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Bolstering the community of inquiry: What AI in education means for sociality, equality, and citizenship

Jason Branford, Lisa Herzog, Eloïse Soulier

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Written for the IPSP2 Working Group "Technology and Social Progress"

by Jason Branford, Lisa Herzog, and Éloïse Soulier

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EXECUTIVE SUMMARY

This policy paper discusses an underexamined perspective concerning the potentials and risks of AI use in education: the relation of education and democracy, and the fact that education shapes not only future employees, but also future citizens. We base these reflections on a Deweyan conception of democracy as encompassing not only formal institutions, but also the informal culture and social relations of democratic citizenship. From this perspective, the interrelation between democracy and education forms an important point of attention. The impact of AI on this interrelation has not, until now, received sufficient attention.

We argue that the considered use of AI in education must attend to at least three democratic dimensions:

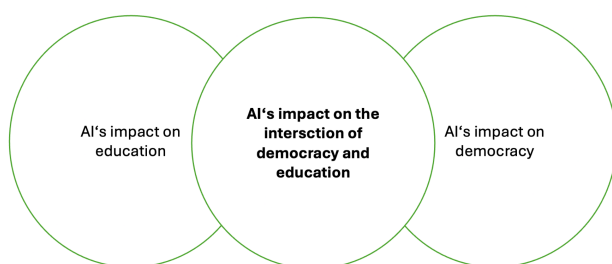
- (1) **education and sociality** – does AI use reinforce or undermine the social nature of learning and knowledge production, as well as the acquisition of essential social skills?
- (2) **education and equality** – can AI help disadvantaged children to catch up, or does it reinforce the gaps between those from different backgrounds? Can it foster meaningful egalitarian relations in the classroom and beyond?
- (3) **education and citizenship** – can AI help with, or does it hinder, the development of democratic attitudes and values, and the acquisition of democratic skills such as independent reasoning, deliberation and collaboration among equals?

We call upon educators and policy-makers to consider the shifts in power and authority that the endorsement of AI can bring, and for a nuanced approach that brings the use of this technology in educational settings in line with democratic values and social progress. We argue for the need to **create community, embrace the essential role of friction, and keep challenging the added value of AI** in educational contexts.

1. Introduction

Recent developments in artificial intelligence (AI), in particular the wide adoption of generative AI based on large language models (LLMs), have raised many questions about the relation between AI and education, and AI and democracy. UNESCO, for example, has examined how AI might transform teaching, learning, assessment, inclusion and educational governance, while also warning against educational ends being crowded out by technological possibilities (UNESCO, 2019, 2021, 2023a, 2023b, 2024a, 2024b, 2025a, 2025b). At the same time, AI's worrying implications for democracy have also been a point of considerable focus, with major governmental and international organisations raising concerns over political communication and propaganda, public opinion formation and discourse, institutional decision-making, fundamental rights, and the rule of law (see, e.g., Council of Europe, 2024; German Ethics Council, 2023). What has received less attention, so far, is how the use of AI impacts *the intersection of education and democracy*—the topic of this policy paper.

We start from the observation that these two debates intersect in ways that have not, so far, been adequately appreciated. Following Dewey (1916), we take education and democracy to be *co-constitutive*. Democracy depends upon education for the formation of persons capable



of participating in democratic social and political life. Education, conversely, should provide experiences of inquiry, association and interaction through which such capacities are developed. This intersection generates challenges that should, we suggest, feed back into both discussions about AI and

pedagogy, and about AI and democracy. Educational accessibility or efficiency purchased at the cost of capacities for locally informed critical participation in democratic life, for example, or democratic safeguards that ignore how those capacities are formed, risk placing otherwise well-intentioned interventions at loggerheads.

A further consideration is the observation that in many countries, contemporary education and democracy are under immense strain and fall short of realising their potential. Democracy monitoring records sustained, and in some established democracies

accelerated, processes of democratic “backsliding” (Nord et al., 2026; UNESCO, 2026). At the same time, deep educational inequalities persist, both within and across countries. Even in countries with robust educational systems, there are rising concerns over student literacy. Many educational environments already struggle with respect to the three dimensions we focus on: *sociality*, *equality*, and *citizenship*. We therefore need to ask not only whether AI *preserves* existing arrangements, but whether its introduction holds potential to *improve* upon them. But we also need to ask whether apparently remedial uses of AI risk entrenching precisely those features that ought to be transformed.

Recognising and nurturing the co-constitutive character of education and democracy is, in our view, paramount for *social progress*. The IPSP has previously understood education as a central vehicle of social progress, conceived broadly in terms of improvements to the human condition across interrelated civic, economic and egalitarian dimensions, while warning that progress in one dimension should not be pursued at the expense of the others (Spiel et al., 2018). We supplement this multidimensional account with a pragmatist understanding of social progress. Desirable social transformations are not conceived of in terms of movement towards a predetermined social endpoint, but consist rather in identifying defects in existing arrangements, developing alternatives, and learning—through inquiry, contestation and experience—whether those alternatives can overcome the problems in question (Anderson, 2014; Kitcher, 2017, 2021b). On such pragmatist accounts, improvement depends on the engagement of individuals, thereby highlighting the importance of considering education and democracy together.

This pragmatist perspective builds on Dewey’s philosophy and underscores his arguments for why democracy and education are necessarily entangled. For democracy to remain vital and relevant, it must be attentive to how people are able to live together and to the emerging norms, institutions and technologies that inhibit or strain associated living. In 1939, at a point in time when democracy was similarly under pressure, Dewey (1939) argued that the “task” is to perpetuate and, crucially, *creatively reconstruct* the conditions under which people can inquire, communicate and act together. Democracy is thus understood as never finished, but continually recreated in response to new circumstances. Bernstein’s (2000) insistence, six decades later, that this remained “the task *still* before us,” remains urgent today. AI represents precisely the kind of technological and social transformation against which that capacity for reconstruction needs to be tested.

