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The Relationship Between Body and AI Literacy as a Problem in the Philosophy of Education

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This study undertakes an analysis of the concept of AI literacy, a topic that is becoming increasingly prominent in contemporary education, particularly with regard to its philosophical underpinnings. The argument presented herein demonstrates that reducing humans to purely spiritual beings, a prerequisite for common understanding of AI literacy gives rise to unsustainable epistemic and educational assumptions. It is proposed that, in accordance with empirical realism as derived from the pragmatic philosophy of Lakoff and Johnson, the definition of AI literacy should be established as a dynamic structure of critically reflected experiences from interactions with AI. This is posited to enable the ability to effect change in everyday life and address the challenges facing humanity.

Keywords: information literacy, objectivism, corporeality, epistemology, metaphors, philosophy of education, base categories, environment

INTRODUCTION

The development of generative AI presents numerous practical issues that impact various aspects of AI work (Graves 2023). We can encounter discussions about authenticity, ethics, social and environmental issues, legislation or education. This study will focus on a specific aspect of the reflection on AI in education. We will attempt to analyse the epistemic-ontological aspect of a particular unspoken assumption in defining AI literacy (Eguchi et al. 2021; Ng et al. 2021), namely the assumption of disembodied entitativity.

The study is predicated on the hypothesis that AI literacy is conventionally anchored in a rationalist conception of thinking, characterised by the abstract logical manipulation of terms and concepts. The aforementioned conception is then linked to specific steps or components of competency frameworks pertaining to AI literacy. In this study, a novel approach will be adopted. An attempt will be made to supplement the perspective of individual studies with a pragmatic concept of physicality as a crucial component of thought. This will result in the possibility of reformulating AI literacy, taking into account aspects of physicality in the process of thinking and acting. The study builds on the ideas of Dreyfus (1984; 2017), who

addressed similar issues in the context of the philosophy of artificial intelligence, seeking to connect it with corporeality and a pragmatic-phenomenological approach.

Lakoff (1990) systematically accounts for two broad philosophical traditions, distinguishing between objectivism and experientialism. As largely schematic as his conception is, it juxtaposes two ways in which elements are categorised, according to Lakoff (Lakoff, Johnson 1999). The selected criteria are presented in the Table.

Table. **The relationship between objectivism and experimentalism in Lakoff (1990)**

Objectivism	Experimentalism
Thinking consists of the mechanical manipulation of abstract symbols	Thinking is about connecting experience
Thinking is independent of the body	Thinking is dependent on the body
The mind is the mirror of experience	The mind is dependent on environmental factors
Thinking is atomistic; it can be divided into sub-building blocks	Thinking has the properties of a whole creature (Gestalt)
Thinking is logical	Thinking is structured organically through a network of vouchers
Thinking is predominantly conceptual	Thinking is dominantly imaginative

Lakoff and Johnson argue that, however, much cognitive science has developed in the last forty years and influences the specific scientific production in its field, this does not mean that the older Objectivist thinking has wholly left the academic discourse and, above all, the space of ordinary thinking (Lakoff 1986; Johnson 2007; Johnson 2017). It is the contention of the aforementioned parties that, over the past two and a half millennia, we have been so profoundly influenced by the Objectivist paradigm that we have come to implicitly project it into our thinking. The present study will investigate the definition of AI literacy, which is defined as the ability to interact with AI in everyday life, consistent with the commonly understood meaning of literacy, despite any disputes that may arise. Respectively, we will, in the first step, subject selected approaches to this new form of literacy to analysis and observe in which paradigm, as set out by Lakoff (1990), they are located and why.

This analysis has a broader meaning and purpose that we would like to emphasise here – the philosophy of education has long focused on an objectivist discourse, only with the advent of reformist pedagogies in the early 20th century. The century opened up the space for questioning who is being educated and what we want to educate them to do (Levin 2000; Hart 2001; Beckett 2013). What is breaking down is the dominant discourse expecting a common package of knowledge to be delivered to students through a metaphor well-known as the Nuremberg funnel. It was not until the pedagogical concepts of Montessori or Dewey turned attention (after many centuries) to the human being and the question of an anthropological ideal (Dewey 1923; Burnett 1962).

