

Augmented Reflection in Practicum: AI as a Dialogic Partner in Teacher Education

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Abstract

Practicum placements are central to field-based qualifications, offering students in person opportunities to develop professional practice. This presentation explores how augmented reflection with AI supported Bachelor of Education (Early Childhood Teaching) students in Aotearoa New Zealand as they navigated practicum expectations across three years of study. Students were assessed against 18 Key Teaching Tasks (KTTs), progressing from beginner to proficient levels. For some, this trajectory has proved challenging. Framed within a post-digital paradigm, the AI functioned as a non-human dialogic partner, prompting, reframing, and scaffolding students' reflective processes. Drawing on survey and focus group data, the study illustrates how the AI surfaced implicit assumptions, deepened pedagogical awareness, and fostered metacognitive insight. Crucially, the AI did not replace human collaboration but complement it, mediating reflection without diminishing learner agency. This hybrid form of reflection created a space in which understandings of practice levels became visible over time. Rather than positioning AI as a sentient collaborator or a mere tool, this work conceptualizes the machine as a post-digital presence, an entangled participant in meaning-making and recursive inquiry. The findings suggest that such configurations can enrich practicum learning by supporting students to articulate professional decisions and navigate complexity with greater confidence.

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Introduction

Reflective practice has become a core part of many disciplines. Schön (1983), drawing on Dewey (1933), described reflection as the way practitioners revisit previous events, recognise their implicit knowledge, and consider how this shapes their actions. In early childhood teacher education, reflective practice is central, appearing in many forms of assessment, including practicum placements.

This paper examines how AI became a support presence in a Bachelor of Education (Early Childhood Teaching) (B.Ed. [ECT]) at an Aotearoa New Zealand institution. A pattern of difficulty passing practicum had emerged, particularly around students' progression through the developmental levels of beginner, intermediate, and proficient. These levels were achieved by the students in their understanding of the programme's eighteen Key Teaching Tasks (KTTs), drawn from the Standards and Code for the Teaching Profession in Aotearoa New Zealand (Teaching Council of Aotearoa New Zealand, 2017). Some students appeared to struggle with understanding and articulating what progression through the levels looked like and how to demonstrate it in practice. Their reflective opportunities were limited to scheduled classroom sessions or centre-based interactions, leaving little space for individualised or on-demand support.

To address this, AI was introduced to provide an additional reflective space. The research aim was to scaffold students' initial interactions with the AI and then observe how they engaged with it independently. The study was guided by the question: "What forms of mediation emerge when AI engages in reflective dialogue with early childhood student teachers during practicum?"

This question focuses on how the AI was seen by the students, what kind of work they believed it would do at the beginning and how it helped to reorganise reflective activity. The core of this engagement was the role it would play rather than being treated as a replacement for human supervision or a simple feedback tool.

The study takes a postdigital perspective, recognising that the practicum learning ecology consists of relationships among multiple presences, both human and nonhuman (Fawns, 2022). Jandrić et al., (2018, p. 895) suggest that the "The postdigital is hard to define; messy; unpredictable; digital and analog; technological and non-technological; biological and informational." The research here shows this through its theoretical groundedness in Vygotsky's (1978) sociocultural theory. In particular, it focuses on the More Knowledgeable Other (MKO) and the Zone of Proximal Development (ZPD), which frame learning as mediated by tools, language, and social interaction.

Theoretical Framework

This study brings together sociocultural theory and postdigital perspectives to conceptualise AI as a nonhuman mediating presence in reflective practice. This research draws on Vygotsky's (1978) sociocultural theory, which argues that learning is shaped through participation in social and cultural practices and changed through tools and signs. Traditionally, in this theory, Vygotsky distinguished between human mediators (such as an MKO supporting a learner within their ZPD) and using tools in the process, (which were understood as passive mediational artefacts). In this sense, AI functions as a mediational artefact capable of influencing how students organise and extend their thinking.

In this practicum, because of the difficulties some students had with the developmental levels required, the teaching team adopted AI to support understanding for all the students (Jandrić et al., 2018). This nonhuman presence was designed to support knowledge of the KTTs, the different developmental levels and the SMART goals the students had to design for practicum. Importantly, since the inception of the ECE curriculum in 1996 in Aotearoa New Zealand, Early Childhood Education has been built on the tenet that “children learn through responsive and reciprocal relationships with people, places, and things” (Ministry of Education, 2017, p. 21) which also clearly recognises nonhuman presences in this process.

