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TEACHING AND LEARNING IN AN AGE OF ARTIFICIAL INTELLIGENCE: REVISITING MARTIN BUBER'S PHILOSOPHY OF DIALOGUE AND ITS IMPLICATIONS FOR HUMAN-CENTERED EDUCATION IN AN ERA OF INTELLIGENT MACHINES

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Abstract: The growing integration of artificial intelligence (AI) systems and tools in educational practice has generated extensive scholarly interest, with existing literature focusing predominantly on the capacity of these systems to personalize learning and expand access to educational resources. These developments have substantially advanced the understanding of AI's pedagogical potential. However, they also propagate a reductive framework in which AI's use in educational practice is evaluated primarily on the basis of scalability and performance. Little attention has been given to the philosophical considerations about personhood and the nature of educational relationships that shape its integration into teaching and learning. Addressing this gap, this article examines the educational implications of artificial intelligence through Martin Buber's philosophy of dialogue, with particular reference to the "I–Thou" and "I–It" modes of relation. The paper adopts a philosophical-analytic methodology to examine whether the operational dynamics of AI are compatible with Martin Buber's idea of authentic education. The article argues that the operational logic of AI is situated within the "I–It" mode of relation, insofar as its pedagogical functions depend on objectifying learners through computational models. From a Buberian perspective, this objectification is not in itself philosophically problematic or educationally illegitimate. The dynamic of objectification becomes philosophically problematic only when it expands beyond its appropriate epistemic domain and begins to structure educational relationships through categories of measurement and control. To this effect, the article argues that authentic education presupposes a pedagogical encounter characterized by mutual presence and the irreducibility of the human 'subject', which are all conditions that AI, irrespective of its computational sophistication, cannot instantiate. At least, not at the current stage of its development. The article concludes that AI is a powerful resource whose educational value ultimately lies in its capacity to support, rather than supplant the dialogical relationship between teachers and learners.

Keywords: Artificial Intelligence, Martin Buber, Philosophy of Education, Dialogue, "I–Thou", "I–It", Educational Technology, Human Formation.

INTRODUCTION

Artificial Intelligence is permanently changing the conditions under which teaching and learning have taken place for decades, possibly even centuries. AI-enabled technologies such as intelligent tutoring systems, adaptive learning platforms, automated assessment technologies, and generative AI applications are increasingly getting integrated into classrooms and online learning environments at an unprecedented rate (Luckin et al., 2016). These technologies are capable of performing pedagogical functions that have historically been assigned to human teachers or agents. Some of these functions include providing feedback when worries arise and closely monitoring learner progress. As Holmes et al., (2022) note, the increasing adoption of AI systems in educational practice indicates how much potential AI has to augment teaching and learning through its capacity to process large volumes of data and respond to learner needs in real time with unprecedented speed and range.

The integration of AI in educational practice over the last decade has stimulated a wide range of opinions among scholars about its many pedagogical implications. Many philosophers of education have argued that education involves far more than the transmission of knowledge or the acquisition of competencies. Dewey (1916) for instance,

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conceptualizes education as a mode of 'participatory growth' accomplished or arrived at through shared experience. Freire (1970) rejects instructional models that reduce learners to passive recipients of information, insisting instead on dialogue as the foundation of authentic education. Similarly, Noddings (1984) lays emphasis on care as the basis of educational relationships. Many of the perspectives of key educational scholars may differ in some aspects, however, they tend to converge on the fact that education is fundamentally relational. There is a consensus about the centrality of the encounter between the teacher and learner, and how indispensable this encounter ultimately is in educational formation.

The rise of advanced AI tools and systems in education raises new questions about the future of this relational dimension of education. Unlike earlier educational technologies that functioned primarily as instructional tools, contemporary AI systems increasingly simulate forms of interaction that resemble human dialogue. As Kasneci et al. (2023) note, students can now converse with AI tutors, seek personalized explanations that cater to their specific needs, receive immediate feedback, and even engage in extended exchanges that mirror human pedagogical conversations. These developments necessitate a reflection about what ultimately characterizes dialogue in educational practice. Can interactions mediated by artificial intelligence embody the forms of reciprocity and presence traditionally associated with teaching? Or does the increasing reliance on intelligent technologies risk transforming educational relationships into encounters that are efficient and responsive, yet fundamentally impersonal?

