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The intelligence of Artificial Intelligence to Distance Education. A critical clarification

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The *intelligence* of Artificial Intelligence to Distance Education. A critical clarification

Η *νοημοσύνη* της Τεχνητής Νοημοσύνης στην εξΑΕ. Μία κριτική αποσαφήνιση

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Abstract

The paper focuses on the critical evaluation of the intelligence of Artificial Intelligence applications in distance education. This theoretical and philosophical paper sets out the argument that technological Artificial Intelligence systems in distance education do not possess intelligence; rather, they function solely as tools to assist human intelligence. It is therefore proposed that a conceptual shift be made, with the term "Artificial Intelligence" being replaced by the term "Assistant Intelligence". Paper's reasoning is founded upon the phenomenological tradition espoused by Hubert Dreyfus and John Searle's Chinese Room thought experiment. It is argued that three fundamental characteristics of human intelligence are absent in the applications of artificial intelligence in distance education. These characteristics are: embodiment, contextuality and intentionality. Examples of such applications include Intelligent Tutoring Systems, Artificial Intelligence Discussion Facilitators, Large Language Models, Automated Assessment Systems and Proctoring Systems. It is imperative to provide critical clarification of the term "Artificial Intelligence" to prevent the replacement of human work in education by technology and to preserve the humanistic principles and values of the educational process.

Keywords

Philosophy, Embodied learning, Teaching presence, Intelligent Teaching Systems, Large Language Models, Automated Assessment Systems, Proctoring Systems

Περίληψη

Η εργασία επικεντρώνεται στην κριτική αξιολόγηση της νοημοσύνης των εφαρμογών Τεχνητής Νοημοσύνης στην εξ αποστάσεως εκπαίδευση. Είναι ένα θεωρητικό, φιλοσοφικό άρθρο που διατυπώνει τη θέση είναι ότι τα τεχνολογικά συστήματα Τεχνητής Νοημοσύνης στην εξ αποστάσεως εκπαίδευση δεν διαθέτουν νοημοσύνη, αλλά λειτουργούν μόνο ως εργαλεία υποβοήθησης της ανθρώπινης νοημοσύνης. Ως εκ τούτου, προτείνεται η εννοιολογική μετατόπιση και η αντικατάσταση του όρου «Τεχνητή Νοημοσύνη» με τον όρο «Βοηθός Νοημοσύνης». Η συλλογιστική του άρθρου βασίζεται στη φαινομενολογική παράδοση του Hubert Dreyfus και στο νοητικό πείραμα του Κινέζικου Δωματίου του John Searle. Υποστηρίζεται ότι τρία θεμελιώδη χαρακτηριστικά της ανθρώπινης νοημοσύνης απουσιάζουν από τις εφαρμογές Τεχνητής Νοημοσύνης στην εξ αποστάσεως εκπαίδευση, όπως τα Ευφυή Συστήματα Διδασκαλίας, οι Διευκολυντές Συζητήσεων Τεχνητής Νοημοσύνης και τα Μεγάλα Γλωσσικά Μοντέλα, τα Αυτοματοποιημένα Συστήματα Αξιολόγησης και τα Συστήματα Επιτήρησης. Αυτά τα χαρακτηριστικά είναι: η ενσωματότητα, η συγκειμενικότητα και η προθετικότητα. Η κριτική αποσαφήνιση του όρου «Τεχνητής Νοημοσύνη» είναι σημαντική για να αποτραπεί η αντικατάσταση του ανθρώπινου έργου στην εκπαίδευση από την τεχνολογία και για να διατηρηθούν οι ανθρωπιστικές αρχές και αξίες της εκπαιδευτικής διαδικασίας.

Λέξεις-κλειδιά

Φιλοσοφία, Ενσώματη μάθηση, Διδακτική παρουσία, Ευφυή Συστήματα Διδασκαλίας, Μεγάλα Γλωσσικά Μοντέλα, Αυτοματοποιημένα Συστήματα Αξιολόγησης, Συστήματα Επιτήρησης

Introduction

Since the time of Aristotle, the argument that learning is based on experience and the senses has been a contentious issue within the field of education (Grayling, 2019).

Discussions concerning the relationship between the senses, memory and cognitive processes have resulted in the formulation of contemporary cognitive theories, such as the Theory of Embodied Cognition (Lakoff, 2012; Wilson & Foglia, 2016). Embodied learning is defined as the interaction between the body and the physical environment through sensory-motor processes, as well as social interaction facilitated by the body (Kokkinidou, 2017). As Alexias (2011) argue, the body possesses a social dimension which is expressed through movement, emotions and expressions. This social dimension cannot be separated from the body's biological dimension.