AI is not a human MKO, but still engages interactively, generating prompts, reframing ideas, and responding to learners’ language. This positions the machine as a nonhuman mediator of change within the reflective space, capable of shaping how students organise, articulate, and extend their thinking. This research aimed to understand how the students interacted with the AI in terms of reflecting on their practice and supporting them to go deeper in their thinking.

During this research, trouble was taken not to anthropomorphise the AI. Instead it was seen as a nonhuman presence and the students knew and understood this from the beginning.

Literature Review

There are two interrelated elements to consider within the literature. First, the challenges of engaging in reflection during practicum, and second, the subsequent process of meaning-making that contributes to the development of professional knowledge.

Dewey (1976) described reflection as “an endless mulling over of things... the futile attempt to spin truth out of inner consciousness” (p. 160). While this conceptualisation captures the complex and often uncertain nature of reflection, it also highlights the difficulty of engaging meaningfully in reflective processes. Crandall (2000) suggests that student teachers need to “develop more informed practice, [make] tacit beliefs and practical knowledge explicit ... leading to new ways of knowing and articulating” (p. 40). For experienced teachers, this process may be more structured and purposeful but for students undertaking practicum, reflection can remain tentative, descriptive, and unresolved. “From a practical viewpoint, there is no published evidence to show improved teacher or student performance resulting from reflective techniques, the personality of teachers is a missing variable in almost all discussions of reflection” (Akbari, 2007, p. 193).

Building on Dewey’s work, Schön (1983) introduced the concepts of reflection-in-action and reflection-on-action, emphasising the temporal and situated nature of reflective thinking within professional practice. These ideas are particularly relevant for practicum settings, where students must navigate immediate decision-making alongside retrospective evaluation of their actions. Similarly, Eraut (2008) argued that reflection occurs both on and off the job and plays a crucial role in recognising and learning from mistakes. Moon (2004) also looked at the importance of being able to apply learning in the messiness of workplaces and the importance and complexity of the learning that came from such situations.

Together, these perspectives highlight key challenges associated with learning through practicum. First, reflection is grounded in personal experience, meaning that the development of professional knowledge is shaped by prior beliefs, values, and experiences (Schön, 1983). Second, despite what writers have posited, these prior experiences may either support or constrain the ability to recognise and learn from mistakes.

In field-based early childhood programmes, practicum itself comprises two key components: regular weekly placements within early childhood centres, and extended block placements, often undertaken in unfamiliar or “away” centres. These experiences are designed to expose students to diverse early childhood age groups, pedagogical approaches, and institutional philosophies. However, the reflective process within these contexts is frequently mediated by mentor teachers, whose own perspectives and experiences also may influence, and at times complicate, students’ meaning-making. As a result, students’ reflective practice may become shaped not only by their own experiences, but also by the interpretive frames offered by others.

Reflection within practicum settings therefore is not an individual cognitive act, but a distributed cognitive process shaped across people, artefacts, and contexts (Vygotsky, 1978). Reflective knowledge of practice emerges through interactions with mentor teachers, peers, routines, and pedagogical documentation (including assignment requirements), with each contributing distinct expectations and interpretive frames.

Within this distributed landscape, no single actor holds complete authority over meaning-making. Instead, understanding is and has been co-constructed through engagement with multiple sources of knowledge. The introduction of AI into this research further extends this distribution. The AI itself is embedded in the documentation used to guide it and the experiences informing its development, as it becomes another node within the reflective extended network.

This expansion highlights that the “more knowledgeable other” (MKO) is never singular, but in this project is developed through a dynamic grouping of human and nonhuman influences that collectively shape reflective practice.

Although reflective practice has been extensively explored within teacher education, relatively little research has examined how reflective processes are mediated through AI in postdigital practicum contexts. This study contributes to this emerging area by investigating AI as a nonhuman mediating presence within reflective dialogue.

