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AI-Human Duoethnography for Educational Leadership: Reflexivity Beyond the Human in Postdigital Contexts

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Article

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Abstract

This paper introduces AI-Human Duoethnography as a methodological response to the entangled conditions of postdigital educational leadership. While duoethnography traditionally relies on the juxtaposition of two human lives, this study extends the method by engaging an artificial intelligence system as a structured interlocutor within the lived experience of a middle leader. Through a reflexive cycle involving dialogic exchanges, identity mapping, and entanglement analysis, the method surfaces tensions, identity movements, and sociomaterial paradoxes that shape contemporary leadership practice. The findings demonstrate how AI's provocations, reframings, and misfires function as productive disruptions that deepen reflexive inquiry, particularly in relation to emotional labour, role negotiation, and institutional contradiction. AI-Human Duoethnography reframes leadership reflexivity as sociomaterial labour distributed across human experience, organisational context, and algorithmic patterning. The paper discusses the methodological, ethical, and practical implications of this approach for leadership development and professional learning, and identifies limitations and future directions. AI-Human Duoethnography contributes a methodological innovation and conceptual reorientation, offering a way to study leadership reflexivity beyond the human and to critically engage with the hybrid realities of postdigital education.

Introduction

Artificial intelligence (AI) has moved from the periphery of educational research to its cognitive centre. Researchers now think, write, search, and reason in constant proximity to algorithmic systems. In this postdigital condition, the distinction between "human thought" and "machine assistance" is no longer stable; instead, cognition is distributed across human and nonhuman actors (Jandrić et al., 2018). Yet qualitative research methodologies have not kept pace with this epistemic shift. Autoethnography and duoethnography foreground subjectivity, relationality, and dialogic meaning-making, but they remain anchored in human-to-human interaction. What is missing is a methodological framework that treats AI not as a background tool but as an integral participant in reflexive inquiry.

This paper introduces AI-Human Duoethnography, a methodological innovation that positions AI as a structured interlocutor in qualitative research. In this approach, the researcher intentionally divides their identity into two dialogic positions: a practitioner-self, grounded in lived experience, and a researcher-self, embodied by an AI persona. Through sustained dialogic interviews, the AI prompts, challenges, reframes, and destabilizes the practitioner's assumptions. The resulting dialogue surfaces tensions and insights that are difficult to access through solitary introspection or even through human critical-friend conversations. As the dialogic transcript used in this study demonstrates, AI's provocations can reveal unarticulated dilemmas—such as the emotional labour of leadership, the ethics of pedagogical change, or the contradictions embedded in institutional decision-making.

The emergence of AI-Human Duoethnography raises a central methodological question:

What new forms of reflexivity become possible when researchers engage AI as a dialogic provocateur rather than a passive tool?

This article does not evaluate an AI system, report a case study, or assess the effectiveness of AI in educational practice. Instead, it offers a methodological contribution: a theorization, articulation, and demonstration of AI-Human Duoethnography as a standalone research method. The method is situated within postdigital theory, which emphasizes the inseparability of human and nonhuman actors in contemporary knowledge production; within duoethnographic traditions that treat dialogue as a site of identity negotiation and transformation (Sawyer & Norris, 2013); and within reflexive methodologies that foreground the researcher's internal tensions as analytic material.

The article proceeds in five parts. First, it outlines the theoretical foundations of AI-Human Duoethnography, drawing on postdigital, duoethnographic, and reflexive traditions. Second, it describes the methodological design, including the split-self structure, data production process, and analytic framework. Third, it presents illustrative excerpts demonstrating how AI-Human dialogue generates reflexive insight. Fourth, it discusses the methodological affordances and limitations of this approach. Finally, it considers the implications of AI-Human Duoethnography for future research in education and the broader postdigital landscape.

To situate AI-Human Duoethnography within educational leadership research, it is necessary to outline the theoretical foundations that inform the method. Three strands of literature, namely postdigital theory, duoethnography, and reflexive sociomateriality, provide the conceptual grounding for this work.

Theoretical Framework

AI-Human Duoethnography is grounded in three intersecting traditions: postdigital theory, duoethnography, and reflexive methodologies. Each contributes a distinct conceptual strand, and their synthesis creates a methodological space in which AI can function as a dialogic provocateur without being miscast as a co-author or anthropomorphized agent. This section elaborates how these traditions converge to justify the method and how their tensions shape its epistemic possibilities.

Postdigital Theory

Postdigital theory rejects the binary separation between digital and non-digital life, arguing that contemporary educational practice is characterized by entanglement, hybridity, and sociomaterial interdependence (Jandrić et al., 2018). In this view, AI is not an external tool but part of the cognitive, affective, and epistemic environment in which researchers operate. The postdigital condition collapses distinctions between human and machine cognition, raising fundamental questions about authorship, agency, and the nature of thought itself.

AI-Human Duoethnography takes seriously the postdigital claim that knowledge production is distributed across human and nonhuman actors. The AI's prompts, reframings, and provocations are not treated as

external interventions but as part of the researcher's extended cognitive apparatus. This aligns with sociomaterial perspectives (e.g., Barad, 2007; Fenwick & Edwards, 2010) that view agency as emergent from interactions among human and nonhuman entities rather than residing solely within individuals.