Against both Pollyannish expectations that AI will elevate education, and categorical rejection of its educational value, this policy paper therefore asks what a considered

adoption of AI in educational settings would require. For reasons of scope, we set aside questions about (access to) AI literacy, or the governance of AI in education (e.g. the influence of technology companies on educational institutions). We will also not discuss general problematic trends in education, such as privatization or financialization, which AI might accelerate (e.g. Standing, 2026). We contribute normative and conceptual arguments, clarifying the values at stake, warning against possible unintended consequences, and making explicit what tradeoffs practitioners might face.

Section 2 develops in more detail the relation between education and democracy which grounds our analysis. Section 3 examines the use of AI in education through three interlocking dimensions: (1) *sociality*—whether AI reinforces or undermines the social character of learning and knowledge production, as well as the acquisition of capacities needed to live and inquire with others; (2) *equality*—whether it can help disadvantaged children catch up or instead amplifies differences rooted in family and social background, and asking whether it supports egalitarian relations, standing and concern; and (3) *citizenship*—whether education shaped by AI continues to prepare not only future workers, but citizens with democratic attitudes and the collaborative skills needed to address collective problems and to work towards social progress. Section 4 translates these arguments into practical implications for educators and policy-makers.

2. Education and Democracy

We base our reflections on a broad conception of democracy: Democracy is a political system (with elections, the separations of power, the rule of law, etc.), but it is more than that. No democratic system can remain stable over time if democratic values, attitudes, and behaviors are not supported by citizens. John Dewey expressed this idea by saying that democracy needs to be a "way of life" (Dewey, 1939, p. 226) which finds expression in citizens' everyday social relations; their "conjoint communicative experience" (Dewey, 1916, p. 93). Other authors have referred to this as a democratic "ethos" or a democratic "culture" (e.g., Bernstein, 1996; Anderson, 2010). It includes the willingness to defend democratic values and practices against attempts to undermine them, and to stand up against anti-democratic forces.

Democracy, understood in this way, is connected to a certain understanding of human beings as irreducibly social, but also as being able to become authentic, autonomous citizens. It is these citizens, together—rather than any kind of external authority, religious or

otherwise—who, in a democracy, govern themselves, and on whose will the legitimacy of rules is based, even when mediated by representative institutions. But this "autonomous citizen" is not something one can simply assume as given: Autonomy must be developed and maintained in social relations. This point has been emphasised by "relational" conceptions of autonomy (e.g. Mackenzie and Stoljar, 2000; Lee, 2023): autonomy is hindered if individuals suffer oppression or disadvantage (Oshana, 2015) or conversely, if they are so privileged that they are never confronted with other perspectives, and thereby forced to reflect on their own opinions and preferences (Westlund, 2009).

What matters is thus that social structures support, rather than undermine, individual autonomy. This also means that diversity of individuals is respected, and their different perspectives are seen as valuable. As Branford et al. (2025, p. 13) write: "Counter-hegemonic voices and experiences that challenge dominant viewpoints are vital for diagnosing otherwise routinely accepted features of social living as warranting democratic attention." Internal questioning and criticism are a necessary element of the dialogical, intersubjective process in which autonomy can be developed and stabilized. A "homogenization of culture" (Pappas, 2012, p. 58, quoted in Branford et al. 2025, p. 14) would put this process at risk. Or as Rodilosso (2024, p. 15) emphasizes, from a Deweyan perspective, what is crucial is "being exposed to different narratives and perspectives to mitigate our worldviews and spur us on to a more authentic pursuit of the common good."

A key question for a democratic society therefore is whether it can enable social relations in which the core democratic values of moral equality and respect for difference are embedded and practiced.¹ This creates the bridge to education: education in democratic societies needs to be a space in which individuals can develop into democratic citizens. They need to learn both to be autonomous *and* to be committed to democratic equality. They need to be willing to respect others and participate in the governance of common affairs on an equal footing—because they know that their own autonomy ultimately depends on this collective autonomy of governing societal affairs together. Conveying this sense of being a member of a democratic community, and cultivating a sense of responsibility for contributing to it, is a key goal of democratic education.

¹ This raises the question about the boundaries of the community in question. While one may think, in the first instance, of national communities with a shared democratic system, in an increasingly globalized world, there are also questions about the relations to individuals and communities outside of one society, but with whom one is entangled and on whom one's choices have an impact (e.g. through economic value chains). Another dimension of the question of boundaries concerns the natural environment, including non-human living beings and the climate. For reasons of scope, we here cannot address these issues, but we see them as ultimately also connected to what democratic education should be. In the context of AI, this concerns in particular the environmental impact of AI, but also the question about forms of work for AI that are outsourced to World Majority Countries.

This contrasts with a view of education that implicitly or explicitly assumes an atomistic view of human beings, and sees its goal to convey knowledge and skills to separate individuals (e.g., in order to prepare them for labor markets). The acquisition of marketable skills undoubtedly matters—and, as a matter of fairness, it needs to be accessible for children from all backgrounds. But another crucial dimension of "getting an education" is to be socialized into being part of a democratic community, in which collective learning processes can take place and in which new insights can be developed by bringing together different perspectives. This explains why we will, in what follows, focus on three interrelated dimensions of education on which the introduction of AI can have an impact: (1) sociality as the inevitable starting point of human existence and a crucial precondition of democracy; (2) equality as core democratic value and a requirement for meaningful interaction; and (3) citizenship as the shared commitment to, and responsibility for, the upholding of precisely these democratic values.

3. The impact of AI on...

3.1. ...education and *sociality*

The first constitutive dimension of education we highlight is *sociality*. A recognition of education as social resists the picture of learning as the mere transmission of knowledge from one individual mind to another, in a one-to-one (teacher to student) or one-to-many (teacher to students) setting. Rather, following Dewey and others, we suggest that social interaction is central to education. Information acquires meaning and significance within practices of shared inquiry that benefit from access to, and exchange of, other people's experiences and perspectives. Yet, it is not sufficient that education takes place in a social setting (e.g., a classroom). Rather, this setting must nurture a "*community of inquiry*" (cf. Lipman, 2003).