This research is situated within a postdigital paradigm, which recognises that human and digital elements do not operate as separate entities but are already entangled within educational practice. While Vygotsky’s original conception of mediation positioned tools as instruments under human control, postdigital perspectives complicate this distinction. The AI in this study does not function as a tool in the traditional sense, nor as a fully autonomous collaborator. Rather, it operates as a nonhuman presence that participates in dialogue and contributes to meaning-making (Jandrić et al., 2018). In this way, the AI can be understood as a dialogic partner that both responds to and reshapes reflective processes, without possessing intentionality or agency in human terms.

While reflection in teacher education has been widely explored, less attention has been given to how reflective processes are mediated within postdigital environments where nonhumans participate in meaning-making. In particular, there remains limited understanding of how AI systems function not simply as tools, but as mediating presences that actively reorganise reflective activity.

This study addresses this gap by examining how AI participates in and reshapes reflective dialogue during practicum, extending current understandings of reflection as a distributed, mediated, and increasingly postdigital process.

Context and Methodology

The context for this research was a Bachelor of Teaching (Early Childhood Education) degree in Aotearoa New Zealand. Participants were 38 student teachers across two third-year cohorts preparing for practicum placements of between three and five weeks within a 17-week semester.

Practicum assessment was structured around 18 Key Teaching Tasks (KTTs), aligned with the Standards for the Teaching Profession (Teaching Council of Aotearoa New Zealand, 2017). Across the three-year degree, student progression is framed through a developmental hierarchy of beginner, intermediate, and proficient levels. However, internal programme data indicated a small, recurring pattern whereby some students experienced difficulty transitioning between these levels and occasionally resulting in unsuccessful placements.

In response to this identified challenge, the teaching team introduced AI to support students' reflective processes during practicum. The AI was made available to both cohorts via a link embedded within the institutional Learning Management System (LMS).

This study initially adopted a Design-Based Research (DBR) approach, allowing the identification of an educational problem situated in practice and the iterative development of a pedagogical intervention (Wang, & Hannafin, 2005). As the study progressed, the methodology expanded into a mixed methods design. Data were collected through student surveys, and two focus groups of six participants each, representing the two cohorts.

Data were analysed using thematic analysis to identify patterns in how students engaged with reflective processes and the role of the AI in mediating these experiences. The data was read over multiple iterations looking for themes that emerged naturally from the data (Terry & Hayfield, 2021).

Findings

Earlier, the research question was posed and now is an appropriate time to answer it.

“What forms of mediation emerge when AI engages in reflective dialogue with early childhood student teachers during practicum?”

Analysis of the focus group transcripts and survey suggest three key findings showing mediation in the students' interactions with the AI.

First, students initially positioned the AI as a generic AI tool, but over time described it as a more situated pedagogical presence. At the outset, the AI was framed in familiar, instrumental terms:

“Oh, it's just another AI...” (student response)

However, as students reflected on their ongoing interactions, this positioning shifted through continued mediation by the AI. Rather than as the generic tool from the start of the practicum, the AI was increasingly described in relation to their learning and practice indicating a shift in how they understood the AI's role:

“It gives me examples and theories that I can implement.” (Student Response)

“It breaks it down for you.” (Student Response)

This suggests that, through use, the AI came to be understood not as abstract technology but as something embedded in the learning context and responsive to the students’ needs.

Second, students described the AI as reorganising their reflections through structured representation. Rather than simply as an answer machine adding new content, the students changed their description to how the AI appeared to work with what they provided, extracting, rearranging, and clarifying their ideas. Students emphasised how this made their thinking more accessible and represents a second form of mediation:

“It just takes out the specific information... makes it easier to understand.” (Student Response)

“It actually tells us what it means...it’s easier now.” (Student Response)

“It will give you guidance and kind of steer you.” (Student Response)

Finally, interactions with the AI reconfigured students’ awareness of their own practice.

Students described the AI as making expectations visible and positioning them in relation to their reflective process. This appeared to support a clearer sense of where they were and what was required, suggesting a reorganisation of their original thinking:

“I wanted help going in depth with my reflection.” (Student Response)

“It actually tells you which one I’m going to.” (Student Response)

“Without it I was lost... now I feel...” (Student Response)

Clearly in all three themes the AI functions as a mediating presence that reshapes students’ explanations, helping them to see their thinking in a more ordered and meaningful way.

In this way, the AI supported students to recognise depth, progression, and purpose within their reflections, enabling them to orient themselves more confidently within their practicum learning.