At the same time, the method resists the temptation to humanise AI. The AI is not positioned as a co-author, collaborator, or epistemic equal. Instead, it is understood as a patterned, probabilistic system whose outputs are shaped by training data, prompt design, and interactional context. This tension — between AI as a constitutive part of reflexive inquiry and AI as a nonhuman, non-sentient system — is a central postdigital paradox that the method embraces rather than resolves.

Duoethnography

Duoethnography is a dialogic methodology in which two researchers contrast their lived experiences to interrogate identity, meaning, and transformation (Sawyer & Norris, 2013). Dialogue is not merely a data collection technique but the epistemic engine of the method: meaning emerges through contrast, tension, and relational inquiry.

AI-Human Duoethnography extends this tradition by replacing the second human participant with an AI persona. This substitution is not a technological novelty but a methodological reconfiguration. The AI does not serve as a co-author or as a bearer of lived experience; instead, it functions as a structured interlocutor that provokes reflexivity through questioning, reframing, and challenging assumptions. The AI's dialogic role mirrors the duoethnographic principle that identity is co-constructed through interaction, but it introduces a new dynamic: the interlocutor is nonhuman, non-embodied, and algorithmically patterned.

This shift produces both gains and losses. The gain is that AI can generate unexpected provocations unconstrained by interpersonal politeness, institutional hierarchy, or shared professional norms. The loss is that AI cannot offer its own lived experience, emotional history, or embodied perspective. AI-Human Duoethnography therefore becomes a method of asymmetric dialogue, where the human provides experiential depth and the AI provides structural provocation. This asymmetry is not a flaw but a defining feature of the method.

Reflexive Methodologies and the Split-Self

Reflexive methodologies position the researcher's internal tensions, contradictions, and identity negotiations as legitimate sites of inquiry (Adams et al., 2015; Pillow, 2003). Autoethnography, in particular, foregrounds the researcher's lived experience as both data and analytic lens. However, reflexive work often relies on solitary introspection or retrospective narrative reconstruction, both of which risk smoothing over the discomforts and ruptures that shape professional identity.

AI-Human Duoethnography introduces a split-self design in which the researcher intentionally occupies two positions: the practitioner-self and the researcher-self. The AI embodies the latter, enabling a form of dialogic reflexivity that externalizes internal tensions. This structure makes visible the contradictions that practitioners often suppress, such as the conflict between institutional expectations and personal values, or between leadership responsibilities and peer relationships.

The split-self design aligns with traditions of internal dialogue in qualitative research, such as self-interviewing, critical friend methodologies, and dialogic reflexivity. However, AI introduces a distinctive dynamic: it is tireless, non-judgmental, and capable of generating provocations that are not constrained by social norms or interpersonal politeness. This allows the AI to surface tensions that a human interlocutor might avoid, thereby expanding the reflexive possibilities of the method.

At the same time, the method acknowledges the epistemic risks of AI-mediated reflexivity. AI can misinterpret context, reproduce dominant discourses, or generate prompts that reflect biases embedded in training data. The researcher must therefore maintain interpretive authority, treating the AI's contributions as provocations rather than truths. This ethical stance is central to the method's integrity.

Synthesis

Together, postdigital theory, duoethnography, and reflexive methodologies provide a robust conceptual foundation for AI-Human Duoethnography. The method acknowledges the sociomaterial entanglement of human and AI cognition, leverages dialogic contrast as a site of meaning-making, and foregrounds the researcher's internal tensions as analytic material. By situating AI as a structured interlocutor rather than a tool, the method opens new possibilities for reflexive inquiry in educational research while maintaining a critical awareness of AI's limitations and risks.

Building on these theoretical foundations, the methodology section outlines how AI-Human Duoethnography was operationalised within an educational leadership context. This includes the design of the reflexive cycle, the analytic strategies used, and the rationale for engaging AI as a dialogic partner in leadership sense-making.

Methodology

AI-Human Duoethnography is a qualitative research method in which a human researcher engages an artificial intelligence system as a structured interlocutor to generate dialogic, reflexive data. The method is designed to externalize internal tensions, surface assumptions, and create a dialogic space in which the researcher's practitioner-self and researcher-self can interact. This section outlines the methodological design, epistemological rationale, data production process, analytic framework, and ethical positioning of the approach.

Research Design

AI-Human Duoethnography adopts a split-self design in which the researcher intentionally occupies two positions, namely the practitioner-self which is grounded in lived experience, narrates events, dilemmas, and emotions, and speaks from the field, and the researcher-self which is embodied by an AI system, asking questions, reframing assumptions, and provoking reflexivity, effectively functioning as a dialogic catalyst rather than a co-author.

The AI is instructed to adopt a specific persona (e.g. the “Researcher Persona”) and to conduct semi-structured interviews with the practitioner-self. This design externalizes internal dialogue, enabling the researcher to encounter their own thinking as if it were coming from another voice.

The method is asymmetric: the human provides experiential depth, while the AI provides structural provocation. This asymmetry is central to the method’s epistemic logic.

Epistemological Rationale

The use of AI-Human Duoethnography is grounded in the premise that artificial intelligence can generate an “epistemic surplus”, i.e. reflexive insights that are often unattainable through solitary introspection or traditional human-to-human dialogue. This surplus is made possible by the unique, non-human characteristics of the AI interlocutor. Specifically, AI provocations are fundamentally non-hierarchical and non-polite; because the system is unaffected by institutional power dynamics or interpersonal social norms, it can pose blunt questions that a human colleague might avoid. Furthermore, the AI is non-fatigued and non-embodied, allowing it to sustain deep, repetitive questioning without the constraints of physical exhaustion or a shared emotional history with the researcher.

