during the implementation of a mandated 1:1 iPad initiative. Drawing on video-elicited interviews, classroom observations, field notes, and photo-elicitation, the study examines how the teacher used embodied strategies to sustain developmentally appropriate practice (DAP) and how reflective, collaborative meaning-making helped her articulate technological pedagogical decisions grounded in TPACK-EC. Findings indicate that embodied engagement—defined as learning shaped through bodily action, gesture, posture, and sensorimotor interaction—played a significant role in supporting children's regulation and learning during digital tasks. Participatory reflection made these embodied practices visible, enabling the teacher to develop clearer pedagogical rationales and advocate for modifications to digital routines. Implications highlight the importance of embodied and participatory approaches in early childhood teacher preparation, especially in technology-rich and mandate-driven environments.

Keywords: early childhood education, embodied learning, teacher preparation, TPACK-EC, participatory research, iPad integration, developmentally appropriate practice.

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Introduction

Across early childhood classrooms, technological mandates have increasingly required teachers to adopt iPad-centered instructional routines. Research shows that while digital tools can support individualized learning, mandatory implementation often reduces opportunities for play, movement, and relational engagement (Bebell & Pedulla, 2015; Blackwell et al., 2016; Parks & Tortorelli, 2020). These concerns are especially salient for young children, whose cognitive and socioemotional development depends heavily on embodied engagement—learning that emerges through gesture, movement, posture, and interaction with people and materials (Barsalou, 2008; Abrahamson & Lindgren, 2014).

In the context of a district-wide 1:1 initiative in a Title I kindergarten classroom, this study investigates how an early career teacher worked to sustain DAP while enacting mandated iPad routines. The study emerged from an intergenerational participatory research partnership between a novice kindergarten teacher and a teacher educator, enabling transparent dialogue around the tensions, negotiations, and embodied practices involved in technology integration.

This brief paper examines how reflective, embodied, and participatory approaches supported the teacher's sense of agency in a technology-dense learning environment.

Theoretical and Conceptual Frameworks

This study is situated within three intersecting frameworks: TPACK-EC, embodied learning, and participatory ethics through the PRICED model.

TPACK-EC extends traditional TPACK by centering developmental appropriateness, contextual sensitivity, relationships, and affective and sensory knowledge—dimensions foundational to early childhood teaching (Berson & Berson, 2024, 2025). Technology integration decisions are therefore conceptualized not as technical choices, but as developmentally and ethically grounded pedagogical judgments.

Embodied learning theory posits that cognition is inherently grounded in bodily action, perceptual engagement, and sensorimotor experience (Barsalou, 2008; Nathan, 2022). Within early childhood education, embodied practices—such as proximity, gesture, and movement—support regulation, attention, and concept development. These practices become especially important when digital tasks constrain children's movement or narrow their engagement with materials.

Participatory ethics are framed through Onwuegbuzie's (2020) PRICED model, which emphasizes processes that are participatory, reflective, integrated, critical, ethical, and developmental. This framework was essential given the intergenerational researcher-participant relationship, ensuring ethical symmetry, co-construction of meaning, and shared analytical authority.

Together, these frameworks provide a lens for analyzing how embodied practices and participatory reflection shape technological pedagogical reasoning in early childhood contexts.

Literature Review, Rationale and Significance to Teacher Education

Studies of technology integration in early childhood settings suggest that contextual mandates and accountability pressures often overshadow developmentally appropriate practices (Graves & Bowers, 2018; Nikolopoulou & Gialamas, 2015). When teachers are positioned as implementers of scripted digital routines, their professional judgment may be diminished, particularly in high-needs schools where compliance is emphasized (Parks & Tortorelli, 2020). However, research also shows that teachers' beliefs, relational practices, and embodied pedagogies strongly influence how technology is enacted and experienced by young children (Burnett & Merchant, 2017; Hirsh-Pasek et al., 2015).

Embodied learning research highlights the centrality of bodily engagement and sensory-rich environments for early childhood development (Abrahamson & Lindgren, 2014; Glenberg, 2010). Yet few studies examine how teachers use embodied strategies within digitally mediated contexts or how teacher preparation programs support reflection on embodied experiences. Teacher education research demonstrates that participatory and reflective partnerships can strengthen teacher agency, cultivate pedagogical reasoning, and support critical negotiation of instructional mandates (Areljung et al., 2021; Bergold & Thomas, 2012). This study contributes to this literature by exploring how participatory reflection helped a novice teacher navigate mandated iPad use, articulate embodied pedagogical knowledge, and maintain DAP.

Results and Conclusions

The analysis identified three interconnected themes that reveal how embodied micro-practices and participatory reflection supported the novice teacher's pedagogical reasoning within a mandated 1:1 iPad environment. These themes emerged through Braun and Clarke's (2006) iterative analytic process and were co-created through the participatory nature of the study, allowing both teacher and researcher to interpret the data collaboratively. Each theme highlights a distinct yet overlapping aspect of the teacher's experience: (a) how she used embodied practices to maintain developmentally appropriate engagement, (b) how reflective dialogue made these practices visible as pedagogical knowledge, and (c) how embodied awareness enhanced her ability to advocate for changes to digital mandates. The findings below present these themes, supported by observational evidence, reflective interview excerpts, and analytic memos.

Embodied Micro-Practices Rebalanced the Digital Day

Observational and video data showed that the teacher used embodied strategies to sustain engagement and support children's regulation during iPad activities. She frequently knelt to meet a child's eye level, adjusted proximity to re-establish relational connection, or initiated brief movement resets to counteract digital fatigue. During an observed iPad activity in which an English language learner became disengaged, the teacher repositioned herself, redirected the child with a calm and attuned tone, and guided him back to the task. Reflecting on this moment, she noted, "When I get close like that, they come back to me—not just the iPad". These practices illustrate how embodied engagement served as a counterbalance to technological rigidity.

Participatory Reflection Made Invisible Pedagogies Visible

During video-elicited interviews, the teacher recognized embodied dimensions of her practice that she had previously overlooked. Watching herself teach, she observed, “I didn’t realize my body does so much teaching until I watched it.” These reflections transformed tacit knowledge into explicit reasoning, strengthening her understanding of how embodiment supports DAP during digital tasks. Through collaborative dialogue, the teacher articulated how movement, gesture, and proximity were integral to her technological pedagogical decisions, aligning with TPACK-EC’s emphasis on developmental context.

Embodied Awareness Supported Pedagogical Advocacy

As the teacher gained clarity about her embodied strategies, she increasingly used this awareness to justify modifications to mandated digital routines. For example, she intentionally bounded the duration of iPad progress-monitoring sessions and designed movement-rich activities before and after digital tasks to support children’s sensory and emotional needs. These actions demonstrate how embodied reflection strengthened her ability to advocate for developmentally appropriate adaptations within policy constraints.

Significance

This research contributes to the field of teacher education by demonstrating how embodied and participatory reflection can surface pedagogical knowledge that is often invisible in technology integration discussions. By integrating TPACK-EC with embodied learning and participatory ethics, the study expands current understandings of teacher knowledge in digitally mandated early childhood environments. The findings suggest that teacher preparation programs should incorporate video-elicited reflection, embodied noticing practices, and participatory analysis to support preservice teachers in navigating technology-rich contexts with agency and developmental sensitivity. Moreover, this work highlights the need for policy frameworks that acknowledge and support embodied pedagogies as essential components of effective early childhood teaching.

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