Among twentieth-century philosophers of dialogue, Martin Buber offers one of the most influential accounts of the relational foundations of human existence. Buber criticized intellectual tendencies that reduced human beings to objects of analysis, rather than subjects in themselves. He developed a dialogical philosophy centered on the distinction between 'I–Thou' and 'I–It' relations. Whereas I–It relationships involve engagement with others as objects to be used or managed, I–Thou relationships are characterized by reciprocity and what he considers to be genuine encounter (Buber, 1970). Buber's philosophy has exercised considerable influence within educational thought, given the fact that it situates teaching within the sphere of human encounter and dialogue. From a 'Buberian' perspective, education derives much of its significance from the quality of the encounter between teacher and learner (Friedman, 1983). Drawing on Buber's philosophy of dialogue, this article examines whether educational practices mediated by artificial intelligence can sustain the forms of encounter that Buber regards as essential to genuine human formation and educational life.

I. ARTIFICIAL INTELLIGENCE AND THE TRANSFORMATION OF CONTEMPORARY EDUCATION

The Rise of Artificial Intelligence in Teaching and Learning

The incorporation of digital technologies into education is not a recent phenomenon. Since computer-assisted instruction (CAI) became popular in the 1960s, educational institutions have experimented with technologies designed to support teaching and expand access to learning resources. Early computer-assisted instruction systems were developed on large mainframe computers through pioneering projects such as the PLATO (Programmed Logic for Automated Teaching Operations) system at the University of Illinois and IBM's Coursewriter, both of which established many of the instructional principles that shaped subsequent developments in educational computing (Molnar, 1997). These systems presented learners with a number of services, such as ready-to-access structured instructional material, multiple-choice questions, and immediate corrective feedback. Learning Management Systems (LMSs) such as Blackboard, Moodle and Canvas; online learning platforms like Coursera and edX; educational software packages such as GeoGebra, SPSS Campus Edition; multimedia learning environments including PhET Interactive Simulations, SMART Notebook and Nearpod; along with web-based instructional resources such as YouTube have greatly reshaped the technological infrastructure of schools and universities (Selwyn, 2016). These earlier technologies functioned principally as mechanisms for delivering instructional content. They also stored digital information and facilitated communication between teachers and learners to a small extent. Yet, as Selwyn, (2016) maintains, the central pedagogical responsibilities of explaining, forming judgements about the learners and assessing their progress ultimately remained firmly within the domain of human educators.

The rise of AI marked a significant departure from this earlier phase of educational technology. AI systems supersede conventional digital tools like Learning Management Systems, digital libraries and electronic textbooks which follow predetermined instructional pathways. This is because AI systems have the capacity to actively learn from data and identified patterns with remarkable accuracy. They also have the remarkable ability to change and adapt responses to changing circumstances. In educational settings, this capacity has enabled the development of AI systems that participate directly in instructional processes through personalized content delivery and automated feedback (Holmes et al., 2022).

Much of the contemporary interest in educational AI is prompted by its enormous potential to personalize learning. For decades, educational theorists like Bloom (1984) and Tomlinson (2014) have recognized the limitations of

standardized instructional models in addressing differences in learners' abilities and learning trajectories. As a matter of fact, Carol Tomlinson's work on differentiated instruction came about from the recognition that uniform instructional models rarely meet the needs of increasingly diverse classrooms. AI-driven learning systems attempt to respond to this challenge through the rigorous analysis of learner data. These systems have the capacity to monitor indicators such as performance patterns, engagement levels, response times, and learning behaviors and subsequently generate individualized learning pathways and targeted interventions for specific learners that would be difficult to provide accurately within large classroom settings (Holmes et al., 2022). Corroborating this, Luckin et al. (2016) argue that AI technologies have the potential to augment personalized learning to a level that classroom instruction may never be able to reach. This is consistent with Bloom's (1984) renowned demonstration many decades ago that students receiving personalized tutoring frequently outperform their peers who primarily have to rely on conventional classroom instruction.