In the contemporary era, Distance Education (DE) employs a range of Artificial Intelligence (AI) systems with the objective of augmenting the engagement of participants in the educational and learning process (da Silva et al., 2021; Manousou, 2025). Moreover, AI is advanced as a solution to the inherent challenges of DE, such as the absence of physical presence, the difficulty of engaging learners in the learning process, and the effort to provide personalised support to geographically dispersed learners (Kreijns et al., 2022; Willatt & Flores, 2022). It is an established fact that education is a holistic process that concerns human intelligence and cannot be separated from embodied characteristics (Kanellopoulos et al., 2021; Willatt & Flores, 2022).

In both face-to-face and DE contexts, elements such as body language, tone of voice, gestures, and other non-verbal cues play a pivotal role in shaping the dynamics of teaching and learning (Kanellopoulos et al., 2021). For Kanellopoulos et al. (2021), these embodied characteristics contribute to the understanding and formation of a context that influences the educational and learning process itself. This raises the question of whether the integration of AI technology enhances or reduces the challenges associated with the absence of the physical body in DE. The central question guiding this study is whether AI systems in DE, devoid of a physical presence, can operate in a manner analogous to that of teachers in face-to-face education. The question therefore arises as to whether they are intelligent, as defined by their verbal definition, and as human instructors (or counsellors or mentors) are typically considered to be.

The development of AI is founded on a critical philosophical assumption: that these computer systems possess intelligence comparable to human intelligence. That is to say, they possess (or may acquire in the future) logic, judgment, self-awareness, and the ability to understand. In light of the philosophical and scientific traditions that attribute the aforementioned qualities to intelligence, it is evident that these characteristics are exclusively ascribed to humans as rational beings (Aristotle, 1998; Searle, 1980).

The objective of this paper is to critically evaluate the intelligence of AI applications in DE, and more generally. To this end, it will take as its starting point the various AI systems used in DE. The present thesis defends the position that the AI systems employed in (distance) education do not possess intelligence in the conventional sense but rather function as instruments that facilitate human intelligence. For this reason, it would be preferable to use the term “Assistant Intelligence”. The present thesis will be supported by consideration of the criticism of computer systems and AI by Dreyfus (1992) and Searle (1980, 1983). These scholars argue that computers and AI will never acquire intelligent characteristics such as those of humans.

This is a theoretical, philosophical study that draws on the phenomenological tradition and utilises the analytical method, while also incorporating elements of the interpretive method, conceptual analysis, and thought experiments (Fosl & Baggini, 2020; Glock, 2008; Williamson, 2020). The examples used in this study focus on AI applications used in DE, such as Intelligent Tutoring Systems (ITS) for personalised teaching, Automated Assessment Systems (AAS) for immediate feedback, AI Discussion Facilitators (AIDF) and Large Language Models (LLMs), as well as Proctoring Systems (PS) that use motion behaviour analysis. It should be noted that the following examples do not seek to analyse and describe the functionality of these applications or their utilisation in DE; instead, their purpose is to critique their usage in relation to their “intelligent” features.

The significance of the paper lies in its emphasis on the necessity for critical clarification of the term "Artificial Intelligence" and its rational use. This term has the potential to engender both conceptual and social misunderstandings, leading to the cultivation of excessive expectations, the reinforcement of myths surrounding the autonomy of machines, and the fostering of fears regarding the replacement of human labour, particularly within the educational sector. It is crucial to provide critical clarification of the term, as it is linked to the way we understand, utilise, and teach these (and related) technologies. This clarification should be grounded in the humanistic principles that underpin education.

The structure of the paper is organised into five sections. The subsequent section of this paper will present the theoretical framework upon which the rest of the study is based. This is followed by the development of the reasoning that leads to the justification of the thesis, which is based on examples of AI applications used in DE. Prior to the presentation of conclusions, it is proposed that the term "Artificial Intelligence" be replaced with the term "Intelligence Assistant".

Theoretical framework: Artificial Intelligence and criticism

Artificial Intelligence (AI)

AI is defined as digital computing systems that simulate intelligent behaviour. These are algorithmic tools that process data, generate statistical patterns, and operate on control and feedback principles, as described in cybernetics theory (Grant, 2009). The advent of the computer (H/Y) marked the inception of this pursuit, providing the technological foundation for its subsequent development. The possibility of constructing such a machine was confirmed by Alan Turing, who also proposed the Turing test[1] as a criterion for success (Turing, 1950).

Dreyfus (1992) posits that the historical development of this concept extends beyond the contemporary era, tracing its roots to a philosophical perspective that can be traced back to the era of Socrates in 450 BC. This philosophical perspective sought to conceptualize reasoning in terms of calculation. Socrates sought an "effective process" – a set of rules that could precisely determine how to behave. In order to achieve this Platonic ideal, it would be necessary to eliminate all recourse to intuition and judgment, a belief that ultimately came to dominate Western thought.