To ask about the human being is to allow corporeality to enter the process of education, but no longer in terms of *καλοκαγαθία*, but in new perspectives influenced by sociology, psychology, and other disciplines. It is just such a perspective that Johnson (2017) considers when he emphasises the importance of corporeality in cognition. In this respect, he agrees

with Lakoff that all cognition is realised in a particular setting based on bodily experience in some complex form.

However, there are traditions of cognition and education that are firmly anchored in the objectivist paradigm, such as analytic philosophy or, more generally, evidentialist or positivist approaches, which form a substantial part of the tradition of thought from which the great language models of generative AI emerge (Dale 2021; Cobb 2023), that can be combined in this study with ChatGPT for simplicity and illustration, but the considerations will apply by analogy to any other systems of this kind.

These traditions can be seen on three levels firmly imprinted in the design of such chat tools:

- Turing tradition (French 2000; Brynjolfsson 2023) – thinking is identified with language. If we can create systems that do not distinguish between communicating with machines and humans, they can be considered intelligent. For example, this conception is often criticised by pointing to the Chinese room problem (Searle 1982). However, underlying this is a broader belief linking language and thought (cf. humans are animals that can make promises – use language, among other things). The emphasis in design is on the fluency and naturalness of speech.
- Pragmatist tradition – there is no point in analysing the differentiation between thinking and acting as a jointly interconnected whole (Dewey, Bentley 1949; Johnson 2006; Šíp 2019). The design of the tools is implemented to resemble an interactive chat environment. This creates a whole shared interpretive framework that leads to increased believability.
- The positivist tradition – truth has a probabilistic character (Canton 2018). Artificial neural networks in large language models generate sentences and propositions based on probability, rather than on the correspondence of the proposition to reality or the active, deliberate construction of reality.

What we want to highlight in the study is that the pragmatist tradition presupposes corporeality, and that corporeality is an essential part of the experience (Damasio 1994, 2018; Gallese, Cuccio 2015), which can only lead to the emergence of a concept of particular literacy. It is not possible to create competency frameworks without critical reflection on corporeality. At this point, we should further clarify what corporeality means in the context of working with AI. For us, corporeality is intertwined with emotionality, a sense of personal bodily integrity (and the associated level of trust, responsibility or fear), an emphasis on imaginative action, and above all, a way of constructing knowledge through base categories that, for different settings and different experiences of them, lead to other ways of forming ideas, experiences and ways of thinking about selected phenomena (Lakoff 1990; Johnson 2017), in our case over artificial intelligence and working with it.

DISCURSIVE APPROACHES TO AI LITERACY

Analysing the phenomenon of AI literacy is not trivial, but in principle, we can identify five basic discursive definitions that appear in it.

The first discourse views AI literacy as a technical, logically structured ability to work with specific tools and programming languages (Yi 2021; Adams et al. 2023; Chen, Lin 2023). It aims to create new technological applications. They believe that if one knows the technical background or details of the selected technology, one will be more competent to operate it. However, such a notion is highly problematic – a metallurgical expert may not be a better hammer user

than a plumber, even though his knowledge of materials is incomparably higher. What matters for competence or literacy is the achievement of goals, not the internal technical description.

AI literacy, as a set of sub-competencies (Ng et al. 2021), is a discourse that precisely enters the field of utility, seeking to analyse what needs to be learned to work with AI ethically and successfully. Typical of this discourse is the combination of social, ethical and technological levels of working with AI in a rationalist framework. Logically, reason, learning procedures and good practice help us achieve our desired technological goals.

AI literacy as part of the competence structure (Wiljer, Hakim 2019; Long, Magerko 2020; Wienrich, Carolus 2021) points out that AI literacy is not an isolated phenomenon but part of a broader body of other knowledge, skills and competencies that always need to be enriched with an AI component. Again, such an approach works with a strongly rationalistic and atomistic understanding of knowledge, as certain elements can be inserted and added to specific structures, thus developing them. However, the specifics of generative AI can be imagined as a situation that may lead to regressions in academic skills or approaches through additive effects.