The social character of education is increasingly recognised in international education policy, particularly in response to digitalisation and AI. UNESCO has repeatedly cautioned that technology should not displace meaningful teacher–student and peer interaction, describing education as a “collective and social endeavour” and schools as spaces in which learners “socialize and learn to live together” (cf. Miao et al., 2021; UNESCO, 2023, 2025). Birhane (2025) speaks of “the incomputable classroom” to highlight the fact that classrooms are inherently relational and embodied—and, therefore, ethical and political. This worry is echoed in warnings of the “dehumanization” of education raised by the *International Task*

Force on Teachers for Education 2030's position paper on teacher agency (2025, p.19). Recent work has also cautioned that hyper-personalised AI systems may become “technologies of isolation” that weaken social relations because they “discourage people from turning to each other for information, or to work together to understand information” (Bender, 2025, p.44, see also Aerts 2025). In what follows, we provide some additional considerations from a Deweyan perspective.

Human experiences are never simply private. Individuals come to understand the world through (a) languages, concepts, histories, institutions and interpretive resources that are themselves socially produced (Bourdieu, 1991; Hardwig, 1985; Haslanger, 2012; Lackey, 2011); (b) encounters with others whose experiences disclose aspects of the world unavailable from one's own position (hooks, 1994; Medina, 2013; Young, 2000); and (c) participation in practices in which claims can be articulated, challenged, tested and revised (Dewey, 1916; Freire, 1970; Kitcher, 2001). Meaningful exchange with others offers the best hope for enlarging human understanding in undogmatic and non-imperialistic ways. It leverages the fact that individuals occupy different social positions that shape what becomes perceptible, salient, or intelligible to them. No single perspective is capable of exhausting a given object under consideration. Interpretations of the world can claim legitimacy only if their adequacy has been tested against different experiences, interpretations, and concerns. This is only possible if different voices are in fact heard and taken equally seriously—a concern captured, in philosophical discussions, by the ideal of “epistemic justice” (Fricker, 2007; Kidd, Medina and Pohlhaus 2019).

Education should invite and nurture the social production of knowledge, accepting difference and disagreement as a feature rather than as a bug. This means cultivating the ability not only to state and defend one's own informed position, but to encounter other perspectives as capable of unsettling, complicating or extending one's own understanding. An education is, therefore, both a *process* and an *outcome*. It is a process through which individuals become increasingly capable of actively participating in processes of sensemaking by doing this in practice. Learners encounter problems whose significance is not (fully) set in advance; articulate what they take those problems to be; bring different experiences and interpretive resources to bear upon them; subject proposed understandings to criticism; and reconstruct their judgments in response. Such collective inquiry (Dewey, 1916) provides individuals with an increasingly sophisticated capacity to make the world intelligible to themselves and others.

	“Standard” paradigm	“Social” paradigm
Education	Transmission of knowledge from those who know to those who do not	Participation in a community of inquiry, aimed at reflective judgment
Knowledge	Treated as clear, settled, unambiguous, and value-neutral	Recognised as uncertain, ambiguous, situated, and open to inquiry
Teacher	An authoritative source of knowledge	A fallibilistic guide and facilitator
Student	Primarily absorbs and retains information	Contributes, questions, exchanges, and develops judgment
Outcome	Accumulating information	A certain kind of person capable of thinking and acting with others

Table 1. “Standard” and “social” paradigms of education. *Adapted from Lipman (2003, pp. 18–19).*

In what follows, we clarify this understanding of the sociality aspect of education along three lines, and trace the implications for the use of AI in education.

A first point is that sociality in learning should not be misunderstood as having mere instrumental value for improving learning outcomes. It is true that, for example, social inquiry facilitates greater understanding and recall of material (Gao et al. 2024; Kyndt et al., 2013; Roseth et al., 2008; Smith et al., 2009). But from a perspective that focuses on the connection between education and democracy, the importance of sociality is rooted in it being necessary for *the generation of a particular kind of person*: a person who understands the social nature of knowledge acquisition and diffusion, and is willing and able to contribute to it.

What does this mean for the impact of AI on education? It is well conceivable that AI may play a valuable social role. An attentive, always-available AI-tutor can offer individualised pacing and feedback, and provide a low-stakes space in which students formulate and test a view before bringing it into discussion. The relevant question, however, is whether such AI-interactions scaffold participation in shared inquiry or become a substitute for it. Emerging empirical studies indicate that while AI assistance can improve immediate task performance, this often transpires without corresponding gains in knowledge transfer and retention and may encourage forms of cognitive dependence (Fan et al., 2025). More troublingly for our purposes is that recent studies also indicate that the sycophantic nature of AI responses can increase users’ conviction that they are right and reduce their willingness to repair interpersonal disagreements. Repeated exposure can also make subsequent human interaction feel comparatively less satisfying and more arduous (Cheng et al., 2026; Ibrahim et al., 2026). If AI is to have a role in education, it must overcome such issues in order to prepare students for social inquiry, rather than progressively coming to stand in for it, undermining the willingness and ability to participate in joint human inquiry.

Second, it is sometimes thought that the point of social exchanges in learning processes is to reach a consensus: a final endpoint that can then be disseminated to and absorbed by future students. But for many questions, consensus is neither desirable nor realistically achievable. Rather, a key question is whether students learn to show empathy for positions that may appear foreign at first, and that education provides them with repeated “practice in the art of listening and planning together” (Kitcher 2021,, p. 297). This can equip them with habits that are transferable to new situations and that can motivate joint democratic action (see section 3.3).