Recent developments in generative Artificial Intelligence have further amplified the debates surrounding AI systems in education. Generative artificial intelligence refers to a class of machine learning models capable of producing novel outputs including text, images, audio, computer code and video by learning statistical relationships from vast quantities of training data (Kasneci et al., 2023). Rather than retrieving existing information, these models generate probabilistic predictions concerning the sequence of words, symbols or visual elements most likely to satisfy a given prompt. Unlike earlier educational technologies, generative AI systems actively participate in the actual production of knowledge. As Kasneci et al. (2023) explain, large AI language models such as ChatGPT, Claude, and Gemini can perform a wide range of tasks that have traditionally been associated with human creativity such as summarizing academic materials, constructing arguments, and engaging learners through conversational interactions. This development is unprecedented in the history of educational technology. Earlier digital systems extended human instructional capacity by improving access to information and administrative efficiency. Generative AI introduces something qualitatively different. For the first time, educational technologies are capable of producing explanations, constructing arguments and sustaining extended conversations that closely resemble human pedagogical interaction.

Yuval Noah Harari argues that contemporary artificial intelligence differs fundamentally from earlier technological innovations because it possesses capacities traditionally reserved for human agents rather than passive tools. A tool like a hammer, microscope or search engine performs tasks determined by its user. Generative AI however, proposes solutions and participates in conversations with a degree of autonomy that allows it to shape human decisions rather than simply execute them. In *Nexus*, Harari (2024) argues that history has entered a new phase because humanity has created technologies capable of generating ideas and narratives rather than merely transmitting them. Information technologies have historically served as channels through which human beings communicated with one another. Artificial intelligence increasingly enters those communicative networks as an active participant. Its capacity to produce language gives it unprecedented influence over human judgement and knowledge production (Harari, 2024).

The Epistemological Implications of Artificial Intelligence in Educational Practice

The rapid adoption of artificial intelligence in teaching and learning has generated considerable enthusiasm largely as a result of its capacity to improve outcomes and optimize learning. Nevertheless, a growing body of scholarship cautions against evaluating educational technologies exclusively through metrics of scalability and performance. Such objectives possess undeniable value. Education, however, encapsulates more than the mere acquisition of competencies or the management of instructional processes. Questions regarding personhood, human development and ethical responsibility remain central to educational practice.

One of the most significant concerns raised within recent scholarship is the gradual depersonalization of learning. Depersonalization refers to educational processes in which learners are increasingly approached through standardized data-driven categories that obscure their individuality (Biesta, 2020) Selwyn (2016) argues that digital education increasingly encourages "datafied" understandings of learners. Educational encounters have historically depended on relationships through which teachers come to know learners as unique individuals with all their peculiar capacities and weaknesses. Artificial intelligence operates through a fundamentally different logic. Its effectiveness relies on its capacity to collect, classify, analyze and build patterns out of the data presented to it. As such, learners enter AI systems primarily as entities profiled under categories such as behavioral patterns, performance metrics and other predictive variables. This often augments instructional precision, since the peculiar needs of every learner are not readily available, nor can they be fully addressed by these algorithmic models. This also introduces a subtle shift in educational perception. Students risk being understood increasingly through the categories that algorithms can recognize and process, despite the fact that much of what constitutes educational formation actually resists algorithmic representation. As Biesta (2020) explains, human qualities like intellectual curiosity, moral courage, imagination, empathy, practical wisdom (*phronesis*) cannot be measured by behavioural metrics or predictive variables. He argues that the most significant

educational outcomes are often realized precisely within those dimensions of human experience that cannot be measured or quantified.