Its historical development, in summary, initially encompasses cognitive simulation (1957-1962), that refers to the simulation of human processes through the

[1] In the Turing test, a human evaluator is tasked with the evaluation of a written record of a conversation between a human and a machine, in natural language, with the objective of identifying the machine in the conversation. The machine is considered to have passed the test if the evaluator is unable to distinguish it with certainty. The outcomes are contingent solely on the degree to which the machine's responses mirror those of a human, regardless of their accuracy in addressing the questions posed (Turing, 1950).

programming of heuristic methods[2], primarily for proving mathematical theorems and translating languages. The failure of this approach underscored the complexity of syntax and semantics, and it was emphasised that context is pivotal in organising perception and clarifying meaning for the specific task at hand. The subsequent phase involved the processing of semantic information (1962-1967) using techniques designed exclusively for the end result (AI in the narrow sense). However, the storage of the vast quantity of facts that resulted from this approach proved to be “very difficult” for the computers of the time. In the third phase (1967-1972), the focus of efforts to develop AI shifted towards microworlds. These were defined as extremely limited, isolated domains designed for full analysis. However, the extension of microworlds to larger “worlds” proved to be a challenging endeavour. In its fourth phase (1972-1977), AI attempted to address the problem of knowledge representation. In this phase, given that intelligence requires understanding, which presupposes providing computers with the common logical background that adults acquire thanks to their bodies and their education in a culture, it attempted to address the understanding of context as an object that must be represented in explicit symbolic descriptions constructed from context-independent facts. However, human understanding is dependent on an unspoken context, which facilitates the perception of relevant information in relation to other concepts.

The previously mentioned phases pertain to the symbolic approach of TN (Good Old-Fashioned AI/GOFAI), in which intelligence is predicated on the application of formal functions governed by rules to distinct, explicit and defined events. Since 1977, researchers have been exploring alternative approaches to the symbolic approach, including machine learning, connectionism/neural networks (modelling the learning ability of the human brain using artificial neural networks) and interactive/Heideggerian AI (simulation of the role of the body in intelligent behaviour, on the basis that the body is necessary for flexible, non-rule-regulated intelligence) (Dreyfus, 1992).

[2] In the computer science domain, the heuristic method is a technique for problem-solving that is faster, achieved by compromising the optimal, complete, correct, or most accurate answer in favour of speed. This approach can be regarded as a simplistic shortcut (Pearl, 1984).

Criticism of AI

Hubert Dreyfus: Intelligence is embodied

In his book What Computers Still Can't Do (1992), Hubert Dreyfus criticised AI, arguing that human intelligence differs radically from computational information processing. Drawing heavily on the phenomenological tradition and the work of Martin Heidegger (1962) and Maurice Merleau-Ponty (2005) in particular, Dreyfus (1992) highlights the *embodied* and *contextual* nature of intelligence.

According to Dreyfus, AI is based on “knowing that” and is therefore unable to achieve authentic intelligence. Its disembodied, context-disconnected nature prevents it from accessing the rich, non-standardised “background” of understanding (Lichtung) required for the intuitive perception of situations. Polanyi (1966) distinguished between two forms of knowledge: “knowing that”, i.e. explicit, propositional knowledge expressed in rules and principles; and “knowing how”, which is the practical, embodied skill evident in skilful actions that cannot be fully expressed in explicit rules.

However, the human capacity for intelligent behaviour cannot be fully standardised, meaning that symbolic AI cannot replicate it entirely (Dreyfus, 1992). Contrary to the belief of McCulloch and Pitts (1943), the human brain does not function like a computer that processes discrete symbols. Firstly, much of our knowledge arises from direct perception of the possibilities of the environment and does not require internal mental representation (Gibson, 2015; Heidegger, 1962; Rogers, 2017). If the mind relied solely on discrete mental representations through formal rules and the simple processing of sensory data, it would not take into account embodied, context-dependent understanding — that is, embodied engagement with the world (Merleau-Ponty, 2005). Furthermore, it is impossible to standardise all knowledge as explicit rules and facts because tacit knowledge supports human skills (Polanyi, 1966).

Lastly, the world does not consist of independent, context-free events that can be represented by distinct symbols. Such an approach would overlook the holistic, contextual nature of experience, in which objects are encountered as equipment embedded in a meaningful environment, ready to be used rather than analysed theoretically (Heidegger, 1962). Humans are embodied beings with skills, such as the use of language or tools, that are assimilated through practice and motor activity, enabling them to “inhabit” these skills. This embodied “information processing” approach, where the concept of the whole precedes its parts, enables human intelligence to avoid the infinite task of standardising everything. The computer, lacking a body, must start with defined details; failure to take advantage of the overall context is inevitable.

John Searle: The Chinese Room and the importance of semantics and intentionality

John Searle's Chinese Room argument (1980) is a remarkable thought experiment that demonstrates the insufficiency of formal symbol manipulation for true understanding. The experiment aims to refute the idea that a computer that correctly executes a programme has mental processes such as understanding.