Maintaining this state of friction² as a desirable facet of education sits in tension with some of the proposed gains of AI in education. Some see AI as a globally accessible tool providing the same level of education to all (see also section 3.2 below). Yet, this assumption seems to be premised on highly contested ideas concerning the universality and objectivity of all knowledge claims (see Kraft & Soulier, 2024). The *International Task Force on Teachers for Education 2030* expresses the concern that “AI could standardize education at the expense of diversity” (2025, p.20). In principle, AI could of course be used to interrupt rather than accelerate the arrival at a consensus, for example by generating counterarguments, identifying assumptions, asking which voices are absent, or present contrasting framings to learners. But the currently available systems show opposite tendencies: LLMs aggregate existing cultural production in ways that can reinforce dominant patterns. Recent work points to their homogenising effects on language, perspective, and reasoning (cf. Birhane, 2025; Branford et al., 2025; Sourati et al., 2026). Seemingly fluent AI tools can perpetuate specific framings of a question as *the* answer, transforming socially and historically situated knowledge into an apparently neutral consensus. Of course, educational AI tools may be explicitly designed to counter this tendency. Abi Awomosu, the author of *How not to use AI* (2026), has sought to do precisely this by designing a “virtual roundable” that provides a multiplicity of AI answers from various social perspectives rather than the typical single AI “voice.”³ While admirable—and certainly preferable to the current *status quo*—this idea directly leads to a third point.

Third, there is a difference between encountering *possible* or *actual* perspectives of others. Often, the focus is on the former. Literature, history, art, testimony and other cultural forms

² We here take inspiration from Mariani et al., (2026, p. 154), where friction is discussed in the context of technological design processes, as well as from Medina (2013), who discusses the need for friction in emancipatory learning processes.

³ The tool has been created using Claude and is available to test here: <https://claude.ai/public/artifacts/d99b3eb2-48c7-4d07-84b7-60c22a65740c?fullscreen=true>

make experiences communicable across temporal, geographical and social distance. Nussbaum (2002) is right to emphasise the educational importance of these materials for learning to understand lives unlike one's own and of developing what she calls "narrative imagination." This is also an important dimension of a relational understanding of autonomy, as described above (section 2): it opens up the possibility to "imagin[e] oneself otherwise" (Mackenzie 2000, p.124) through the confrontation with different narratives. These may also reveal one's own complicity in morally objectionable practices, allowing one to recognise them as wrong and changing one's behavior (Westlund, 2022). Yet, there remains the issues of both distance (i.e., as something read in a book rather than someone encountered first-hand) and projection (i.e., that readers project their own views onto those they read about in books, interpreting them selectively). Of course, in many learning environments this may be the most that can be hoped for. Yet the global connectivity enabled by digital technologies suggests that we might aspire for more: that such perspectives might gain an *actual* "human face".

Our worry is that students who are dependent on compliant AI tools do not thereby acquire experience in encountering *actual* others (see also Wiecek, 2025). The directions on Awomoso's (2026) virtual roundtable explicitly highlight this concern, acknowledging that the various AI personas are "simulated perspectives, not real voices," intended to reveal blind spots and identify communities with whom one might want to engage. The vital question is whether AI does indeed promote encounters with people from other walks of life, or whether virtual encounters become substitutes for actual ones.

Actual communication and exchanges of lived experiences, concerns, and interests is a better educational ideal (Lind, 2023). The value of learning to navigate genuine friction cannot be overstated: other people do not exist to facilitate our purposes, they misunderstand us, disagree, resist our interpretations, demand explanation and recognition, introduce considerations we would rather ignore, and possess needs and commitments that cannot simply be adjusted to ours. Through these tensions, practical skills of navigation and negotiation are honed (Biesta, 2014). Moreover, it is important to recognise that dialogue takes place within relations structured by differences of power, identity, embodiment, and social position, which shape who can speak, who is heard, and whose experience becomes authoritative (Freire, 1970; hooks, 1994; Young, 2000). While it is helpful to be made aware of this fact by *possible* encounters (through literature, art, or AI), experiencing *actual* encounters is likely to be far more instructive, to compel personal attention, and to leave lasting impressions.

Encounters with actual others call for capacities of attention, listening, responsiveness, humility, and care (cf. Noddings, 2013; Birhane, 2025). As shall become clear in the next section (3.2), this makes *equality* particularly important for education. Moreover, as the last pillar (section 3.3.) makes explicit, the skills and dispositions developed through such social interactions are intended to educate children into democratic citizens: attuned to one another and motivated to *act* together, to solve problems and achieve social progress.

3.2. ...education and *equality*

Education plays a fundamental role in nurturing a culture of equality in democratic societies. This, as we will argue in this section, involves both the much-discussed aspect of equal access, which allows all to participate on equal terms, but also the *cultivation of a way of relating to others* on terms of equal moral standing.

The first point is addressed by many existing policy guidelines on AI and education: all children should be provided with equal access to AI tools and AI literacy. If participation in contemporary political and economic life depends on mastery of AI technologies, then it is an important concern for equality. There are several aspects to the question of access. The first straightforward aspect is access to the technologies themselves. The UNESCO guidelines on AI and Education, for example, are concerned with the digital divide “between those with and without access to digital technologies” (Miao et al., 2021, p.21), and recommends that it should be provided irrespective of socioeconomic situation, gender, ability, ethnic and cultural background (ibid, p.22). Of course, access to these technologies only makes sense when children also *have technological access, as well as access to knowledge about AI technologies*—in other words, AI literacy. The aim is to give all children the possibility to develop what are deemed key skills for their future professional and personal lives.

The access question is entangled with global inequalities and the monopolistic for-profit structure of the AI industry. As phrased in the *Council of Europe* report on AI and Education: “when we think of AI, how can we ensure that all learners, regardless of cultural background, personal characteristics or financial status will have access to AIED systems and AI-enhanced learning environments, especially taking into account that prominent AI and, specifically, AIED initiatives are led by IT for-profit corporations (Nemitz 2018)?” (Holmes et al., 2023, p.61). Here, the notion of “AI-enhanced” learning environments points to a broader notion of access, where different kinds of educational goods are made accessible by AI: typically, translations, summaries or various adaptations of existing resources, tailor-made

self-assessment tools or tutors, etc. Being deprived of access to AI technologies therefore means not only a missed opportunity to learn to handle important technologies, but more broadly, being denied access to various learning resources made available through AI.