Closely connected to this concern is the transformation of teacher–student relationships. Across diverse philosophical traditions, there exists remarkable agreement that education derives much of its significance from the quality of human encounter. Martin Buber locates education within genuine dialogue between persons. Nel Noddings (1984) argues that authentic education begins in relationships of care, maintaining that "the primary aim of every educational effort must be the maintenance and enhancement of caring". Gert Biesta (2020) similarly contends that teaching cannot be understood simply as facilitating learning because education always involves the ethical responsibility of bringing another person into dialogue with the world. Most philosophers of education agree on the fact that personal encounter and dialogue are essential in authentic learning processes. AI systems may be able to provide explanations and answer questions with impressive efficiency. However, as Gert Biesta (2020) remarks, they cannot participate in relationships characterized by moral responsibility and genuine reciprocity. As such, there is the possibility a student may interact extensively with an intelligent tutoring system without ever encountering the form of recognition that accompanies meaningful human engagement.

Concerns about dependency have also attracted increasing scholarly attention. Developers of AI tools and systems often characterize them only as supplementary tools intended to support human learning and teaching. Nevertheless, their patterns of use suggest a different reality. Students are getting more reliant on AI for the generation of their ideas altogether. Likewise, teachers are increasingly depending on AI for the preparation of their lesson materials. These developments undoubtedly alter the intellectual habits that education seeks to cultivate.

Aristotle's account of intellectual virtue provides one of the earliest articulations of this view. From an Aristotelian perspective, education is fundamentally concerned with the cultivation of intellectual excellence rather than the simple acquisition of information. In the *Nicomachean Ethics*, Aristotle distinguishes intellectual virtues from moral virtues and argues that "intellectual virtue owes both its birth and its growth chiefly to teaching" (Aristotle, 1999, 1103a14–15). According to Aristotle, the aim of education consists in the development of intellectual excellences (*aretai dianoētikai*) such as intuitive understanding (*nous*), scientific knowledge (*epistēmē*), practical wisdom (*phronēsis*), and philosophical wisdom (*sophia*) or right judgment (Aristotle, 1999, 1139b15–1141b8). Dewey (1916) similarly argues that the central aim of education is the cultivation of "the habit of reflective thought in learners." These capacities cannot be acquired or strengthened if learners increasingly adopt the habit of just ingesting ready-made content prepared by AI tools.

A number of ethical challenges further complicate the adoption of AI in educational practice. Issues surrounding algorithmic bias, transparency, accountability, privacy, and surveillance have generated extensive debate across educational research. Machine-learning systems do not operate in a value-neutral manner. The patterns they identify and the predictions they generate are shaped by the data on which they are programmed, and the objectives specified by their developers (Mehrabi et al., 2021). As such, decisions on assessment, for instance, may reproduce existing inequalities in subtle ways. An automated writing assessment system trained predominantly on essays produced by native English speakers, for example, may consistently assign lower scores to multilingual learners despite the substantive quality of their arguments. Concerns regarding data governance are equally significant. The functioning of educational AI frequently depends on the continuous collection of learner information, raising important questions about consent and the ethical limits of educational monitoring. In relation to this, UNESCO (2021) warns that educational institutions must ensure that "AI technologies are developed and deployed in ways that protect human rights, human dignity and human agency."

II. MARTIN BUBER'S PHILOSOPHY OF DIALOGUE

The Intellectual Foundations of Buber's Dialogical Thought

The philosophical orientation which Martin Buber's work takes can only be fully appreciated against the backdrop of the intellectual and cultural issues that accompanied the rise of European modernity during the late nineteenth and early twentieth centuries. Rapid industrialization transformed patterns of social life and urbanization weakened many traditional forms of community living. In a similar way, bureaucratic institutions expanded their reach into everyday existence and the remarkable successes of the natural sciences encouraged increasingly mechanistic interpretations of human reality. Max Weber (1946) famously described this development as the progressive "disenchantment of the world," a process through which rational scientific progress and bureaucratic organization displaced older sources of meaning and challenged the sense of communal belonging. Weber was not alone in expressing such concerns. Simmel (1971), reflecting on the psychological consequences of metropolitan life, warned that modern individuals were becoming detached from one another through the dominance of money economies and industrialization.

These developments prompted a philosophical concern regarding the status of the human person in an increasingly objectified world. As such, the central question that many twentieth-century thinkers grappled with was whether

modern forms of scientific enquiry and societal organization had secured unprecedented technical power at the expense of authentic human existence. A diverse range of intellectual movements emerged in response to this concern. Among the most influential was existentialism, a tradition united less by a common doctrine than by a shared dissatisfaction with abstract philosophical systems that appeared detached from the realities of lived experience (Cooper, 1999). Existentialists sought to redirect philosophical attention toward the concrete individual confronted by his freedom and the search for meaning.