AI literacy as a prerequisite for future success in the labour market (Eguchi et al. 2021; Cetindamar et al. 2022) builds on Zurkowski's (1974) work on information literacy in the 1970s. This concept states that the goal is to acquire skills and knowledge that align well with the employee's competency profile (ideally, objectively formulated) to enhance their job effectiveness. The discourse relies on a notion that emphasises the presence of universal competency frameworks and practices aimed at improving work efficiency, which is insufficient. However, technological means are constantly improving.

It can be easily said that the discourse surrounding these four concepts is distinctly rationalist, expecting humans to be technologically enhanced and viewing education or literacy as a set of logical, rational practices (Floridi 2019 b). This conception appears to be contradictory. If the objective of AI literacy is to establish an objectivist-rationalist structure of observed rules, which is to be designated 'educational content', then the replacement of humans by artificial intelligence may be more effective precisely in these areas (Bory 2019). Replacing humans with technology is thus only a matter of time. When Heidegger (1967a) says that we live in the drag of technology, he is probably referring to this aspect: technology creates a particular matrix of thought that man merely fills, trying to be more efficient (in the sense of being more productive). Still, within his procurement of technically shaped epistemic structures, he cannot help but fail. Because '*The teacher who cannot teach more than the machine is to be replaced and will be replaced*' (Brdička 2024: 1).

Thus, a discourse linking AI literacy to everyday life may be crucial (Fyfe 2023; Leichtmann et al. 2023; Su, Zhong 2022) because everyday life is neither strictly rational nor logical; it is narrative, and corporeality and emotionality play a significant role. These 'non-rational corporeal values' are at stake in the personal experience of the everyday. When Heidegger speaks of authenticity, it is essential to stress that he relates it to the reflection of corporeality, as well as his account of the transcending scale of Dasein (Heidegger 1967 a; Heidegger 2000).

AI LITERACY AS AN EVERYDAY REALITY

The objective of this chapter is not to provide a systematic analysis of the relevant studies that have followed the discourse of experimentalism studied, but rather to develop a more robust framework of thought that will allow for a deeper and more philosophically adequate

structuring of the concept of AI literacy. This will be based on Lakoff and Johnson's scheme of thought (Lakoff 1990; Lakoff, Johnson 1999; Johnson 2017).

The goal of large language models is to simulate speech. If Wittgenstein (2012) was right, the limits of language mean the world's limits. The development of generative AI is shaping a new ontological reality within the confines of new linguistic codes and concepts. A reality that the user can enter and explore expands their experiential field, and, as Lakoff (1990) argues, changes their base categories, prototypical proxies, and the whole structure of thought built on interactions and connections between sub-experiences and facts. Artificial intelligence creates the world according to probabilistic models built over human data corpora, but in a non-human way. It has no relation to truth, responsibility, or meaning, elements that, in the context of the Greek tradition, shape the myth of speech as manifested in the beginning of John (Jn 1:1).

If the word is ontological, then λόγος in the context of generative AI has two distinct modalities. Modalities for the other, why the human being, who through them enters a wider ontological reality, expands his knowledge and informational horizons, is changed by the world he inhabits and to whom he must respond by transforming the everyday. The second modality is the apparent inauthentic entity of a world that can be informationally grasped by generative AI, whose expansiveness and durability are determined solely by the number of tokens.

This creates a remarkable form of ontological asymmetry. Suppose Floridi (2014; 2019) argues, inspired by Teilhard (1964), that technology creates a new ontological reality determined by informational interactions, which he refers to as the infosphere. In that case, we must emphasise that a metaphysical reflection on the asymmetry of the infosphere's ontology is essential for AI literacy as an integral part of everyday construction. Suppose every day is understood as constructing the self in the space we inhabit through the base categories and experiences we are exposed to. In that case, this ontological aspect plays a crucial role.

It also seems necessary to change the way the epistemic grid is constructed. While standard information verification processes primarily focus on identifying hallucinations (Alkaissi, McFarlane 2023; Elias, Alija 2023) and replacing them with accurate information, we need to proceed quite differently in the context of generative AI. The problem lies not in the hallucinations but in structuring knowledge within an epistemic grid that shapes the user's understanding of a particular phenomenon. Substituting one atomic datum for another solves only a tiny part of the problem. We are faced with a situation in which Heidegger's (1967 b) words about life in the tow of technology take on special meaning and relevance (Bridle 2018).