This combination of traits allows the AI to surface deep-seated tensions, such as the friction between leadership obligations and collegial values, which often remain submerged in polite professional discourse. Crucially, however, the AI’s lack of lived experience prevents it from overstepping into the interpretive domain. The human researcher remains the sole bearer of experiential authority, ensuring that while the reflexivity is powerfully catalysed by the AI, the resulting knowledge remains authentically human-generated.

Initializing the “Split-Self Design”

To operationalize the split-self design, the practitioner utilized a specific prompt to move the AI beyond its default persona of a general assistant and into the role of a “Critical Interlocutor”. By providing institutional context and a “split-persona” mandate, the practitioner established the boundaries of the research space.

“I'm planning to do an Autoethnography on implementing AI-assisted writing marking in **[a secondary school in Hong Kong]**. *I want you to be my split persona, i.e. the researcher side of me. I'll be the actual persona who implemented the policy that 'you' will be interviewing.*

To give you a little more background, I work in **[School Name Redacted]** *as an English Panel Chairperson (EPC). I've tried to implement AI-assisted writing marking (using* **[Platform X]***) after one year of piloting... It was only to partial success due to lack of teacher trust (maybe) — but things picked up after a demo class (with my own class, during a formal lesson observation with everyone invited) was done in* **[Month/Year]**, *with an accompanying PD session done around 2 weeks before the demo class. Another EPC from another school has been asked to come deliver a workshop on his own experience of implementing AI-assisted writing marking."*

The specificity of this initialization—naming tensions like "lack of teacher trust" and the "demo class" strategy—provided the sociomaterial anchors necessary for the AI to move beyond generic pedagogical advice. This initialization was the catalyst for the asymmetric dialogue central to the study's epistemic logic.

Data Production

AI-Mediated Dialogic Interviews

Data are generated through sustained dialogic exchanges between the practitioner-self and the AI persona. The AI initiates the dialogue by posing open-ended, probing questions. The practitioner responds narratively and reflexively, drawing on lived experience. The AI then builds on these responses, offering reframings, challenges, or provocations that deepen the inquiry.

For example, the AI asks:

When you saw some teachers still avoiding it after all that effort, did you feel a sense of 'leadership loneliness'?

Such questions prompt the practitioner to articulate tensions that may remain tacit in traditional self-study methods.

Iterative Reflexive Cycles

Each dialogic exchange constitutes a reflexive cycle consisting of:

1. **Prompting** — AI poses a question or challenge.
2. **Narrative Response** — practitioner articulates experience or tension.
3. **AI Reframing** — AI deepens, redirects, or complicates the reflection.
4. **Meta-Reflection** — practitioner interprets the emerging insight.

These cycles accumulate into a rich dataset that captures the evolution of the researcher's thinking.

Data Boundaries

The verbatim transcript of the AI-Human dialogue constitutes the primary dataset.

The AI’s words are treated as interactional prompts, not as data about AI itself.

The human’s responses, including emotional reactions, hesitations, and shifts in stance, form the core for analysis.

Analytic Framework

Dialogic Thematic Analysis

Themes emerge from the interaction between practitioner-self and AI persona rather than from the practitioner alone. Meaning is co-constructed through contrast, tension, and provocation. Themes are identified by examining recurring tensions, shifts in identity positioning, moments of discomfort or rupture (e.g., when the AI challenged the practitioner’s “Lead Horse” metaphor, forcing a re-evaluation of leadership labour) and AI-generated reframings that alter the practitioner’s perspective.

Identity Movement Mapping

The analysis traces identity movements across the dialogue, providing a granular view of professional transition. In this study, the practitioner was observed shifting between the identities of frontline teacher-practitioner (focused on marking burdens), middle manager / leader (focused on department-wide policy), and methodological scholar (analyzing the AI interaction itself). These movements reveal the internal labour of professional identity and demonstrate how the AI’s provocations act as a “digital mirror”, forcing the researcher to confront these conflicting roles.

Postdigital Entanglement Analysis

The analysis attends to the entanglement of human and AI cognition. AI’s contributions are examined not as autonomous insights but as patterned outputs shaped by training data, prompt design, and interactional context. This analysis foregrounds the sociomaterial conditions under which reflexivity is produced.

Ethical Positioning

AI-Human Duoethnography necessitates a rigorous and explicit ethical framework to ensure the integrity of the reflexive process. Central to this positioning is the clear demarcation of agency: the AI is positioned strictly as a dialogic catalyst and is not considered a co-author or a sentient collaborator. Consequently, the human researcher retains full and final interpretive authority over the data, ensuring that the insights produced remain grounded in lived experience rather than algorithmic output. Furthermore, the method intentionally avoids anthropomorphizing the system, treating its contributions as patterned provocations shaped by training data and interactional context rather than expressions of genuine understanding.

Because this method involves a "split-self" design, it is inherently low-risk regarding external subjects, as no external participants are involved. However, the approach acknowledges and addresses several significant epistemic risks. These include the potential for AI hallucination, the reproduction of dominant

or biased discourses embedded in Large Language Models, and the risk of researcher over-reliance on automated reframings. By maintaining a stance of critical AI literacy, the researcher navigates these risks, treating "misfires" not as failures but as productive disruptions that reinforce the human's role as the primary meaning-maker. Ultimately, this ethical stance ensures that the method leverages AI's capacity to disrupt habitual thought while remaining firmly anchored in human reflexivity.