However, framing the question of access only in terms of whether or not AI technologies are available for everyone's use is too reductive, not least because much depends on how AI is embedded in wider institutional structures. The *Council of Europe* report on AI and education frames the question of access in broader terms: "Democratic education presupposes open access and equity, meaning that everyone has access to the same *quality* of learning materials, conditions and opportunities" (Holmes et al., 2023, p.61, emphasis added). This leaves room for an important nuance: does access to AI technologies necessarily mean access to *better quality* of learning materials and conditions? In some cases, the real privilege might be the privilege to refuse these technologies.

A possible risk of AI use in education, precisely in a scenario where all students have access to such technologies, is the reinforcement of existing inequalities, as some students benefit from sufficient guidance in using these technologies and others do not. Although it is too early for a scientific consensus on the impact of AI technologies on the development of fundamental cognitive skills, first evidence as to the harmfulness of unaccompanied use of AI for cognitive development has been presented (Kallestrup et al., 2026). While many students report that the use of AI for guidance or support in the learning process is helpful, the worry is that, on average, the most unsupervised children risk being those whose families and teachers do not have the resources, whether time, material or literacy, to help them make the most constructive use of these technologies (cf. OECD, 2026, pp. 221–243). They would therefore be at the greatest risk of not developing fundamental cognitive skills. Somewhat paradoxically, *not* using AI technologies, and thereby using and developing one's own cognitive abilities, might become a privilege of the few, with elite schools and universities creating AI-free spaces in order not to undermine learning processes. Institutions that cannot afford more human teaching and supervision, and which therefore rely more on AI, may end up doing their students a disfavor, as not only learning processes are undermined, but also diploma's disvalued because their role as indicator of certain skills becomes brittle.

In contexts where access to technologies is possible and in fact cheaper than access to human labor, there are reasons to be concerned, in the longer run, about the potential development of a two-tiered education, where already privileged students benefit from interaction with human teachers and underprivileged students are provided with chatbot

alternatives. As is also noted in the report by the *Council of Europe*, introducing AI tools where teachers are missing will do nothing to “solve the underlying and long-term human problem – that of too few experienced or qualified teachers.” (Holmes et al., 2023, p.52).

Beyond these questions of access, a central role of democratic education is to cultivate an egalitarian way of relating to others. A first concern in this regard is the risk that AI technologies go against this aim by contributing to harmful representations of certain groups or by invisibilising them. A broadly discussed issue in this regard is algorithmic bias. The UNESCO AI and education guidelines warn against the issue of bias, which might “impact negatively on the human rights of individual students (in terms of their gender, age, race, socio-economic status, income inequality, and so on)” (Miao et al. 2021, p.20), reaffirming the principles of the Beijing consensus on artificial intelligence and education (UNESCO 2019). Misrepresentations and invisibilisation are harmful *per se* to the groups that are being (fully or partially) erased or presented in a harmful light. For example, the UNESCO AI and education guidelines mention the problem of gender stereotypes reproduced and entrenched in AI systems (Miao et al., 2021, p.25). But they are also harmful for the democratic project, as they can undermine the commitment to equal moral standing of all on which democratic societies are founded.⁴

This phenomenon of bias or erasure can manifest in more subtle ways than blatant stereotypes. For instance, the way that AI technologies are developed tends to exclude marginalized voices by selecting ways of speaking and types of vocabulary that are deemed acceptable, thereby “erod[ing] the epistemic diversity that [...] is foundational to a flourishing democratic culture” (Branford et al., 2025, p.18). A recent report on the use of AI to grade essays further confirms this bias towards dominant forms of language: the authors note that “AI systems were oversensitive to linguistic features, assigning higher marks to longer essays, those with complex sentences and a greater range of words” (Talmi et al., 2026, p.2). Indeed, the detrimental impact on the commitment to equal standing is not only moral, but also epistemic. In the specific context of education, which is meant to contribute to the shaping of a democratic ethos, these misrepresentations and invisibilizations could be particularly detrimental.

The epistemic dimension of equality, however, goes beyond avoiding bias or ensuring that marginalized groups are accurately represented. If, as argued in the previous section,

⁴ Moreover, at a global scale, it is questionable whether an egalitarian commitment is compatible with the use of technologies that rely on the exploitation of the same people whose voices they contribute to silencing.

education is partly constituted through socially situated inquiry, then equality concerns the terms on which people participate in that inquiry. It is not enough that learners are jointly present, permitted to speak, or formally recognised as possessing a perspective. There must also be epistemic justice: their contributions must equally be capable of carrying weight and of affecting how problems are articulated, which experiences are treated as relevant, what assumptions are questioned, and which possible responses are considered. Without such egalitarian inclusion valuable perspectives risk being overlooked, overshadowed, or dismissed before they can meaningfully shape inquiry. The result is not only an injustice to those whose standing is diminished, but a distortion of the knowledge collectively produced, which affects what becomes perceptible as a problem, how that problem is understood, which ends appear desirable or possible, and which courses of action are ultimately pursued—or neglected. Equal participation consequently requires active attention to the practices through which epistemic authority is distributed, including inherited assumptions about who is credible, which forms of expression appear authoritative, and which ways of knowing are rendered normal, marginal or unintelligible. Equality, in this sense, is not simply an outcome of educational interaction but a condition of its epistemic adequacy.

This also clarifies the relation between *sociality*, *equality* and *citizenship*. If *sociality* concerns our dependence upon others in the production and revision of understanding, *equality* specifies how those relations must be structured if they are to be genuinely democratic. Learners must be able to act together, in equal recognition of each person's standing to contribute to the identification and articulation of social problems, such that an egalitarian education works against forms of domination that systematically prevent some participants from shaping collective understandings. *Citizenship*, to which we turn next, extends this to capture the capacity to participate as an equal in the collective judgment and action through which social problems are addressed.