Let us consider AI as an integral part of everyday life. It is necessary to highlight two interconnected aspects – firstly, as Biana shows (2024), AI systems can easily replace humans, creating a sense of trust, acceptance and security, but without control of responsibility and corporeality, this can lead to many problems, such as religious fundamentalism, which is characterised by a significant narrowing of the field of experience. Thus, if, at the outset, we considered the extension of ontological and epistemic reality, it may only be a process of a specific pulse at the level of particular persons, leading to collapse.

Related to this is the second aspect that has received increasing emphasis in psychology, namely AI-related well-being (Kaya Çınar, Cenkseven Önder 2025). AI may be associated with several psychosomatic aspects, including the inability to experience pleasant feelings, difficulty concentrating, or impaired quality of social relationships, as an integrated being. It seems necessary in this context to think of AI not as a πνεύμα phenomenon that meets human ψυχή, but we must seek a more robust integrative conception of humanity. The productivity of

labour, which has become a core economic narrative of liberalism in the context of technology, can lead to a form of reductionism: humans become human resources, beings who fail when they make mistakes or need to rest, compared to machines. It is a human limitation and finitude, the possibility to doubt and to err, to possess corporeality, that gives us the chance to determine the meaning of things and forms a specific, basic structure of the concept of AI literacy that we must work within the context of corporeality.

Simultaneously, it is imperative to emphasise the development of AI systems in the domain of mental health support. This endeavour seeks to conceptualise the theme of human support that is absent in the aforementioned objectivist-rationalist discourse (Li et al. 2023; Montag et al. 2024) AI systems can support people's feelings of contentment and mental well-being, thereby fundamentally integrating into their everyday lives.

CONCLUSIONS

In this field, AI literacy can be understood as a *dynamic structure of critically reflected experiences of interactions with AI, which leads to the ability to change one's everyday life and address the challenges posed to humans*. In emphasising experience, we emphasise the very dimension of corporeality central to structuring experience (Askay 1999; Gallese, Cuccio 2015; Johnson 2017).

It can be said that this epistemic field of accentuated experience simultaneously reveals the educational approaches that can be taken to develop this kind of literacy (Dewey 1934; Dewey 2001). It is essential in this field to establish reflexivity associated with situations into which students are thrown in a way that, on the one hand, creates space for critical distance and, on the other hand, creates an experience that allows one to work with these kinds of tools in a particular situation – to work in a way, that is not necessarily critically reflective at the time, but that will be based on the broader experience that one has made through the environment (Lakoff 1990) in which one finds oneself with AI interacting with the rest of the infosphere (Floridi 2014).

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References

1. Adams, C.; Pente, P.; Lemermeyer, G.; Rockwell, G. 2023. 'Ethical Principles for Artificial Intelligence in K-12 Education', *Computers and Education: Artificial Intelligence* 4.
2. Alkaissi, H.; McFarlane, S. 2023. 'Artificial Hallucinations in ChatGPT: Implications in Scientific Writing', *Cureus* 15(2).
3. Askay, R. R. 1999. 'Heidegger, the Body, and the French Philosophers', *Continental Philosophy Review* 32(1): 29–35.
4. Beckett, K. S. 2013. 'Paulo Freire and the Concept of Education', *Educational Philosophy and Theory* 45(1): 49–62.
5. Biana, H. T. 2024. 'Feminist Re-engineering of Religion-based AI Chatbots', *Philosophies* 9(1): 1–11.
6. Bory, P. 2019. 'Deep New: The Shifting Narratives of Artificial Intelligence from Deep Blue to AlphaGo', *Convergence* 25(4): 627–642.
7. Brdička, B. 2024. *Pedagogika Nejistoty v éře AI*. Praha: NPI ČR.
8. Bridle, J. 2018. *New Dark Age: Technology and the End of the Future*. London: Verso Books.
9. Brynjolfsson, E. 2023. 'The Turing Trap: The Promise & Peril of Human-like Artificial Intelligence', in *Augmented Education in the Global Age*, eds. D. Araya and P. Marber. Milton Park: Routledge, 103–116.
10. Burnett, A. 1962. 'Montessori Education Today and Yesterday', *The Elementary School Journal* 63(2): 71–77.
11. Canton, R. 2018. 'Probation and the Philosophy of Punishment', *Probation Journal* 65(3): 252–268.
12. Cetindamar, D.; Kitto, K.; Wu, M.; Zhang, Y.; Abedin, B.; Knight, S. 2022. 'Explicating AI Literacy of Employees at Digital Workplaces', *IEEE Transactions on Engineering Management* 71: 810–823.