Replicability

To ensure the trustworthiness and replicability of AI-Human Duoethnography, the research process follows a structured, eight-stage protocol. This sequence ensures that the dialogue remains focused on the research inquiry while allowing for the emergence of epistemic surplus. The protocol is as follows:

1. Define the inquiry focus: Identify a specific professional or lived experience characterized by tension or transition, such as leadership, pedagogy, or identity negotiation.
2. Assign the AI a persona: Formally assign the AI a "Researcher Persona" or "Critical Interlocutor" role through a system initialization prompt.
3. Engage in sustained dialogic interviews with the AI persona.
4. Respond authentically as the practitioner-self.
5. Preserve the transcript as the primary qualitative dataset.
6. Conduct dialogic thematic analysis on the exchange.
7. Map identity movements and reflexive tensions.
8. Situate findings within postdigital entanglement.

This procedural clarity renders the method accessible and adaptable to various educational and professional contexts, providing a low-risk yet rigorous framework for reflexive inquiry in postdigital environments.

To illustrate how the method functions in leadership inquiry, the following section presents excerpts from the dialogic exchanges alongside analytic commentary. These examples demonstrate how AI-Human Duoethnography generates reflexive movement and surfaces postdigital tensions in leadership practice.

Methodological Demonstration

This section illustrates how AI-Human Duoethnography operates in practice by presenting selected excerpts from the dialogic transcript generated between the practitioner-self and the AI Researcher Persona. These excerpts demonstrate the method's epistemic mechanisms—dialogic provocation, identity movement, reframing, and postdigital entanglement—and show how the reflexive cycles described in the Methodology section unfold in real time. The purpose is not to analyse the substantive content of the practitioner's experience, but to demonstrate how the method produces reflexive depth.

AI as Dialogic Provocateur

A defining feature of AI-Human Duoethnography is the AI's capacity to pose questions that disrupt habitual narratives. Early in the dialogue, the AI asks:

When you saw some teachers still avoiding it after all that effort, did you feel a sense of 'leadership loneliness'?

This question reframes a practical implementation issue as an emotional and identity-based tension. The practitioner responds:

I'm not too sure how I could describe my feelings… I don't think AI has matured to a point where it could completely replace human 'marking,' and there is still a widespread belief that this is an expertise of teachers.

Here, the AI's provocation surfaces a latent conflict between technological change and professional identity. This moment exemplifies the duoethnographic principle of contrast, where meaning emerges through tension between interlocutors. It also demonstrates postdigital entanglement, as the practitioner's emotional response is shaped through interaction with a nonhuman agent. This exchange reflects the Prompting → Narrative Response stages of the reflexive cycle outlined earlier.

Externalizing Internal Tensions

The split-self design allows the practitioner to encounter their own thinking as if it were coming from another voice. When discussing teacher resistance, the AI asks:

Did you feel like you had to 'sell' the results, or did the students' work speak for itself?

To which the practitioner replies:

I think I didn't need to sell the results; it was more like… having to be the lead horse before anything else happens.

This metaphor of "lead horse" emerges spontaneously in response to the AI's prompt. It externalizes an internal tension between leadership obligation and collegial autonomy. This is a clear example of reflexive surfacing, where the AI's question acts as a catalyst for articulating a previously unspoken identity conflict. The moment also illustrates the AI Reframing → Meta-Reflection stages of the reflexive cycle.

Identity Movement in Dialogue

AI-Human Duoethnography makes visible the practitioner's movement across identity positions. In one exchange, the AI asks:

If a teacher says, 'I didn't use it because I find it faster to just write the three things the student actually needs to hear,' how does that land with you?

To this, the practitioner responds:

As long as teachers provide sufficient feedback on student work, it's fine for me… Perhaps allowing this freedom is a way of soft-landing the policy.

Here, the practitioner shifts from policy implementer, to collegial peer, to reflective leader. This identity movement is a hallmark of duoethnographic inquiry, where dialogic contrast reveals the fluidity of self-positioning. The AI's question functions as a hinge that enables this movement, demonstrating how the method captures the dynamic labour of identity negotiation. This aligns directly with the Identity Movement Mapping analytic strategy described earlier.

AI-Generated Reframing

One of the method's distinctive features is the AI's ability to reframe practitioner statements in ways that deepen reflexivity. After the practitioner describes mixed feelings about partial adoption, the AI responds:

This is the 'EPC's dilemma': balancing modernization with teacher autonomy.

This reframing crystallizes a diffuse emotional experience into a named tension. The practitioner then elaborates:

I was happy to see some form of adoption… It's also odd to suddenly mandate such a policy.

This exchange demonstrates sociomaterial co-production of insight: the AI provides the conceptual scaffold ("EPC's dilemma"), while the practitioner provides the experiential depth. The reframing does not replace human interpretation; it amplifies it. This illustrates the Dialogic Thematic Analysis process in action.

Surfacing Postdigital Paradoxes

The method also reveals paradoxes inherent in working with AI. In one exchange, the practitioner notes:

Curation is more exhausting… possibly also a reason why teachers refrain from using the system.

The AI responds:

You've identified a major finding: curation is more exhausting than creation.

This exchange highlights a classic postdigital paradox: AI reduces some forms of labour while increasing others. The dialogue makes this paradox visible not through theoretical abstraction but through lived experience articulated in real time. This demonstrates the Postdigital Entanglement Analysis described earlier.