This thought experiment asks someone to imagine a person locked in a room who does not understand the Chinese language. The room contains boxes of Chinese symbols and a rulebook written in English for handling these symbols. When questions in Chinese (inputs) are introduced into the room, the person follows the rules to provide appropriate answers in the same language (outputs). From the outside, it appears that the system passes the Turing test (Turing, 1950) for understanding language; however, in essence, the person inside the room has no understanding of the language.

The basic idea, and Searle's (1980) argument, is that, like the person in the Chinese room, computers handle symbols only on the basis of their formal properties (syntax), without understanding their meaning (semantics). This leads him to his central conclusion: *syntax is not enough for semantics* (Searle, 1980). *Intentionality*, or the property of mental states to “refer to something” or be directed towards objects or situations in the world, is missing from the computational process (Searle, 1983). According to Searle (1980), the human mind has inherent intentionality, whereas computers only have derived intentionality — meaning attributed to symbols by human users that is not understood by the machine itself.

The thesis and arguments

This paper argues that AI systems used in (distance) education do not possess intelligence but instead function as tools that assist human intelligence. For this reason, it would be more appropriate to describe them as *Assistant Intelligence* systems. The premises supporting this thesis are as follows:

(1) The AI systems used in distance education do not have embodiment,

(2) The "understanding" possessed by these systems is not fundamentally contextual and

(3) The operation and response of these systems are not characterised by intentionality.

The issue of disembodied pedagogy

Intelligent Tutoring Systems (ITSs) (e.g. Duolingo, Cognitive Tutor and ITS-CAL) are AI applications that personalise the learning process through multimedia (Bouchard, 2021). They work by setting problems, monitoring attempts to solve them step by step, providing hints for mistakes and adjusting the difficulty based on learners' performance (Fodouop Kouam, 2024; Lai & Lin, 2025; Naayini, 2025; Zerkouk et al., 2025). They can be considered a solution for DE in providing personalised instruction on a large scale. Research confirms that well-designed ITSs can improve learning outcomes, particularly with regard to procedural skills in subjects such as mathematics and programming (Létourneau et al., 2025; VanLehn, 2011).

But do ITSs have the pedagogical intelligence needed for DE and education in general? The answer is no, for two key reasons. Firstly, they operate exclusively on the basis of explicit representations of knowledge and rules. While they have "knowledge of what" (knowledge of procedures), they essentially lack "knowledge of how" (the intuitive, embodied understanding that characterises experienced instructors in general) (Dreyfus, 1992; Polanyi, 1966). AI systems that operate on the basis of formal rules and symbols alone cannot perceive real understanding, confusion or insight (Searle, 1980, 1983). For instance, when a learner makes a mistake, an ITS uses pattern matching and rule application — standard operations in symbolic representations — to identify the incorrect step and provide a procedural hint. However, the system is unable to understand why the learner made the mistake. For instance, it cannot determine whether the error stems from a common misunderstanding of the question, haste, or incorrect application of the context (as defined by Dreyfus). In contrast, a human instructor interprets mistakes based on experience, understanding of the learner's profile and targeted engagement with their way of thinking.

But why should this be a characteristic of human instructors? It is because ITSs lack the second characteristic that shows they do not have pedagogical intelligence. Humans are embodied beings, whereas ITSs are not. As human intelligence is formed through an individual's embodied interaction with the world (Dreyfus, 1992; Merleau-Ponty, 2005), teaching, like learning, is essentially an embodied activity. In conventional education, teachers use gestures, tone of voice and examples to communicate the meaning of information through their own bodies, while learners are also involved in the learning process through embodied practices (Shvarts & van Helden, 2023).

Is this true in a DE environment? Can instructors use real pedagogical communication and the element of embodiment? For example, can they ask learners to explain their thought processes, or adapt their explanations based on cues such as their insight, hesitation or confusion? Kanellopoulos et al. (2021) provide an answer. They studied the learning process via teleconferencing in DE, proposing the theoretical framework of telemathesis and highlighting its complexity. Based on Illeris's (2009) theory of "integrated" learning and Themeli and Bougia's (2016) theory of tele-proximity, they concluded that learning via teleconferencing in DE is *embodied* and *integrated* learning.

Telemathesis is *integrated* learning because it is significantly influenced by cognitive, emotional and social factors, with knowledge acquisition achieved through three interdependent dimensions: content (tele-teaching presence), motivation (tele-cognitive presence) and interaction (tele-social presence). This interdependence confirms the coexistence and interaction of body and mind (Alexias, 2011), highlighting the *embodied* dimension of DE in addition to the mental one.

