

Title: More than Collaboration: Teacher-AI Co-agency as intra-action

I. Introduction

The advent of generative AI is reshaping educational practice and the role of teachers. While early AI in education was largely framed as a tool for teaching and learning, recent discourse has emphasized teacher–AI collaboration through partnership or teamwork. Yet such models remain human-centered, with teachers retaining ultimate authority. In response, this study examines how Teacher–AI co-agency emerges within pedagogical practices characterized by human–AI entanglement. Through qualitative analysis of three teachers’ engagements with generative AI, the study examines how Teacher–AI co-agency is enacted in curriculum development and pedagogical practice.

II. Conceptual Framework

The collaborative framework and the co-agency framework rest on different ontological assumptions and conceptualize teacher–AI relations in distinct ways. The collaborative framework assigns separate roles to teachers and AI, emphasizing efficiency in lesson planning, goal-setting, and instructional design. In contrast, the co-agency framework argues that teachers and AI cannot be treated as independent entities, as they are already entangled in pedagogical practice. From this perspective, co-agency is understood as a relational force emerging through mutually generative teacher–AI engagement, shaping both educational practice and its surrounding conditions. Accordingly, this study conceptualizes Teacher–AI co-agency through three key features: mutual responsiveness, processuality, and emergence.

III. Methodology

This study employed a qualitative case study approach involving three Korean teachers with varying teaching experiences and schools, who actively integrate AI into their classrooms. The selection of diverse teacher cases aimed to explore the patterns of teacher-AI co-agency that emerge across different contexts. To this end, two individual interviews and one group interview were conducted with each participant.

IV. Findings

1. Teacher A: Co-constituting Professional Judgement

Teacher A's case illustrates how Teacher–AI co-constitutes professional judgement through critical engagement. Rather than positioning the teacher as the sole authority, professional judgement emerges through dialogue with AI, in which the teacher critically reviews, responds to, and refines the incomplete drafts AI produced. In this sense, AI's partial and imperfect outputs function not as final answers, but as prompts that invite reflection and reshape the teacher's decision-making process. This demonstrates that professional judgement is not independently generated by the teacher alone, but is relationally co-constituted through entanglement with AI.

2. Teacher B: Fostering Relational Thinking

Teacher B's case presents how Teacher–AI co-agency fosters relational thinking through iterative dialogue with AI, enabling the coordination of class goals, content, and pedagogical questions, as well as the reconfiguration of instructional practice. Rather than merely providing information, AI functions here as a material-discursive apparatus that prompts relational engagement and expands pedagogical possibilities beyond human-centered boundaries. These findings suggest that Teacher–AI co-agency is not oriented toward efficiently achieving a predetermined shared goal; instead, the goals themselves are continuously revised through relational dialogue, through which educational practices and their conditions are reconfigured.

3. Teacher C: Co-creating Pedagogical Possibilities

Teacher C's case demonstrates that Teacher–AI co-agency extends beyond producing outcomes through collaboration, transforming the very conditions of educational practice. Teacher C sought to provide experimental science classes but initially faced structural and practical constraints that made such pedagogical approaches difficult to realize. Nevertheless, through engagement with AI, Teacher C was able to design and develop a learning programme for experimental instruction by using AI-assisted coding, thereby opening new pedagogical

possibilities beyond these limitations. This co-constitutive process between teacher and AI made programme development accessible in ways that had previously been limited to a small group of experts, thus reconfiguring conventional boundaries of expertise. In this sense, Teacher–AI co-agency not only enabled instructional innovation but also reshaped the conditions under which educational practice becomes possible.

V. Discussion

The three cases examined in this study demonstrate that Teacher–AI co-agency extends beyond human-centered models of collaboration, revealing how professional judgment, pedagogical practice, and educational possibilities are co-constituted through relational entanglement with AI. Rather than functioning as a neutral tool, AI operates as a more-than-human actor within pedagogical intra-actions, shaping the conditions under which teaching and learning unfold, even as its imperfections become productive forces of transformation. These findings suggest that co-agency is not a fixed outcome but an ongoing process of intra-active engagement. Accordingly, moving beyond instrumental or collaborative framings of AI requires educators and policymakers to attend to the relational, material-discursive conditions through which educational practice is continually reconfigured. This study provides both conceptual and empirical grounding for understanding Teacher–AI co-agency as an intra-active pedagogical phenomenon, offering critical implications for curriculum development, teacher professionalism, and the future organization of educational practice.