AI Misfires and Human Interpretive Authority

To avoid overclaiming AI's capabilities, it is important to acknowledge moments where the AI misinterprets or overshoots. In one instance, the AI suggests:

It sounds like the teachers were resisting because they feared being replaced.

The practitioner corrects this:

I don't think it's fear of replacement… it's more about workload and unfamiliarity.

In another instance, the AI proposes:

Perhaps the resistance reflects a deeper ideological stance against automation.

The practitioner responds:

I don't think it's ideological… it's more practical and contextual.

These moments demonstrate the method's ethical stance: the human retains interpretive authority. AI's misfires are not methodological flaws; they are productive disruptions that prompt clarification, refinement, and deeper reflexivity. They also reinforce the asymmetry central to the method.

These excerpts demonstrate how AI-Human Duoethnography operates as a reflexive method. The AI's provocations, reframings, and occasional misinterpretations enable the practitioner to articulate tensions, shift identity positions, and generate conceptual insights that might remain inaccessible through solitary introspection. The method's power lies not in AI's intelligence but in its capacity to act as a structured interlocutor that disrupts habitual patterns of thought. Through this dialogic process, reflexivity becomes a postdigital, sociomaterial achievement co-produced by human experience and algorithmic provocation. This demonstration shows how the reflexive cycles, analytic strategies, and ethical commitments outlined in the Methodology section materialize in practice.

All in all, the dialogic excerpts reveal several methodological insights that extend beyond the specific leadership scenario. These insights highlight the distinctive contributions of AI-Human Duoethnography to reflexive inquiry in educational leadership.

Methodological Insights

The purpose of AI-Human Duoethnography is not to evaluate AI systems or report on educational practice, but to examine what becomes possible when AI is used as a structured interlocutor in reflexive inquiry. The dialogic exchanges presented earlier reveal several methodological insights that illuminate the epistemic, affective, and postdigital dynamics of this approach. These insights demonstrate how the reflexive cycles, identity mapping, and entanglement analyses outlined in the Methodology section materialize in practice, and how AI-Human Duoethnography expands the repertoire of reflexive methods available to educational researchers.

1. AI Enables Reflexive Depth Through Structured Provocation

A central insight is that AI can generate reflexive depth by posing questions that disrupt the practitioner's habitual narratives. Unlike human interlocutors, AI is unconstrained by interpersonal politeness, institutional hierarchy, or shared professional norms. This allows it to ask questions that a colleague or critical friend might avoid, such as:

Did you feel a sense of 'leadership loneliness'?

This provocation exemplifies the Prompting → Narrative Response stages of the reflexive cycle. It surfaces emotional and identity-based tensions that often remain unspoken in traditional self-study methods. The AI's provocations do not replace human interpretation; rather, they amplify it by creating openings for deeper reflection. This demonstrates the method's capacity to produce epistemic surplus—insights that emerge precisely because the interlocutor is nonhuman.

2. The Split-Self Design Makes Identity Movement Visible

AI-Human Duoethnography reveals how practitioners move across multiple identity positions—leader, colleague, teacher, academic—within a single reflexive episode. These identity movements are often rapid, subtle, and difficult to capture through solitary introspection. The method externalizes these shifts by prompting the practitioner to articulate their stance in response to AI questions.

For example, when the AI asks how teacher resistance "lands," the practitioner shifts from policy implementer to collegial peer to reflective leader. This demonstrates the Identity Movement Mapping analytic strategy described earlier and aligns with duoethnographic principles of relational contrast and dialogic rupture, where meaning emerges through tension between interlocutors. The method thus captures the dynamic labour of identity negotiation, a process central to leadership and professional practice but rarely made visible in traditional qualitative methods.

3. AI Reframing Generates Conceptual Clarity

Another insight is the AI's capacity to generate conceptual reframings that help the practitioner articulate complex tensions. When the AI names the practitioner's experience as the "EPC's dilemma," it crystallizes a diffuse emotional landscape into a coherent conceptual tension: modernization versus autonomy.

These reframings function as scaffolds for analysis, enabling the practitioner to deepen their reflection and articulate more precise insights. This demonstrates how AI supports the co-construction of meaning without claiming interpretive authority or lived experience. It also illustrates the AI Reframing → Meta-Reflection stages of the reflexive cycle, showing how conceptual clarity emerges through human–AI interaction.

4. Postdigital Paradoxes Become Empirically Visible

AI-Human Duoethnography makes postdigital paradoxes visible in real time. For instance, the practitioner's observation that "curation is more exhausting than creation" reveals a paradox at the heart of AI-mediated work:

- AI reduces labour while simultaneously increasing it
- AI accelerates workflow while introducing new forms of cognitive load
- AI simplifies tasks while complicating professional judgment

These paradoxes are not theoretical abstractions; they emerge organically through the dialogic process. This demonstrates the method's capacity to reveal sociomaterial entanglements: the ways human labour, technological mediation, and institutional expectations co-produce new forms of work, tension, and insight. It also aligns with broader postdigital debates about the instability of human/nonhuman boundaries.

5. AI Misfires Are Methodologically Productive

A key insight is that AI's limitations—misinterpretations, overextensions, or inaccurate assumptions—are not methodological flaws but productive disruptions. When the AI incorrectly attributes teacher resistance to "fear of replacement," the practitioner's correction generates deeper clarity about the contextual nature of resistance. In another instance, the AI proposes an ideological explanation that the practitioner rejects as overly abstract.