The senses play a crucial role in learning via teleconferencing because it is a "live" audiovisual method of communication. Visual perception plays a dominant role in this, as detecting the meaning of other participants' behaviour (non-verbal communication) through sight influences social interaction in the learning process, fostering intimacy and immediacy among participants (Themeli & Bougia, 2016). Telemathesis therefore relies on the facial expressions and movements of participants, categorised as “body techniques” (Alexias, 2011). These factors enhance social presence (Gunawardena, 1995; Kanellopoulos et al., 2021), constituting a complex psychological experience influenced by technology and social dynamics (Kreijns et al., 2022). This social interaction, in turn, influences learning outcomes, creating a positive or negative learning environment (context).

Furthermore, visual perception combined with the instructor's or learners' expressions or body movements can create conceptual metaphors that may enhance or inhibit the learning outcome, either autonomously or in combination with verbal speech (Lakoff, 2012; Iraklioti et al., 2017; Kanellopoulos et al., 2020). The importance of the embodied dimension is highlighted by the absence of physical presence (Conceição-Rule, 2001) in asynchronous DE, where instructors cannot read body language, maintain eye contact or sense the 'mood' of the class. They describe this experience as “teaching into a void” (Conceição-Rule, 2001). As the physical presence of subjects and body language remain important and irreplaceable in conventional education (Willatt & Flores, 2022), and DE involves the loss of physical presence and the richness of its communicative context, a key question regarding AI is whether it can compensate for this loss or simply exacerbate the problem.

Of course, one could argue that using the body is not always necessary for understanding or being intelligent, citing individuals with motor disabilities who are intelligent as an example. However, this misinterprets the argument that intelligence is embodied. Embodied intelligence refers to intelligence pertaining to an embodied existence — one with a lived body and subjective phenomenal field (Nagel, 1974) — rather than to a body with perfect mobility. It refers to someone who knows “what it is" and “how it is” to be human. ITSs and AI generally cannot answer either of these questions. In response to this objection, which essentially concerns the body's interaction with the environment, one could also quote Searle (1980) in relation to the robot objection (the robot reply) (Harnad, 1990). This argument claimed that if computer symbols were based on causal interaction with the environment (as in a robot with external sensors), this would lead to true understanding. However, the answer is that what matters is internal processing, which remains formal symbol manipulation (syntax) rather than genuine understanding (semantics) (Searle, 1980).

From the above, it can be concluded that an ITS cannot create meanings because it is based on syntax rather than semantic understanding, on formal rules rather than embodied experience, and on pattern matching rather than actual intentionality. Introducing disembodied AI systems into DE only exacerbates the existing challenges created by the absence of physical presence. The limitations of ITSs are particularly evident in areas requiring conceptual understanding and creative thinking, as will be discussed in the next section.

The issue of decontextualised understanding

In addition to embodiment, intelligence is also fundamentally contextual (Dreyfus, 1992). Human understanding is not based on explicit, decontextualized rules, but rather on a rich, non-standardized context shaped by culture, history, and practical participation (Dreyfus, 1992). This context facilitates the comprehension of the relevance of information without the necessity for any explicit thought.

In the disciplines of education and pedagogy, context is of primary significance. The effective teaching of such subjects requires constant attention and non-standard understanding of context-related factors, including, but not limited to, learners' prior knowledge, cultural background, emotional states, and classroom dynamics. In accordance with Heidegger's (1962) concept of “being-in-the-world”, an experienced instructor engages in the learning process, immediately identifying the requirements. The classroom and its participants are considered to be “ready for use” (Zuhandenheit) and not objects for theoretical reflection (Vorhandenheit). Furthermore, the acquisition of knowledge is dependent on engagement in communities of practice (Akyol & Garrison, 2008; Themeli & Bougia, 2016; Xin, 2012). In DE, there is an inherent lack of understanding of this context, because (to a greater or lesser extent) the wealth of personal cues (e.g. body language, informal conversations, physical space) that contribute to its creation requires instructors to make a greater effort to understand it, but also to construct it. The employment of AI systems has been demonstrated to intensify the decontextualisation of understanding and to reinforce a wholly formal logic. In addition to the example of ITSs discussed in the previous section, which is also not based on an understanding of context, this section provides an opportunity to discuss two other AI systems used in DE, either individually or integrated into ITSs. These are AI Discussion Facilitators (AIDFs) (360Learning, GitMind, Mighty Networks etc.) and Large Language Models (LLMs), such as ChatGPT4 (*Top 9 AI Group Learning Tools for 2025: Alternatives to Turbocharge Engagement*, 2025).