13. Chen, J. J.; Lin, J. C. 2023. 'Artificial Intelligence as a Double-edged Sword: Wielding the POWER Principles to Maximize its Positive Effects and Minimize its Negative Effects', *Contemporary Issues in Early Childhood* 25(1): 146–153.
14. Cobb, P. J. 2023. 'Large Language Models and Generative AI, Oh My!: Archaeology in the Time of ChatGPT, Midjourney, and Beyond', *Advances in Archaeological Practice* 11(3): 363–369.
15. Dale, R. 2021. 'GPT-3: What's it Good for?', *Natural Language Engineering* 27(1): 113–118.
16. Dewey, J. 1923. *Democracy and Education: An Introduction to the Philosophy of Education*. New York: Macmillan.
17. Dewey, J. 1934. *Art as Experience*. New York: Perigee Trade.
18. Dewey, J. 2001. 'The Educational Situation: As Concerns the Elementary School', *Journal of Curriculum Studies* 33(4): 387–403.
19. Dewey, J.; Bentley, A. F. 1949. *Knowing and the Known*. Boston: Beacon Press.
20. Dreyfus, H. L. 1984. *What Computers Can't do: The Limits of Artificial Intelligence*. New York: Harper & Row.
21. Dreyfus, H. L. 2017. *Background Practices: Essays on the Understanding of Being*. Oxford: Oxford University Press.
22. Eguchi, A.; Okada, H.; Muto, Y. 2021. 'Contextualizing AI Education for K-12 Students to Enhance Their Learning of AI Literacy Through Culturally Responsive Approaches', *KI – Künstliche Intelligenz* 35(2): 153–161.
23. Elias, H.; Alija, L. 2023. *Comparative Analysis of Language Models: Hallucinations in ChatGPT: Prompt Study*. Växjö: Linnaeus University.
24. Floridi, L. 2014. *The Fourth Revolution: How the Infosphere is Reshaping Human Reality*. Oxford: Oxford University Press.
25. Floridi, L. 2019. *The Logics of Information*. Oxford: Oxford University Press.
26. French, R. M. 2000. 'The Turing Test: The First 50 Years', *Trends in Cognitive Sciences* 4(3): 115–122.
27. Gallese, V.; Cuccio, V. 2015. 'The Paradigmatic Body: Embodied Simulation, Intersubjectivity, the Bodily Self, and Language', in *Open Mind*, eds. T. Metzinger and J. Windt. Frankfurt: MIND Group, 1–23.
28. Graves, M. 2023. 'Embodied Experience in Socially Participatory Artificial Intelligence', *Zygon®* 58(4): 928–951.
29. Hart, I. 2001. 'Deschooling and the Web: Ivan Illich 30 Years on', *Educational Media International* 38(2–3): 69–76.
30. Heidegger, M. 1967 a. *Being and Time*. Oxford: Blackwell.
31. Heidegger, M. 1967 b. *Die Frage nach der Technik ; Wissenschaft und Besinnung; Überwindung der Metaphysik; Wer ist Nietzsches Zarathustra?*. Pfullingen: Neske.
32. Heidegger, M. 2000. *Griechenlandreisen*. Frankfurt am Main: Vittorio Klostermann.
33. Johnson, M. 2006. 'Mind Incarnate: From Dewey to Damasio', *Daedalus* 135(3): 46–54.
34. Johnson, M. 2007. *The Meaning of the Body: Aesthetics of Human Understanding*. Chicago: University of Chicago Press.
35. Johnson, M. 2017. *Embodied Mind, Meaning, and Reason*. Chicago: University of Chicago Press.
36. Kaya, B.; Çınar, S.; Cenkseven Önder, F. 2025. 'AI Literacy and Digital Wellbeing: The Multiple Mediating Roles of Positive Attitudes Towards AI and Satisfying Basic Psychological Needs', *International Journal of Human–Computer Interaction* 0(0): 1–11.
37. Lakoff, G. 1986. 'Classifiers as a Reflection of Mind', *Noun Classes and Categorization* 7: 13–51.
38. Lakoff, G. 1990. *Women, Fire, and Dangerous Things: What Categories Reveal About the Mind*. Chicago: University of Chicago Press.
39. Lakoff, G.; Johnson, M. 1999. *Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought*. New York: Basic Books.
40. Levin, B. 2000. 'Putting Students at the Centre in Education Reform', *Journal of Educational Change* 1(2): 155–172.
41. Li, H.; Zhang, R.; Lee, Y.-C.; Kraut, R. E.; Mohr, D. C. 2023. 'Systematic Review and Meta-analysis of AI-based Conversational Agents for Promoting Mental Health and Well-being', *npj Digital Medicine* 6(1): 1–14.
42. Long, D.; Magerko, B. 2020. 'What is AI Literacy? Competencies and Design Considerations', in *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*. New York: Association for Computing Machinery, 1–16.