These misfires reinforce the method's ethical stance: the human retains interpretive authority, and AI's role is catalytic rather than epistemic. They also demonstrate how reflexivity emerges through friction, not harmony, which is a principle central to duoethnographic inquiry. The method thus transforms AI's limitations into opportunities for clarification, refinement, and deeper reflexive engagement.

6. Reflexivity Becomes a Sociomaterial Achievement

Across the dialogic exchanges, reflexivity emerges not as a solitary cognitive act but as a sociomaterial achievement co-produced by human experience and algorithmic provocation. The practitioner's insights are shaped through interaction with the AI, yet remain grounded in human interpretation, emotion, and lived experience.

This insight aligns with postdigital theory: cognition is distributed, entangled, and co-constituted by human and nonhuman actors. AI-Human Duoethnography thus demonstrates how reflexive inquiry itself becomes a postdigital practice, shaped by the interplay of human subjectivity and algorithmic patterning.

7. The Method's Unique Contribution: Reflexivity Beyond the Human

Taken together, these insights reveal the unique contribution of AI-Human Duoethnography: it enables a form of reflexivity that is fundamentally difficult to achieve through human-only methods. This is made possible by a specific synthesis of AI-driven structured provocation and the practitioner's lived

experience, bound together by the duoethnographic principles of contrast and rupture. In this framework, postdigital entanglement is not a background condition but an active research tool, where productive misfires and identity movement mapping serve as the primary mechanisms for generating insight.

The resulting reflexive space is neither fully human nor fully machine; it is a hybrid zone—a postdigital "Third Space", where the familiar patterns of professional life are made strange through algorithmic intervention. In this sense, AI-Human Duoethnography is more than a methodological innovation. It is a necessary epistemic response to the conditions of contemporary educational research, offering a rigorous way to navigate the complexities of leadership and identity in an increasingly automated world.

All in all, these insights position AI-Human Duoethnography within broader methodological and postdigital debates in educational leadership. The Discussion elaborates on these connections and articulates the significance of the method for leadership research.

Discussion

AI-Human Duoethnography offers a methodological response to the increasingly entangled conditions of postdigital educational work. The findings presented earlier demonstrate that AI can function as a structured interlocutor capable of generating reflexive depth, surfacing identity tensions, and revealing sociomaterial paradoxes that are difficult to access through human-only methods. In this Discussion, we situate these insights within broader scholarly debates and articulate the methodological, epistemic, and practical implications of this approach.

AI-Human Duoethnography as a Postdigital Method

The postdigital condition is characterized by the collapse of boundaries between human and machine cognition, between analogue and digital practice, and between individual agency and sociomaterial entanglement (Jandrić et al., 2018; Knox, 2019). AI-Human Duoethnography directly engages this condition by treating AI not as a tool but as a constitutive part of the reflexive environment. The method demonstrates that reflexivity is no longer solely a human cognitive act; it is co-produced through interaction with algorithmic systems that shape, provoke, and disrupt human thought.

This aligns with postdigital scholarship that views knowledge production as distributed across human and nonhuman actors (Bayne, 2015; Gourlay, 2021). Yet the method also resists the temptation to anthropomorphize AI. The AI's contributions are treated as patterned outputs, not as expressions of lived experience. This tension—AI as both constitutive and nonhuman—is not a methodological problem but a postdigital paradox that the method intentionally foregrounds. AI-Human Duoethnography therefore becomes a way of studying reflexivity under conditions where the boundaries of the human are already unstable.

Extending Duoethnography Beyond the Human

Duoethnography traditionally relies on the juxtaposition of two human lives, identities, and experiences (Norris & Sawyer, 2012). AI-Human Duoethnography extends this tradition by introducing a nonhuman interlocutor that cannot offer lived experience but can generate structured provocation, conceptual reframing, and productive misinterpretation.

This extension does not dilute duoethnography's core principles; rather, it intensifies them. The AI's provocations create sharper contrasts, more frequent ruptures, and more explicit identity movements than might occur in human-to-human dialogue. This aligns with duoethnography's emphasis on relational contrast, dialogic rupture, and co-constructed meaning (Sawyer & Norris, 2013). The method thus expands duoethnography's dialogic possibilities while maintaining its commitment to relational meaning-making.

At the same time, the method raises new methodological questions about what "relationality" means when one interlocutor is nonhuman, algorithmic, and patterned rather than embodied, emotional, and lived. This contributes to emerging debates about the role of AI in qualitative inquiry (Markham, 2023; Knox & Williamson, 2022).

Reflexivity as Sociomaterial Labour

The findings of this study suggest that reflexivity in the postdigital age is not an internal, introspective act, but a form of sociomaterial labor emerging from the interplay of human emotion, professional identity, and algorithmic provocation. This challenges traditional phenomenological assumptions that characterize reflexivity as a solitary, inward-looking process (Finlay, 2002). Instead, AI-Human Duoethnography demonstrates that reflexivity is fundamentally distributed and dialogic, co-constructed through the friction between a human's lived experience and an AI's patterned responses.

In this framework, reflexivity is materially mediated; it does not exist prior to the interaction but is produced *through* the entanglement of the researcher with the technological system. This reconceptualization aligns with sociomaterial perspectives that view professional practice as inextricably bound to technological and discursive forces (Fenwick & Landri, 2012). Consequently, reflexive inquiry in postdigital contexts must move beyond the human-only silo to account for the algorithmic systems that shape how researchers perceive, categorize, and interpret their professional worlds. Reflexivity, therefore, is reimagined not as an individual capacity, but as a postdigital practice, i.e. a collective performance distributed across human agency and machine logic.