Online discussion forums have become an integral component of numerous DE courses. However, the ability to effectively facilitate these discussions remains a significant challenge, as these forums frequently fall short in generating authentic intellectual engagement. AIFDs “assert” that they can resolve these issues through the automatic facilitation of discussion, critical thinking, and the “stimulation” of conversation (Kalmanovich-Cohen, 2025; Kovari, 2025). Nevertheless, AIDFs are inherently incapable of facilitating authentic dialogue and discussion. As posited by Hans-Georg Gadamer (2004), authentic dialogue may be defined as a “fusion of horizons”, a concept which necessitates the presence of participants who possess a genuine sense of curiosity, an openness to questions, and the potential for meaningful transformation through the interaction. AIDFs are constrained in their capacity to recognise keywords and formulate programmed questions based on formal criteria, without demonstrating a genuine engagement with the ideas of other participants or being influenced by external influences.

On the other hand, substantive dialogue is based on a specific context, as defined by Dreyfus (1992). The facilitation of a discussion necessitates an awareness of the multifaceted nature of the context, encompassing elements such as content, group dynamics, the emotional tenor of speech, power dynamics, and the individual's social and educational background. This comprehensive understanding cannot be fully standardised and entered into a computer system as data. The utilisation of AI, predicated upon the detached manipulation of symbols and representations devoid of contextual nuance, is inherently incapable of accessing the intricate, non-standardised background that is indispensable to facilitate learning-oriented discourse.

A teacher in a conventional classroom is able to take into account the multiple levels of context mentioned above: the cognitive difficulty of the content, the learning and emotional background of their students, the group dynamics, and the emotional tone. This necessitates tacit, non-formal knowledge (Polanyi, 1966), thereby aligning with Dreyfus's (1992) assertion that not all knowledge can be formalised. It is evident that an AIDF that functions exclusively on the basis of explicit algorithms is unable to access this dimension. In accordance with Searle's thought (1980), all computer systems operate on the basis of syntax without semantics.

Nevertheless, a robust counterargument exists. Contemporary AI, exemplified by Large Language Models (LLMs), exhibits a remarkable capacity for context recognition in discourse, as evidenced by ChatGPT-4. The response to this objection is provided by Searle (1980, 1983), through a reiteration of his response to Hofstadter and Dennett (1981), who sought to refute the Chinese Room argument. Hofstadter and Dennett (1981) advanced the argument that when a system is examined in its totality – that is to say, as comprising the individual, the rule, and the symbols in the case of the Chinese Room – then understanding and semantics can be said to exist (the system reply). Searle had previously addressed analogous counterarguments, asserting that the augmentation of syntax does not engender semantics or comprehension, even in the event of an entire system being internalised within the system (Searle, 1980). LLMs are reliant on the acquisition of statistical correlations from extensive textual datasets, resulting in the production of sophisticated mimicry (Vallor, 2016) as opposed to authentic comprehension. These systems are characterised as "thoughtful parrots" (Bender et al., 2021) that lack a basis in the physical and social world, creating the illusion of understanding — the "ELIZA effect"[3] (Berry, 2023). This is especially evident in the field of DE, where the absence of physical and bodily presence implies a deficiency in contextually relevant understanding. The reliance on AI systems in this context can worsen the problem, as it creates a risk of superficial plausibility and misleading analyses.

In the context of DE, where discussion forums play a pivotal role in community building and fostering social presence, the introduction of AIDFs poses a significant threat to

[3] Within the domain of computer science, the "ELIZA effect" is defined as the tendency to ascribe human characteristics, including experience, semantic understanding and empathy, to rudimentary computer programs that utilise a text interface. ELIZA was a symbolic AI chatbot developed in 1966 by Joseph Weizenbaum that mimicked a psychotherapist (Berry, 2023).

the very purpose of these forums. It is important to note that learners may begin to view discussions as “performances” for an algorithm rather than as genuine human interactions. This has the potential to undermine the sense of community and mutual engagement, since AI only simulates this engagement. These systems are deficient in two key areas: firstly, they lack the embodied understanding of context that is necessary to truly facilitate a discussion; and secondly, they demonstrate an absence of intentionality.

At this point, however, it is interesting to discuss another application of AI in DE. The utilisation of Proctoring Systems (PSs) (e.g., WeCP, Honorlock, ProctorU, Proctorio, etc.) that are based on AI and employ facial recognition, eye tracking, and behavioural analysis has become increasingly prevalent in DE (Soren, 2025), with the objective of detecting cheating during DE examinations by identifying suspicious behaviour (Han et al., 2023; Heinrich, 2025). From a technical standpoint, these systems are predicated on pattern recognition, analysing deviations from expected behaviour.

However, from a philosophical perspective, they represent the problem of disconnected, context-free judgment. Their modus of operation is predicated on explicit, formal rules, reflecting the ontological assumption refuted by Dreyfus (1992) that the world consists of independent, context-disconnected events. The role of a human invigilator is to interpret the examinee's behaviour within its context, employing instinct, knowledge, and deliberate engagement to ensure fairness. For instance, the act of averting one's gaze during an examination may be indicative of thoughtfulness, anxiety, or distraction. Conversely, a PS is designed to identify behaviours that correspond to predefined suspicious patterns, devoid of the capacity for such nuanced judgement. This limitation frequently results in elevated rates of false positives, thereby subjecting innocent learners to unwarranted scrutiny and stress (Swauger, 2020).