The roots of this movement are commonly traced to Søren Kierkegaard, whose writings constituted a sustained critique of speculative philosophy, particularly the system-building ambitions associated with German Idealism (Cooper, 1999). Kierkegaard argued that philosophical reflection had become preoccupied with universal concepts while neglecting the concrete individual who must make choices and assume responsibility for his existence. In *Concluding Unscientific Postscript*, he advanced the provocative claim that "subjectivity is truth" (Kierkegaard, 1992) as a reminder that questions concerning existence cannot be resolved without a proper consideration of the subjective dimension of being. Friedrich Nietzsche, another key progenitor of the existentialist movement, approached the crisis of modernity from a different direction. He diagnosed European culture as suffering from a profound erosion of meaning following the decline of traditional religious certainties. His famous declaration that "God is dead" (Nietzsche, 1974) was a cultural diagnosis intended to capture the collapse of the moral and metaphysical frameworks that had sustained Western civilization. Nietzsche feared that modern societies might respond to this loss of meaning through conformity, passivity, and what he regarded as impoverished forms of existence. As such, he challenged philosophers to confront a series of questions that had become unavoidable in the aftermath of this cultural transformation: How can human beings create meaning once inherited certainties have lost their authority? What constitutes an authentic life in the absence of absolute foundations? Upon what basis can values be affirmed in a disappointing world? Nietzsche's philosophical reflections profoundly influenced later existentialists who likewise sought to restore the concrete individual to the center of philosophical inquiry.

These existentialist concerns persisted into the twentieth century through the phenomenological and existential philosophies of Edmund Husserl, Martin Heidegger, Karl Jaspers, and Jean-Paul Sartre. Husserl (1970) criticized the growing tendency of modern science to overlook the “Lebenswelt” or "lifeworld"; the realm of lived experience from which all knowledge ultimately arises. Heidegger's *Being and Time* (1962) sought to recover the question of Being by examining human existence as a situated and finite mode of engagement with the world. Jaspers (1955) emphasized communication and existential encounter as indispensable dimensions of authentic existence. Sartre (2007), approaching the matter from a secular perspective, argued that human beings are "condemned to be free," meaning that they cannot escape the responsibility of choosing and defining themselves through action.

Buber developed his philosophy within this intellectual landscape. He shared the existentialists' dissatisfaction with abstract systems and the phenomenologists' concern for lived experience. His distinctive contribution was that he reoriented the center of philosophical reflection from the isolated individual to the sphere of relation. The fundamental question for Buber was neither "What is the self?" nor "What can the self know?" but rather "How does the self come into being through its encounter with others?" His answer would take the form of a dialogical philosophy grounded in the conviction that human existence is constituted through relationships rather than through isolated acts of consciousness.

The “I–Thou” and “I–It” Distinction in Buber's Dialogical Philosophy

The most influential and enduring component of Martin Buber's philosophy is his distinction between the “I–Thou” (“Ich–Du”) and “I–It” (“Ich–Es”) modes of relation. This distinction materialized from Buber's dissatisfaction with a dominant tendency in Western thought to understand reality through the framework of subject and object. From the seventeenth century onward, major philosophical traditions increasingly approached knowledge as a process in which a knowing subject confronts an external world available for observation and explanation (Taylor, 1989). Philosophical inquiry within this period revolved around the conditions under which objects could be known with certainty; be it in the rationalism of René Descartes, the empiricism of John Locke, or the critical philosophy of Immanuel Kant. These traditions profoundly shaped modern conceptions of scientific inquiry by establishing objectivity and observation as the primary pathways to knowledge. Buber did not dispute the intellectual achievements of this tradition. His concern lay elsewhere. He questioned whether conceptual frameworks developed to explain the world of objects were equally capable of explaining the experience of encountering another human being as a person rather than as an object of cognition.