3.3. ...education and *citizenship*

Democratic citizenship means a commitment to, and a co-responsibility for, upholding the democratic values and practices without which a democratic system cannot remain stable. Educational systems are crucial for democracy because they instill this sense of citizenship in individuals—or at least, they should, together with other institutions, e.g. the family. Democratic societies cannot take for granted that an active sense of citizenship develops in individuals, but need to actively encourage it. For Dewey (1916, pp. 24-25), schools are particularly important here because they allow students to move out of the “limitations of the

social group in which [they] were born,” with their specific worldviews and values, and to encounter individuals from different backgrounds, in a broader social world in which these differences need to be productively negotiated.

This role of education for democratic citizenship, and the impact AI might have on it, has not been central in the scholarly discussion so far. The debate about AI and democracy focuses on risks (misinformation, loss of trust, etc.) and potentials (e.g. facilitation of interactions between citizens and political institutions) mostly at the level of public discourse and political institutions (e.g. Mariani et al. 2026). What is less in focus is what the widespread adoption of AI means for people's self-understanding and social practices as democratic citizens. In the words of Branford et al. (2025, p. 3), there is a general question about the impact that AI might have on people's everyday lives, with the risk that it might "undermine inclusive epistemic participation in the continuous co-production of democratic culture."

In discussion about AI in education, democratic citizenship has, until now, not been a major theme. What has received more attention is the need for students, as future citizens, to learn *about* AI, so that they can become competent users. For example, the UNESCO "AI competency framework for students" (UNESCO 2024a, p. 1) explicitly stresses the point of "preparing students to be responsible and creative citizens in the era of AI," but does not develop the link between a "human-centred mindset" as a "competency" and their proposed "progression levels" to "citizenship in the AI era." "Citizenship in the AI era" is here understood as critically understanding AI's impact on human societies, promoting responsible and inclusive AI design and use for sustainable development, and developing civic and social responsibility. While important, this perspective neglects questions about how the use of AI in education might influence the development of citizenship (the attitudes, skills, and capacities necessary for democratic citizenship) in a broader sense.⁵ For this, it matters not only *what* is taught (even though that obviously remains important), but also *how* individuals are taught: does the mode of teaching enable them to become active, critical thinkers with democratic agency, or is there a risk that the increased use of AI in education might unintentionally erode, or even undermine, aspects of learning that are crucial for democratic citizenship?

⁵ An exception is Katz (2024, p. 1), who argues that "the increasing integration of AI in education raises questions about how AI might influence the development of essential qualities in students, such as critical thinking, civic commitment, and tolerance and respect." Katz expresses concerns on the cognitive effects of AI in education and their implications for democratic deliberation, and also worries that monitoring/surveillance through AI in classrooms might narrow down democratic exchange.

In terms of the *what*, young people learn to acquire an understanding of democracy as something that is *about them*, not as something that other people do and that just happens to them. They need to learn about the equal moral standing of individuals, the commitment to democratic values, and the respect for difference. They need to learn about possibilities of democratic action, about the necessity of critical questioning and scrutiny, in order to hold the powerful to account. In terms of the *how*, the aspect of education as a *social* process, which we already emphasised above, is, again, crucial: education is something that one does *together* (see sections 2 and 3.1). The shared attention to a text or a problem, and the shared commitment to learning, implicitly communicate the kind of reciprocity that is the basis of much of morality (Tiberius 2026). What is crucial, from that perspective, are opportunities for self-guided learning in groups that include diverse perspectives, where the focus is on jointly finding things out, coming to solutions, and taking responsibility for making something happen, whether it is the solution to a math puzzle, a compromise in an ethical conflict, or a practical outcome (e.g. the organization of an event).

What is also crucial in such processes is the willingness, already discussed above (section 3.1) to endure friction: to accept that different people, with different perspectives, may at first misunderstand each other, that it takes time and effort to understand each other and to come to solutions that are acceptable for all. Such processes need careful pedagogical guidance, to make sure that the amount of friction does not get so great as to frustrate the learning goals. This, in turn, requires pedagogical judgment and sufficient autonomy: teachers must have the time and (unsurveilled) space to let such processes happen. They teach young people skills that are essential for democratic citizenship, by prefiguring the constellation between citizens who might, later in their lives, for example write a joint letter to a member of parliament, set up a new initiative in their neighborhood, or start a political movement. Political theorist Hannah Arendt has emphasised that human "natality," the ability to bring something new into the world, together, is a key feature of politics. It contrasts with the "remixing" of existing content that AI, at its base, relies on (Herzog, 2021).

How might AI impact the *why*, the *what*, and the *how*, of education for democratic citizenship, understood in this way? We focus on potentials first, and then discuss risks. With regard to the *why*, education for democratic citizenship must take seriously the initiating question of why students should come to regard democratic participation and democratic forms of associated life as worthwhile in the first place. It is clear that such motivation cannot be secured simply by teaching students that democracy is valuable. This develops, at least partly, through experiences in which students discover their dependence upon others for understanding shared problems, encounter those others as persons of equal standing, and

experience collective inquiry and action as capable of making a difference. That is, that students come to understand themselves as persons whose judgments matter, whose purposes are bound up with others, and who are capable of jointly identifying and addressing shared problems. In this sense, the *why* of democratic citizenship is partly generated by the *how*: equal and consequential participation gives students reasons to care about democratic forms of association. AI might support this attachment by making institutions more intelligible, identifying bureaucratic requirements and potential obstacles, revealing relevant historical precedents and attempts, and connecting various stakeholders. Used alongside actual civic activity, this could make democratic citizenship feel not only accessible but efficacious—as something students can do, can shape, and as something in which they are themselves needed.