Consequently, these systems are predicated on problematic assumptions regarding trust in learners, effectively downgrading assessment to the prevention of cheating rather than the evaluation of actual learning. The introduction of a form of algorithmic surveillance has been demonstrated to further contribute to discrimination, as the underlying facial recognition technology exhibits reduced accuracy when applied to individuals with darker skin tones (Buolamwini & Gebru, 2018).

The issue of meaningless interaction

A third characteristic of human intelligence, in addition to its embodied nature and contextuality, is its inherent intentionality. This is defined as the quality of mental states that "refer to something" or are directed towards objects and situations in the world (Searle, 1983). This feature constitutes the foundation of Searle's (1980) argument in his Chinese Room paradigm.

In the context of DE and education in general, the processes of teaching and learning are fundamentally activities with a specific intention. The instructor's clarification is designed to assist learners in comprehending the fundamental concepts. Moreover, the inquiry posed by the instructor is indicative of authentic intellectual curiosity. In contrast, AI systems employed in an educational context are characterised by derived intentionality, signifying that their meaning is attributed by human users. Consequently, these systems lack intrinsic intentionality.

Let us consider the example of Automated Assessment Systems (AASs). The utilisation of AASs is becoming increasingly prevalent in DE, with the potential to reduce instructors' workload, provide immediate feedback, and ensure consistency in grading (Darwish et al., 2023; Ramesh & Sanampudi, 2022). These systems range from elementary multiple-choice mechanisms to advanced natural language processing tools that evaluate essays and language code – Automated Essay Grading Systems (AEGSs) (Conijn et al., 2023; Hussein et al., 2019). AASs and AEGSs are cases in point illustrating the philosophical problem of syntax without semantics as formulated by Searle (1980, 1983). AEGSs analyse texts according to statistical models trained on data sets, recognising features (e.g. sentence complexity, vocabulary variety) that correlate with texts that have received high scores from similar systems. The system's operation is based on the analysis of symbols according to their formal properties (syntax), yet it is incapable of comprehending the essay, understanding the learner's meaning (semantics), evaluating the originality of ideas, or responding to the work as a genuine communicative act.

In contrast, in the German educational system, assessment is regarded as a form of genuine communication that simultaneously functions as a pedagogical tool, contributing to learning through metacognitive processes (Manousou, 2025). AEGSs in DE employ machine learning algorithms to evaluate written language in terms of grammar, structure, and vocabulary. Whilst these tools can provide immediate feedback and scores, they lack the intentionality required for effective reading and assessment.

The educational value of this feedback is limited. The act of grading and evaluating learners is a deliberate process that involves a deliberate engagement with the learner's thinking, an assessment of the quality of their ideas, and the provision of formative feedback based on a genuine understanding and interest in their development. AASs are capable of assessing the “I know that” element (i.e. formal facts and required characteristics), but not the “I know how” element (i.e. the application of genuine understanding in creative and innovative contexts). In the context of DE, where interaction with the instructor is inherently constrained, the utilisation of AASs has the potential to exacerbate feelings of alienation and disengagement among learners. Learners may regard their assignments as tasks to be optimised for algorithmic evaluation rather than as a right and opportunity for genuine intellectual engagement and personal improvement. This can result in a complete loss of the sense that their efforts are valued by a real human instructor who will check the results of the AAS.

However, the question is a reasonable one. If AI can generate feedback that is indistinguishable from human feedback, then the significance of intentionality is called into question. This question pertains to the concept of functional equivalence, which is predicated on the logic of the Turing test (Turing, 1950). It is evident that a function that is exclusively based on behaviourism is incapable of demonstrating true understanding. The Chinese Room argument demonstrates that a system can achieve results equivalent to those of an intelligent agent yet operate exclusively on the basis of syntax (Searle, 1980). The educational value of feedback is dependent upon its provenance; that is to say, whether it originates from a place of genuine understanding and interest.

Furthermore, AI, by its very nature, is devoid of intentionality and thus incapable of participating in a communicative act that demands mutual recognition and moral responsibility (Floridi & Taddeo, 2016). This phenomenon is particularly evident in DE, where learners have reported feelings of isolation (Symeonides & Childs, 2015). Social presence is a crucial aspect for the functioning of communities of inquiry and the achievement of learning outcomes (Kanellopoulos et al., 2021; Kreijns et al., 2022; Themeli & Bougia, 2016). The introduction of AI, however, carries the risk of intensifying this isolation by creating "pseudo-relationships," as it mimics rather than fosters genuine intentional communication.