Methodological Contributions

The development of AI-Human Duoethnography offers several significant contributions to the landscape of qualitative methodology, particularly within postdigital educational research. First, the method introduces a new form of dialogic reflexivity that extends traditional self-study and autoethnographic practices (Ellis et al., 2011). By creating a hybrid space where human experience and algorithmic patterning interact, the method makes identity movement empirically visible. The split-self design allows

the researcher to externalize internal tensions, tracing shifts in stance and role that might remain submerged in solitary introspection. This effectively extends identity-focused reflexive methodologies (Beauchamp & Thomas, 2009) by providing a “digital mirror” that reflects the researcher’s professional self back to the researcher through an unfamiliar, non-human lens.

Secondly, the method provides a unique lens through which to reveal and navigate postdigital paradoxes. By engaging with the AI as a structured interlocutor, the researcher is forced to confront the tensions between labour reduction and labour intensification that define contemporary educational work (Selwyn, 2022). A key innovation of this approach is the reframing of AI “misfires” as analytic opportunities. Rather than treating algorithmic errors or contextual misunderstandings as noise to be filtered out, AI-Human Duoethnography utilizes these moments as catalysts for clarification and deeper reflection. This aligns with postdigital notions of “productive breakdown” (Knox, 2019), where the failure of the technology becomes the very site where the human researcher must most articulately assert their experiential authority.

Finally, this study expands duoethnography into non-human terrain, positioning the method at the forefront of postdigital methodological innovation. As AI becomes increasingly embedded in the sociomaterial fabric of educational practice (Williamson & Piattoeva, 2022), it is no longer sufficient to study reflexivity as a purely internal or human-to-human process. AI-Human Duoethnography offers a rigorous framework for studying reflexivity under conditions of human–AI entanglement, acknowledging that our professional judgments are now frequently co-produced with algorithmic systems. In doing so, it moves duoethnography from a purely relational-human method to a posthumanist inquiry into how we think with the machines that now populate our professional lives.

Implications for Educational Leadership Research

The findings of this study suggest that AI-Human Duoethnography is particularly potent for surfacing the hidden dimensions of educational leadership. While scholars like Cliffe et al. (2020) have long identified that identity tensions and institutional contradictions are pervasive in the field, they are often silenced by the “politeness” of professional discourse.

The dialogic exchanges in this study demonstrate that the Digital Interlocutor (AI) functions as a reflexive disruptor. Rather than just "articulating" tensions, the interaction with the AI forced a confrontation with positionality, specifically where the Practitioner-Self was caught between the Duty of Care for staff and the strategic mandate of the institution. In this sense, the method does not merely list contradictions; it allows the leader to inhabit the rupture between personal values and institutional demands, providing the epistemic surplus necessary to move toward a more integrated professional identity.

While the Discussion situates the method conceptually, it is also important to consider its implications for leadership practice, its ethical boundaries, and its potential for further development. The following section synthesises these considerations.

Implications, Limitations, and Future Research

AI-Human Duoethnography offers methodological, practical, and conceptual implications for researchers, educators, and leaders working within postdigital environments. As AI becomes increasingly embedded in educational systems, reflective tools that acknowledge human–AI entanglement are urgently needed. This section synthesizes the practical implications of the method, outlines its epistemic and ethical constraints, and identifies directions for future research.

Implications for Practice

While AI-Human Duoethnography is primarily a methodological contribution, its application carries significant implications for professional practice, particularly in high-stakes fields where identity, emotion, and decision-making are central. First, the method offers a transformative approach to enhancing reflective practice within educational leadership. School leadership is inherently characterized by intense emotional labour and the constant negotiation of institutional contradictions (Cliffe et al., 2020). By providing a structured, non-polite dialogic space, this method allows leaders to articulate internal tensions and examine their positionality away from the gaze of institutional hierarchies. Because the AI interlocutor is not embedded in the same social or professional power structures as human colleagues, it is uniquely capable of generating the sharp contrasts and productive ruptures required to surface contradictions between personal values and institutional demands.

Secondly, the adoption of this method serves as a practical vehicle for supporting critical AI literacy. Engaging with an AI system not as a tool for efficiency but as a partner for reflection forces practitioners to develop a nuanced understanding of algorithmic mediation. As leaders interact with the system, they begin to discern how AI frames problems, how its internal patterning shapes professional discourse, and how the resulting human–AI entanglement influences their own judgment. This directly addresses emerging calls for critical AI literacy in education (Williamson & Piattoeva, 2022), reframing reflexive dialogue with machines as a vital form of professional learning in the postdigital era.

Finally, AI-Human Duoethnography expands the repertoire of reflexive tools available in postdigital workplaces. Traditional modalities, such as journals, coaching, or peer dialogue, are frequently constrained by time, interpersonal dynamics, and the politeness filters of workplace culture. The AI-mediated approach offers a complementary modality characterized by immediacy, consistency, and a non-judgmental yet provocative presence. By integrating this method into the professional landscape, organizations can provide leaders with a third space for reflection that does not replace human empathy but enhances it through a structured, non-human contrast.

Limitations

While AI-Human Duoethnography offers a potent site for reflexive disruption, it is governed by specific epistemic and ethical boundaries. Primary among these is the inherent asymmetry of lived experience.