43. Montag, C.; Nakov, P.; Ali, R. 2024. 'Considering the IMPACT Framework to Understand the AI-well-being-complex from an Interdisciplinary Perspective', *Telematics and Informatics Reports* 13.
44. Ng, D. T. K.; Leung, J. K. L.; Chu, S. K. W.; Qiao, M. S. 2021. 'Conceptualizing AI Literacy: An Exploratory Review', *Computers and Education: Artificial Intelligence* 2.
45. Searle, J. R. 1982. 'The Chinese Room Revisited', *Behavioral and Brain Sciences* 5(2): 345–348.
46. Šíp, R. 2019. *Proč Školství a Jeho Aktéři Selhávají*. Brno: Masarykova univerzita.
47. Wienrich, C.; Carolus, A. 2021. 'Development of an Instrument to Measure Conceptualizations and Competencies About Conversational Agents on the Example of Smart Speakers', *Frontiers in Computer Science* 3.
48. Wiljer, D.; Hakim, Z. 2019. 'Developing an Artificial Intelligence–enabled Health Care Practice: Rewiring Health Care Professions for Better Care', *Journal of Medical Imaging and Radiation Sciences* 50(4): S8–S14.
49. Wittenstein, L. 2012. *Tractatus Logico Philosophicus*. New York: Simon and Schuster.
50. Yi, Y. 2021. 'Establishing the Concept of AI Literacy: Focusing on Competence and Purpose', *JAHR* 12(2): 353–368.
51. Zurkowski, P. G. 1974. 'The Information Service Environment Relationships and Priorities', *Related Paper* (5): 1–27.

MICHAL ČERNÝ

Kūno ir dirbtinio intelekto raštingumo santykis kaip švietimo filosofijos problema

Santrauka

Šiame tyrime analizuojama dirbtinio intelekto raštingumo samprata. Ši tema tampa vis svarbesnė šiuolaikiniame švietime, ypač atsižvelgiant į jos filosofinius pagrindus. Pateiktas argumentas rodo, kad žmonių redukavimas iki grynai dvasinių būtybių – tai yra būtina sąlyga bendram dirbtinio intelekto raštingumo supratimui – sukuria netvarias epistemologines ir edukacines prielaidas. Siūloma, kad, remiantis empiriniu realizmu, kilusiu iš pragmatiškos George Lakoffo ir Marko Johnsono filosofijos, dirbtinio intelekto raštingumas turėtų būti apibrėžiamas kaip dinamiška, kritiškai apmąstytų sąveikos su dirbtiniu intelektu patirčių struktūra. Toks požiūris suteiktų galimybę keisti kasdienį gyvenimą ir spręsti žmonijai kylančius iššūkius.

Reikšminiai žodžiai: informacinis raštingumas, objektyvizmas, kūniškumas, epistemologija, metaforos, švietimo filosofija, bazinės kategorijos, aplinka