The transition from “Artificial Intelligence” to “Assistant Intelligence”

The argument that AI systems lack true intelligence requires critical evaluation of the continued use of the term “Artificial Intelligence”. The term itself is somewhat confusing, as it creates a certain ambiguity as to the category of these technical systems – or “tools” – which serves to obscure their true nature, which is to manipulate symbols according to formal rules. This confusion is particularly harmful in the field of education, where authentic human intelligence and human relationships are of essential importance.

Considering these observations, this study proposes a shift in terminology, namely the replacement of the term “Artificial Intelligence” with the term “Assistant Intelligence”. This accurate placement of these systems in their proper place as tools that support human intelligence rather than entities that possess it. The notion of *Assistant Intelligence* maintains the ethical distinction between humans and machines. The concept of moral status is attributed to humans as subjects, while computer systems are regarded as objects or tools. In a similar manner to how a numerical calculator aids in calculation without necessitating an understanding of mathematics, AI computing systems facilitate cognitive tasks without necessitating the acquisition of genuine understanding. The transition to the concept of *Assistant Intelligence* is a conceptual correction that avoids confusion between categories and ensures that computer systems enhance, rather than undermine, the important human activities required in education, thereby preventing the replacement of human care with computer-automated responses.

The significance and value of such a conceptual change is considered important, as it has significant implications for educational practice and policy. The term AI implicitly suggests that AI can replace human intelligence, thereby encouraging policymakers to replace instructors with automated systems and limit education to computational optimization. In contrast, the term *Assistant Intelligence* poses the following question: what manner of assistance might this tool provide to instructors and learners? At the same time, it acknowledges that teaching necessitates the embodied presence of the instructor, an understanding of the context, and deliberate engagement.

In the case of DE, where the aforementioned characteristics are already being challenged by digital mediation, the distinction between the two terms is crucial. The utilisation of AI systems as assistants within educational settings facilitates their strategic deployment to support human relationships and interactions during the educational process, as well as in external contexts, such as the execution of routine administrative tasks. This enables instructors to allocate their time to activities related to their teaching duties. The notion of facilitating teaching and learning does not entail the complete substitution of human interaction with machine-based alternatives. The use of the term *Assistant Intelligence*, in other words, will assist in the enhancement of the teaching presence of the instructor, thereby exerting an influence on the model of the community of practice.

Conclusion

AI does not constitute genuine intelligence. The present paper draws upon the work of Hubert Dreyfus (1992) and John Searle (1980), specifically the latter's thought experiment on the "Chinese Room". The paper demonstrated that the various AI applications in DE do not function intelligently, as they are not embodied, they are not contextual, nor are they characterized by intentionality. These are formal symbol manipulation systems that operate with explicit representations and formal algorithms. Consequently, they are unable to rely on the non-standardised context that characterises the educational and learning process. It is evident that AI systems in DE function exclusively on the basis of syntax, devoid of semantics. Consequently, they exhibit an absence of intentionality, resulting in their capacity to merely simulate human communication. Therefore, the introduction of AI in DE does not address the challenges associated with the absence of physical presence or reduced social interaction but rather exacerbates them.

It is proposed that the term "Artificial Intelligence" be replaced with the term "Assistant Intelligence", due to the absence of intelligence in such computing systems, and instead the support of intelligence. This conceptual change could have profound implications for educational policy, guiding the use of computer systems to assist human intelligence rather than replacing human educational work with technology. This would preserve the fundamental human relationships and embodied practices that give education its meaning. It is clear that further study is required at the level of Political and Ethical Philosophy to examine the rapid development and integration of AI in education. This specific discussion should not be limited to this paper.

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εργασίας και ότι έχουν εξασφαλίσει όλες τις απαραίτητες γραπτές άδειες για τη χρήση υλικού (εικόνες, διαγράμματα, εκτενή αποσπάσματα κ.λπ.) που υπόκειται σε πνευματικά δικαιώματα τρίτων.

Χρήση Τεχνητής Νοημοσύνης (ΤΝ): Στο πλαίσιο της ακαδημαϊκής ακεραιότητας, οι συγγραφείς δηλώνουν ότι η χρήση εργαλείων Παραγωγικής Τεχνητής Νοημοσύνης (GenAI), όπου αυτή πραγματοποιήθηκε, περιορίστηκε αποκλειστικά σε υποστηρικτικό επίπεδο (π.χ. γλωσσική επιμέλεια, οργάνωση δομής). Η τελική επιστημονική κρίση, η επαλήθευση των πηγών και η αυθεντικότητα των συμπερασμάτων παραμένουν αποκλειστική ευθύνη των φυσικών προσώπων-συγγραφέων.

Οι επιμελητές/τριες της έκδοσης και οι διοργανωτές του Συνεδρίου δεν φέρουν καμία ευθύνη για τυχόν παραβιάσεις πνευματικών δικαιωμάτων τρίτων ή για την επιστημονική ακρίβεια των στοιχείων που παρατίθενται από τους συγγραφείς.