Discussion

This study set out to explore how reflection is experienced within a postdigital practicum environment in which AI is present. While practicum can be understood as a distributed learning ecology, the findings suggest that reflective activity is not evenly distributed across all elements. Instead, the AI occupies a distinct mediating role that reshapes how reflection is enacted and understood. This becomes clear in that reflection is not visible as solely an individual cognitive act, but a process that becomes newly visible and reorganised through interaction with nonhuman presence.

Foundational conceptions of reflective practice, such as those proposed by Dewey (1933) and Schön (1983), position reflection primarily as an individual cognitive process that occurs after

or during action. However, in practice, reflection in practicum has always been relationally and materially distributed across mentors, institutional expectations, artefacts, and prior experience. Rather than suggesting these theorists were incorrect, it is more accurate to view their work as foregrounding the individual while leaving the broader relational conditions of reflection less explicit.

From this perspective, sociocultural theory (Vygotsky, 1978) provides a more distributed account of mediation, where learning is shaped through interaction with tools and more knowledgeable others (MKOs). However, the findings of this study extend this framing further. The AI does not function solely as a passive tool nor as a human-like MKO. Instead, it introduces a form of responsive mediation that participates in the organisation of reflective thinking itself. This could be seen as a shift in mediation from supporting reflection to actively shaping its form.

More-than-human and postdigital perspectives (Fawns, 2022) help clarify this shift. In a postdigital paradigm, human and technological elements are not separate but already entangled within educational practice. Within this framing, the AI is best understood not as an external addition to reflection but as part of the “reflective process assembly.” However, unlike other mediating artefacts, the AI introduces a form of dialogic responsiveness that helps to reorganise student thinking in real time. This means reflection is not only distributed across actors but also dynamically reconfigured through interaction.

The findings of this research suggest that reflection in this assembly is not simply retrospective or internal, but continuously reconstituted through interaction with the AI. This compresses the distinction between reflection-in-action and reflection-on-action (Schön), as meaning is shaped in close temporal proximity to the experience rather than after it.

From a sociocultural perspective, this extends Vygotsky’s (1978) notion of mediation. While tools and MKOs traditionally support learning processes, the AI observed here plays a more active mediating role. It does not simply assist reflection, it reorganises the conditions under which reflection becomes possible and intelligible.

This is where postdigital entanglement becomes important. The AI’s role cannot be reduced to either design features or human interpretation alone. Instead, reflective practice emerges through the entanglement of students, institutional frameworks, practicum expectations, and AI responsiveness. Within this assembly, different actors contribute in qualitatively different ways, but none, importantly, operate independently.

However, this does not position AI as equivalent to human educators. Rather, it highlights that AI introduces a distinct form of mediation that is structured, responsive, and non-evaluative, yet capable of shaping attention and interpretation. This combination differentiates it from both human dialogue and traditional tools.

Overall, here, reflection is seen as a postdigital, entangled practice in which meaning is co-constructed through interaction between human and nonhuman actors. The AI does not simply support reflection, it participates in shaping and deepening what reflection becomes. Recognising this, shifts reflection from an individual cognitive activity to an emergent process of reconfiguration within a distributed learning ecology.

Limitations of the Research

This study has several limitations that should be acknowledged. First, the findings are based on a small-scale qualitative study and are therefore not intended to be generalisable. The value of the work lies in its exploratory and conceptual insights rather than in claims of representativeness. Second, the study draws solely on students' retrospective accounts of their experiences, rather than on the interactional data itself. While this aligns with the study's focus on how reflection was experienced by students, it limits the ability to examine the micro-processes through which mediation occurred.

Conclusion

This study has argued that reflective practice within practicum can no longer be understood solely as an individual or even human-centred activity. Instead, it emerges through a postdigital assemblage in which human and nonhuman presences are entangled in the ongoing production of meaning. The AI examined here did not act as a replacement for existing pedagogical relationships, but as a distinct mediating presence that reorganised how reflection was experienced, articulated, and understood. In doing so, it made visible the conditions under which reflective practice becomes possible, particularly for students navigating complex expectations of progression. While modest in scale, this work contributes to a growing recognition that reflection in teacher education is being reshaped within postdigital contexts, calling for a reconsideration of how mediation, agency, and learning are conceptualised in practicum settings.

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