Yet AI can also undermine these experiential foundations of democracy. Much AI in education is organised around a strikingly individualised model of agency that may habituate a very different political imaginary. Where personalisation via AI increasingly fragments common objects of concern into individually tailored answers, the question of how we should live together risks collapsing into one of optimising among preferences—a task that itself appears increasingly automatable. AI systems presenting as exceedingly knowledgeable and supposedly neutral may recast disagreement as mere informational deficits awaiting AI adjudication and resolution instead of democratic contestation. AI educational practices may thus habituate students into a model of associated life in which problems are individually posed and technically resolved. In this world, why should students go on thinking that there is either any need for democracy or, indeed, that there is anything for them to do in democracies? Education in the age of AI must preempt such possibilities through activities directly intended to foster the continued experience of democracy as desirable, meaningful, and worth participating in. This speaks directly to the *what* and the *how*.

With regard to the *what*, as just noted, there is positive potential if AI helps children learn about political institutions and ways to get in touch with them. It might, for example, help set up mock-trials of citizen assemblies. Moreover, individualized tutoring or gamification elements, which AI can offer, can increase student motivation, and support the development of critical thinking and knowledge development, at least when combined with human input and supervision to prevent overreliance on AI (e.g. Kassenkhan et al., 2025 and the studies quoted there). School classes might try out digital platforms for citizen engagement, which could be done in self-guided groups accompanied by teachers, so that the *how* is also positively influenced. AI might also, in certain constellations, support collaborative learning,

e.g. connecting remote learners to groups, or actively contributing as participant or moderator (Miao et al., 2021, p. 17).

There are, however, also considerable risks connected to the introduction of AI in education with regard to democratic citizenship. With regard to the *what*, there is an obvious risk that students do not learn enough about AI to become competent citizens in environments that are to a great extent digitalized and AI-based, which also requires knowledge about the limits and dangers of AI (see also section 3.2 above). As Oliveira (2026, p. 52) puts it: "Today's students will graduate in a digitalised world with a diversity of digital tools such as generative AI. Therefore, full and active citizenship requires that students need to know and be aware of AI tools to understand how they work, the ethical questions they raise and how they can be misused and weaponised." The corporate origins of most available AI systems raise questions about whether they will reliably direct students to information about democratic practices and institutions, rather than focus on marketable skills and an individualized consumer or worker perspective. There is also the question of whether corporate AI will find the right balance between the willingness to obey prevailing rules and norms, and resisting them if they are in tension with democratic values. In the current environment, where corporate AI is integrated into the learning processes of many educational institutions, it seems unlikely, for example, that AI would encourage students to organize a peaceful protest against a decision by the school leadership or city government, but would rather recommend obedience to existing power structures, even in cases in which, from a democratic perspective, resistance would be appropriate.

With regard to the *how*, there are also considerable risks. If AI is seen as an authoritative voice that always has correct answers, this might lead to a kind of individualized passivity in which each student gets information from their AI tutor, as it were, instead of a dialogical attitude, the willingness to make discoveries together, and the development of a sense of agency as democratic citizens. This risk is particularly great if students ask AI for advice not only on factual matters (where fabrication remains a problem, but which might be improved over time), but also on questions of values, to which there is no obvious "right" or "wrong" answer. This is in line with a general concern, raised by Coeckelbergh (2023), that the widespread use of AI might diminish the epistemic agency of citizens and their ability to form political judgments, for example because the spread of fake content undermines their trust in public sources of knowledge, but also in their own cognitive capacities. This, he argues, is ultimately a threat to their autonomy as citizens (ibid., p. 1347).

While too authoritative an AI voice might instill submission and obedience, there is also the risk that an AI voice that is too friendly and malleable might instill a sense in students that they always get things right and do not need to learn from others with different perspectives. The enthusiastic and subservient tone of many AI programs ("That's a great question") may give individuals an exaggerated sense of their own capacities and close down opportunities for experiencing friction with the views and perspectives of others, and to learn from them (see also section 3.1). It is therefore essential that teachers can keep an eye on the tone and style in which AI interacts with students, to make sure that they are not hindered in their development into confident (but not overconfident) citizens able to engage with others on an equal footing (see also section 3.2).

Generally speaking, the sociality of the learning experience, which we have discussed above (section 2 and 3.1) and which is also crucial for the development of citizenship attitudes and skills, might be put under pressure through AI. A classroom in which all students stick behind their screens and get taught by their individualized AI tutor is precisely *not* a shared space of dialogue and joint exploration. The focus on efficiency and the promise of smooth, fast, individualized learning processes through AI might lead to an unwillingness to endure the friction that is part of intersubjective learning processes. And last but not least, the use of AI, and digital tools more generally speaking, might reduce the scope of pedagogical and educational autonomy of teachers, thereby also reducing the space for unconventional projects that could strengthen citizenship skills (see also Ponce Del Castillo & di Rodolfo, 2026).

The reflection on these risks does not imply that AI should play no role whatsoever in the learning process. But it emphasizes the importance of the student-teacher relation and the student-student relations that matter for learning. Students themselves, in many contexts, also prefer human educators (e.g. Fakour & Imami, 2025). There might well be potential for a division of labor. As Fakour and Imami (2025, p. 7) write, based on an empirical study of AI vs. human tutoring in Socratic dialogue: "AI tools like ChatGPT can handle routine questions and flexible pacing, freeing human tutors to focus on complex, interpersonal, and critical-thinking tasks."

4. Implications for educational practice

In the first three sections we have discussed the ways in which education should nurture and strengthen in students the three pillars of democracy as a way of life: sociality, equality, and

citizenship. We have reflected on the potentials and risks that AI technologies represent for the fulfillment of this educational mission. In this last part, we derive some practical recommendations for the use of AI technologies in education. Against overly enthusiastic adoption, or the assumption that "more technology" would always be better, we argue for careful reflection on pedagogical goals, especially with regard to the broader citizenship goals we have discussed. Two preliminary caveats are in order.