Buber's answer to this question begins with a radical reconsideration of the self. Contrary to philosophical traditions that portray the individual as an autonomous entity possessing an identity prior to social relations, Buber argues that the human person exists within relationships. His famous assertion that “there is no I taken in itself, but only the I of the primary word I–Thou and the I of the primary word I–It” (Buber, 1970) represents one of the clearest formulations of this position. The statement challenges the assumption that the self exists as a complete and self-contained reality before entering into contact with others.

For Buber, the character of the self is inseparable from the character of its relationships. Different modes of relation give rise to different forms of selfhood. One becomes a particular kind of "I" according to the relation one enters. As Buber succinctly observes, "The primary word “I–Thou” can be spoken only with the whole being. The primary word “I–It” can never be spoken with the whole being" (Buber, 1970). In a sense, personhood, in Buber's philosophy, is relational before it is psychological or epistemological. According to Buber then, the question worth asking at any point in time is how the individual stands in relation to others and to the world.

The “I–Thou” relation refers to an encounter in which another being is approached as a living presence rather than as an object of experience. As such, the term “Thou” does not identify a specific category of persons; it describes a particular mode of relation. In an “I–Thou” encounter, the other is neither classified nor reduced to a set of characteristics. One does not approach the other as a psychological case, a social category, a professional role, or an object of investigation (Friedman, 2002). The encounter is direct and reciprocal. Buber captures this point succinctly when he writes that “when ‘Thou’ is spoken, the speaker has no thing for his object” (Buber, 1970). The significance of this claim is enormous. According to Buber, the other person is encountered as a subject whose reality exceeds every description that can be made about him or her. The significance of this claim has been emphasized by Maurice Friedman (2002), who argues that “The I–Thou relation does not produce additional knowledge about another person; rather, it constitutes a fundamentally different mode of human presence in which the other is affirmed as an irreducible centre of existence rather than an object available for analysis”. As such, no accumulation of empirical information can exhaust or adequately capture the reality of the person encountered in dialogue because personhood always exceeds the categories through which it is described.

In addition to the “I-Thou” mode of dialogue, Buber advances the “I-It” dimension. The “I–It” describes the sphere of experience in which reality is approached as an object. Here the ‘world’ is investigated, measured and classified. Scientific inquiry is rooted in this dimension, as it relies on empirical observation and the objective analysis of phenomena. Buber never treats the I–It world as illegitimate or undesirable. On the contrary, he explicitly acknowledges that "without It man cannot live" (Buber, 1970). Buber's concern arises when the logic of objectification expands beyond its proper domain and begins to define the entirety of human experience. When this happens, categories originally developed for understanding things are gradually extended to human beings themselves. Persons come to be assessed according to their use or social function. According to Buber, when the language of administration displaces the language of encounter, individuals run the risk of becoming only data points. The danger in this eventuality is that the irreducible uniqueness of the person is gradually lost. Buber recognized this tendency as one of the defining features of modern civilization.

The distinction between I–Thou and I–It offers a philosophical diagnosis of modernity with huge implications for educational practice. Buber does not call for the abandonment of science, technology, or institutional life. Such a position would be untenable. His concern is directed toward the colonization of human relationships by categories that are appropriate for managing things but inadequate for encountering persons. According to Buber, human flourishing requires both worlds. Notwithstanding, the implications of AI in education are significant, and cannot be assessed solely on the grounds of its technical capacities. The integration of AI in education must also be examined in light of its implications for the dialogical relationships through which education has historically understood the formation of the human person.

III. ARTIFICIAL INTELLIGENCE VIS-A-VIS BUBER’S “I–THOU” AND “I–IT” DIMENSIONS OF DIALOGUE IN EDUCATIONAL PRACTICE

Conversational Artificial Intelligence Systems and the Problem of Genuine Dialogue

The rapid development of conversational AI systems has challenged long-standing assumptions about the nature of educational dialogue. Earlier educational technologies functioned primarily as repositories of information. Their pedagogical limitations were readily apparent because interaction remained largely unidirectional (Selwyn, 2016). Contemporary generative AI systems present a markedly different educational experience. Through advances in large language models and natural language processing, systems such as ChatGPT, Claude and Gemini are able to sustain extended conversations and adapt their responses to the comprehension capacity of their learners. The depth of the feedback provided by the advanced models of these tools sometimes resembles the exchanges traditionally associated with human tutoring (Kasneci et al., 2023). For many learners, these interactions possess an immediacy and coherence that make AI appear genuinely conversational. There can be no doubt whatsoever that advanced AI systems have a considerably sophisticated conversational capacity. However, the question that is imminent within the context of this paper’s aims is this: is conversational competence is sufficient to constitute dialogue in the sense developed by Martin Buber?