Unlike traditional duoethnography, which relies on the mutual resonance of two embodied lives, the AI provides patterned outputs rather than lived narratives. This lack of embodied knowledge and contextual nuance fundamentally shapes the affective texture of the dialogue, leading to a form of emotional flattening where the AI can provoke human emotion but cannot reciprocate it. Far from undermining the method, however, this non-human "otherness" is precisely what enables the non-polite, non-fatigued provocations central to the approach.

Furthermore, the method is subject to the sociomaterial constraints of algorithmic mediation. AI systems are not neutral; they frequently reproduce dominant discourses, normative assumptions, and cultural biases embedded within their training data (Benjamin, 2019). Consequently, the researcher must maintain a stance of "critical AI literacy" (Markham, 2023), evaluating provocations as patterned provocations rather than objective truths. This necessitates a disciplined resistance to reflexive outsourcing. Because AI can generate rapid, articulate reframings, there is a risk that the practitioner may delegate the labour of interpretation to the system. To mitigate this, the human must remain the sole bearer of interpretive authority, ensuring that the AI remains a catalyst for reflection rather than a surrogate for it.

Finally, the method is partially contingent upon model-specific affordances. Different AI architectures may produce varying forms of rupture or misfire, suggesting that the "Third Voice" is an emergent property of the specific human-machine entanglement rather than a universal AI output. Acknowledging these limitations does not diminish the method's utility; rather, it defines the rigorous ethical and analytical contours required for its responsible application in educational research.

Future Research

The introduction of AI-Human Duoethnography opens several promising avenues for methodological and empirical exploration, moving beyond the initial boundaries of this study.

First, there is a clear need for comparative methodological inquiries. Future research should examine how different AI architectures and LLMs (Large Language Models) shape reflexive outcomes, provocations, and identity movements. Such studies would clarify the extent to which the "Third Voice" is model-dependent or emergent from the prompting protocol itself. Furthermore, the method could be expanded into multi-agent dialogues, involving multiple AI personas or systems to reveal more complex forms of contrast, rupture, and conceptual reframing than a dyadic exchange allows.

Beyond technical variations, the pedagogical and professional application of the method warrants significant attention. AI-Human Duoethnography offers a scalable, low-risk tool for reflective practice within leadership preparation programs, coaching frameworks, and teacher education curricula. By comparing this approach with traditional human-only duoethnographies or critical friendship models, researchers can illuminate the unique affordances of nonhuman interlocution, specifically its ability to provide a non-polite space for surfacing institutional tensions.

Finally, the affective and longitudinal dimensions of this work remain fertile ground for study. Further inquiry is required to understand the emotional labour inherent in AI-mediated reflection, particularly how practitioners navigate the affective dynamics of an asymmetrical dialogue over time. Longitudinal studies could explore whether repeated engagement with a “Digital Interlocutor” fundamentally alters a practitioner’s reflexive habits or professional identity. By situating these inquiries within the broader context of postdigital entanglement, the field can continue to refine how we study leadership reflexivity in an increasingly automated educational landscape.

Conclusion

AI-Human Duoethnography responds to a growing methodological gap in postdigital educational leadership research: the need for reflexive approaches that acknowledge the entanglement of human and algorithmic actors. By engaging AI as a structured interlocutor, the method demonstrates how leadership reflexivity can be co-produced through human–machine dialogue, revealing tensions, identity movements, and sociomaterial paradoxes that remain inaccessible through human-only approaches. The dialogic exchanges show that AI’s provocations, reframings, and misfires are not merely technical artefacts but productive disruptions that deepen leadership sense-making. In this sense, the method extends duoethnography beyond the human while preserving its commitment to relational contrast, dialogic rupture, and co-constructed meaning.

The significance of this contribution lies in its recognition that leadership reflexivity is no longer solely a human endeavour. As AI systems become increasingly embedded in educational organisations, the boundaries of leadership practice and reflection are shifting. AI-Human Duoethnography provides a way to study and inhabit these shifts, offering a methodological lens attuned to the distributed, hybrid, and postdigital nature of contemporary leadership work. It foregrounds reflexivity as sociomaterial labour, shaped by the interplay of human experience, organisational context, and algorithmic patterning.

At the same time, the method’s limitations—rooted in asymmetry, algorithmic bias, and emotional flattening—define its ethical and epistemic boundaries. These constraints remind us that AI cannot replace human interpretation, lived experience, or emotional resonance. Instead, its value lies in its capacity to provoke, disrupt, and refract leadership meaning-making in ways that open new reflexive possibilities.

AI-Human Duoethnography therefore contributes not only a methodological innovation but a conceptual reorientation for educational leadership research. It invites scholars and practitioners to reconsider what leadership reflexivity means in a world where human and nonhuman agencies are increasingly intertwined. As educational systems continue to navigate the complexities of AI integration, methods that acknowledge and critically engage these entanglements will become essential. AI-Human Duoethnography offers one such approach—an invitation to explore leadership reflexivity beyond the human and to imagine new forms of inquiry suited to the postdigital condition.

Declarations

Competing Interests

The author declares they have no financial or non-financial competing interests.

Ethical Approval

Not applicable.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

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Author Contribution

I was the sole writer for the entire manuscript.

Data Availability

NOTE: This study generated a qualitative dataset consisting of a dialogic transcript between the practitioner-self and an AI-embodied researcher-self. No external participants were involved, and the dataset is not publicly archived due to its reflexive and self-generated nature.

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