First, it is certainly not the case that any school in the world perfectly fulfilled this mission before AI tools were introduced. Consequently, our recommendations hold beyond the issue of AI and encourage educational communities to include education for democracy as a central pedagogical goal (see also Edelstein, 2011). Additionally, given the broader threats to democracy that AI poses, particular attention should be given to citizenship education, as well as to education about the risks and limits of AI. Second, all the very diverse educational contexts across the world will encounter very different challenges in pursuing this aim: various kinds of resources might be scarce, institutional or political pressures to adopt given technologies might be high, and literacy and technophilia within the local population vary. Attention to context will therefore be key to determine the right decision regarding the adoption of AI tools in the classroom. However, the following principles can provide some general guidance.

a. Create community

All dimensions of sociality, equality and citizenship require ***thorough engagement and exchange with others, with diverse perspectives and experiences***. This allows students to learn to approach knowledge as a social practice, to relate to others as equals, and to become acculturated to democracy.

Our recommendation is therefore to carefully guard ***the overall balance of human and AI interaction*** and keep asking whether adding AI tools to a learning environment is conducive to more rather than less exchange and constructive critical engagement with others' perspectives. The question always needs to be raised whether a tool is a *substitute* for engagement with other students or teachers, or rather a *complement* or *support* thereof. This reflection should preside over the very design of AI-technologies for education, so that they do not only serve narrow cognitive goals, but also preserve the social dimension of the learning process.

Creating community also means being vigilant to the risks of exclusion, marginalisation or invisibilisation that AI technologies have long been shown to bear.

This, as we have argued, has harmful implications both for those excluded, and for those who are included but no longer hear the latter's voices. Both the design and the use of AI technologies in education need to have mechanisms that check for risks of marginalization and of reinforcing inequalities.

b. Embrace the essential role of friction

An essential component of citizenship is to ***cultivate engagement with diverse and opposing perspectives in a way that recognizes them as epistemically fruitful and worthy of respect***. This practice can be cultivated through educational activities such as project-based learning in which pupils, in groups, address concrete problems around them, for example in a community garden. Other activities such as music, arts or sports can train individuals in perspective-taking and interaction and often teach them a team-based approach. In this spirit, we should therefore be wary of the risk of AI-driven acceleration that organizes learning processes in ways that leave no time for frictions and the opportunities to learn to resolve them.

The current discussion on AI and education can benefit from drawing on ***existing literature on education and democracy***. For example, Edelstein (2011), distinguishes between "learning *about* democracy," "learning *through* democracy," and "learning *for* democracy." One format in which these come together are "classroom councils" and "school assemblies" in which students discuss and take decisions together, in democratic ways. It can be combined with forms of service learning and volunteering in which young people jointly engage in social projects, to address problems in their home town or social problems (e.g. helping elderly people with computers). Such activities can activate a whole range of civic skills (planning, communicating, collaborating etc.) that are helpful for future democratic engagement and empower students' agency. Indeed, a first point for democratic engagement in the classroom might well be around the very topic of the use or non-use of AI tools in the classroom, where this must create a genuine possibility for collective refusal.

c. Keep challenging the added value of AI

There is no point in preaching for an education that fosters a critical community of inquiry if we, as educators and as society, do not also endeavor to collectively, critically and in the engagement with others as equals, address the problems that we are facing. AI in education is one of these problems. Instead of tacitly accepting the dominant narrative of inevitability, ***we should keep asking where such technologies are helpful, for what purposes if any, and crucially, what might be lost when such technologies are deployed*** (see also Belic & Maheshwari, 2026). If we have reasons to think that ordinary pedagogical practices can

cultivate the relevant capacities more directly, without introducing the risks of simulation, stereotyping, or dependence that AI technologies currently bring, we should question the use of such technologies, also in the light of other ethical considerations (e.g. the energy consumption of AI).

But no individual reflection will substitute for **thorough empirical research** into the effects of deploying such technologies in the classroom on the development of cognitive and social abilities. Such research is urgently needed, and it should also cover possible effects on the abilities that are key for democratic citizenship, e.g. perspective taking and joint problem solving. Moreover, close attention by practitioners and researchers to unintended side-effects is necessary: even well-intended interventions may have unanticipated consequences, e.g. for the social dynamics in the classroom, that require further investigation. Close exchange in the educational community can help "connect the dots" early on when new phenomena emerge, and, where necessary, to take measures.

We should also take seriously the Deweyan practice of collective inquiry, involving all those affected by the problem to co-construct a common understanding and common interests. In this regard, **students should be more systematically involved in the discussions** leading to the adoption of AI technologies in the classroom. As Holmes and colleagues note: "Students are rarely consulted or included in decisions about the impact of AI and how AI systems shape their opportunities and choices." (Holmes et al., 2025, p. 19). Here again, the recommendation to involve students applies to education more broadly, for example as regards the learning objectives of courses and programs. The arrival of AI can be seen as an opportunity to ask afresh about the distribution of authority over pedagogical aims, in different contexts, between tech companies, teachers, students, institutions, and governments.

In conclusion, we have no doubt that there are positive potentials when it comes to the use of AI in education, also from the perspective of democracy and education that our reflections have been based on. Rightly used, AI can empower individuals and groups to contribute to social progress, in various dimensions. However, in the current landscape, in which educational resources are unequally distributed, and an understanding of the long-term effects of AI on pedagogical goals is still missing, **we should not blindly follow a narrative that would equate technological progress with social progress**. AI should not be expected to be an easy solution for the many (and often well-known) problems that mar the educational sector in many countries (see also Bulathwela et al. 2024). Moreover, the corporate origins of current AI technologies require permanent alertness as to hidden

agendas or biases that profit-driven organizations would have no interest to correct. The **social nature of learning, and the importance of educating not only future workers but also democratic citizens**, need to be key considerations for how the future of education is designed, so that technological progress translates into social progress.

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