Buber's philosophy postulates a distinction between communication and dialogue that contemporary discussions of artificial intelligence frequently overlook. In ordinary language, dialogue commonly refers to an exchange of words between two participants. Buber operationalizes the term in a far more rigorous sense. According to Buber,

dialogue describes a form of relation that is characterized by a number of fundamental properties; mutual presence, reciprocity, openness, and recognition. What sets the Buberian understanding of dialogue apart from its regular use is that it transcends mere exchange between persons. It consists in an encounter between two 'subjects' who address one another as persons. "All real living is meeting" (Buber, 1970) remains one of the most frequently cited statements in Buber's *I and Thou* precisely because it articulates this proposition. In the Buberian framework, human existence takes on its fullest meaning only through encounters in which persons stand before one another as subjects, without any of them reducing the other to an object of analysis or control.

This distinction fundamentally alters the terms of the discussion surrounding educational AI, since it is entirely possible that a conversational system may be able to generate responses (regardless of how sophisticated and accurate they may be), without participating in the 'form of relation' Buber describes as the most pedagogically authentic. This is because dialogue in Buber's account, presupposes the presence of subjects capable of addressing and being addressed. As such, reciprocity is first and foremost an existential attribute before it is informational. In authentic dialogue, Buber points out that each participant enters the encounter as a person whose responses arise from lived experience, intentionality and openness to the other. Artificial intelligence to a lesser extent may possess semblances of reciprocal presence, but it definitely possesses no lived experience, and has no ontological selfhood. It produces responses only through the identification and analysis of statistical relationships within vast linguistic datasets rather than by addressing another person from the standpoint of its own existence. Buber expresses the nature of authentic dialogue with striking clarity when he observes that "The relation to the Thou is direct. No system of ideas, no foreknowledge, and no fancy intervene between I and Thou" is needed (Buber, 1970). The exchange of information, regardless of its quality, does not by itself establish such a relationship.

Artificial Intelligence as an Educational Expression of the "I–It" Relation

Martin Buber's distinction between the "I–Thou" and "I–It" modes of relation provides a solid philosophical framework within which the growing integration of artificial intelligence into educational practice can be examined. Contemporary discussions on the role of AI in education are often dominated by questions concerning the technicalities of AI systems such as its scalability, learning analytics and capacity to personalize instruction (Luckin et al., 2016). These technical attributes have considerably received more scholarly attention than philosophical and epistemological concerns about the use of AI systems in education. Buber's dialogical framework invites us to address the philosophical consideration about what kind of educational relationship artificial intelligence presupposes.

Buber argues that the "I–It" relation constitutes the sphere of objectification. Human beings enter this mode whenever they seek to know, classify and explain things in the world. Scientific inquiry falls under this domain. The operational mechanisms of contemporary artificial intelligence reflect the "I-It" epistemological orientation. Every AI system functions by converting complex realities into structured representations capable of computational analysis (Russell & Norvig, 2021). Its capacity to generate responses depends on the identification of statistical regularities within large bodies of data. Educational AI systems operate according to the same principle. Intelligent tutoring systems for instance, work by making inferences from the performances of its leaners. Similarly, predictive analytics estimate future academic achievement from historical records, and generative AI systems construct educational responses by modeling probabilistic relationships within linguistic data (Kasneci et al., 2023). The various ways in which these AI systems are used in education differ, however they share a common epistemic structure. They all address the learner from the point of view of an object. The key here is on the fact that within the AI-learner dynamic, the learner is encountered through knowledge '*about'* him or her rather than through a reciprocal relation '*with'* him or her. This is as a result of the fact that, as Holmes et al. (2022) point out, educational activity, in this instance must first be translated into measurable variables before it can become accessible to algorithmic reasoning (Holmes et al., 2022). Within Buber's dialogical framework, this pattern falls within the demarcation of the "I–It" relation.

This operational dynamic has profound philosophical and pedagogical implications. Artificial intelligence never encounters the learner directly in Buberian terms. It encounters only a representation of the learner assembled from observable and measurable indicators like assessment scores, interaction histories, and patterns of error, which provide the informational basis from which the system constructs a model of learner performance (Holmes et al., 2022) Such models have a significant degree of explanatory and predictive value. They enable forms of instructional responsiveness that would be difficult to achieve consistently within conventional classroom settings. Their educational usefulness is therefore not in dispute. However, their limitations are apparent, particularly their lack of personalization.

Buber's educational philosophy attributes the highest significance to the "I–Thou" relation because education primarily concerns an encounter between persons before it concerns the dissemination of information. Buber argues that genuine education only takes place when the educator has the capacity to recognize 'the primitive actual person' hidden within the learner. (Buber, 1947). Determining

whether artificial intelligence can participate in genuinely educational dialogue in the Buberian sense requires more than demonstrating that it can processes learner data. It requires examining whether AI is capable of satisfying the conditions that distinguish an "I–Thou" encounter from an "I–It" encounter. This is because there is the possibility that a system may be able to analyse, predict and respond with extraordinary sophistication without entering the dialogical relationship that Buber regarded as constitutive of authentic education.

CONCLUSION

The rapid integration of artificial intelligence systems and tools into educational practice has generated extensive discussion pertaining to their capacity to personalize learning, improve instructional efficiency, automate assessment, and expand access to educational resources. Much of this literature has evaluated AI's use in education primarily in terms of its high technical performance and effectiveness in attaining pedagogical goals. This article has argued that such discussions remain incomplete if they don't have a philosophical grounding on what should fundamentally characterize the nature of educational relationships.

Martin Buber's dialogical philosophy addresses this neglected dimension of contemporary educational discourse. His distinction between the "I–Thou" and "I–It" modes of relation demonstrates that education cannot be reduced only to the efficient transmission of information or the optimization of learning processes. Educational practice is fundamentally relational. It concerns the formation of persons through encounters in which teachers and learners recognize each other as subjects rather than as objects of observation or control. This philosophical framework calls for a reorientation from assessing artificial intelligence only in terms of its technical performance to a consideration about the nature and quality of the relationships through which teaching and learning are mediated.

Viewed through Buber's framework, contemporary educational AI operates predominantly within the sphere of the "I–It" relation. Its effectiveness depends on processes of abstraction through which learners are represented as computational models derived from measurable indicators such as performance, behaviour, engagement, and interaction histories. Such objectification is neither philosophically illegitimate nor educationally undesirable. Buber himself recognized that scientific inquiry require the objectifying capacities of the "I–It" world. Artificial intelligence extends these capacities in ways that can substantially enrich educational practice by supporting timely feedback, adaptive instruction, and evidence-informed pedagogical decision-making. The philosophical difficulty however, arises when the dynamic of objectification expands beyond its legitimate domain and begins to define the educational relationship itself. This is because once learners are encountered primarily through algorithmic classifications, there is a corresponding risk that dimensions of personhood which resist computational representation may receive little to no educational attention. Moral agency, existential struggle, practical wisdom, trust, responsibility, creativity, and the search for meaning remain central to human formation precisely because they cannot be adequately reduced to data structures or statistical inference.

This paper therefore does not advocate for the rejection of artificial intelligence in education. Such a conclusion would neither reflect the realities of contemporary educational practice nor fall in line with Buber's own recognition of the indispensable role of the "I–It" relation in human life. The argument advanced in this paper is philosophical and normative in nature. This article demonstrates the growing presence of AI in educational practice and calls for a critical reflection on the limits of technological mediation and on the forms of human encounter that education ought to preserve. AI should remain an instrument that serves educational relationships rather than a framework that redefines them.

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