

# Governing Generative Artificial Intelligence in Schools through Artificial Agency, Competence Frameworks and Teacher Professionalism

**Mariella Tripaldi**  <sup>1</sup>

<sup>1</sup> PhD candidate in Educational Sciences,  
Department of Philosophy and Cultural Heritage.  
Ca' Foscari University of Venice, Italy

✉ Corresponding author:

[mariella.tripaldi@unive.it](mailto:mariella.tripaldi@unive.it)



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**ABSTRACT:** The integration of Generative Artificial Intelligence (GenAI) in schooling cannot be reduced to a merely instrumental update of teaching practices. Rather, it inaugurates a transformation of the epistemic ecology of schooling, reshaping how knowledge is produced, circulated and—crucially—validated, with anthropological, ethical, and pedagogical repercussions. This paper frames AI not as “intelligence” in a human sense, but as *artificial agency*: an operational power that can act and respond without intentionality, comprehension, or moral responsibility. Such a stance enables a critical interrogation of educational anthropomorphism, automation of judgement, and the hetero-direction of formative processes. Drawing on international principles (UNESCO; OECD) and European competence frameworks (DigComp, DigCompEdu, LifeComp), in dialogue with Italian scholarship on media education and teacher professionalism, the article argues that the pivotal issue is not “adoption” per se, but the *didactic translation* of ethical and competence architectures into situated practices: assessment, design, inclusion, relational care, and data governance. The central thesis follows: for technological innovation to remain humanly intelligible and educationally justifiable, teacher professionalism must be strengthened as a projective, evaluative, and deontological function—capable of embodying an ethics that is not merely declared, but enacted through everyday decisions and institutional routines.

**KEYWORDS:** generative artificial intelligence; artificial agency; AI ethics; competence frameworks; teacher professionalism.

**How to cite:** Tripaldi, M. (2026). Governing Generative Artificial Intelligence in Schools through Artificial Agency, Competence Frameworks and Teacher Professionalism. *International Multidisciplinary Conference on Innovation, Technology and Sustainability*. Futurity Research Publishing. <https://doi.org/10.5281/zenodo.18932737>

## Introduction

The sudden visibility of GenAI within schools belongs to a broader reconfiguration of educational culture: not only because it accelerates access to texts, syntheses, examples, and exercises, but because it silently destabilises the epistemic grammar through which schooling assigns authority to sources, distinguishes argument from plausibility, recognises authorship, and evaluates relevance and quality. If the school is, in a strong sense, an institution of cultural mediation, then GenAI is not a neutral “aid”. It is an environment that restructures meaning-making, redistributing cognitive power and moral responsibility.

This shift is often narrated through two opposing imaginaries—both seductive and therefore both in need of critique. On the one hand, the imaginary of efficiency: personalisation, permanent tutoring, automated feedback, accelerated assessment. On the other hand, the imaginary of alarm: plagiarism, cognitive dependency, impoverished thinking, surveillance. The scientific robustness of educational discourse depends on escaping these unilateralities by reframing the issue as one of *governance*: which aims, constraints, and pedagogical devices can make the use of GenAI not only useful, but formatively legitimate?

To answer, one must adopt a foundational theoretical position that is not a terminological quibble but an epistemic premise: what is AI, educationally speaking? If it is treated as an intelligent quasi-person, anthropomorphism opens the door to moral delegation; if treated as a mere tool, its status as an environment capable of shaping practices, decisions, and criteria of truth is obscured. The more rigorous path is to recognise it as *artificial agency*: a form of operational power devoid of moral intentionality—producing without understanding, responding without “knowing”, acting without accountability. From this premise, educational responsibility must remain human and institutional, and the question becomes: which conceptual and professional architectures allow schools not to undergo innovation, but to orient it?

## Artificial agency and a critique of educational anthropomorphism

Education pays a high price when it confuses metaphors with concepts. Speaking of “artificial intelligence”, especially in schooling, can lead students and adults alike to interpret persuasive linguistic performance as evidence of comprehension, intentionality, and epistemic authority. Floridi’s philosophy of the infosphere already warned that contemporary environments reshape the boundaries of human experience (Floridi, 2014). However, GenAI intensifies the pedagogical risk because it does not merely distribute information: it simulates the discursive form of knowledge. Students may mistake fluency for truth, coherence for correctness, and probabilistic language for argumentative grounding.

This is precisely where the notion of artificial agency becomes pedagogically decisive. It sustains an ethical consequence: delegating educationally sensitive acts—assessment, orientation, classification, risk prediction, profiling—cannot be treated as a technical choice, but must be handled as a moral and

institutional decision. The point is sharpened further by Italian pedagogical work on agency and formation. Costa, for instance, explicitly refuses an upskilling-only horizon and links agency to an emancipatory formative task, describing it as “a concrete expansion of freedoms and the possibilities of designing oneself and the world” (Costa, 2025, p. 5). In this sense, the educational question is not whether GenAI “helps”, but whether it strengthens or weakens the learner’s and teacher’s capacity to project, decide, and take responsibility.

However, the concept must be tested rather than ritualistically invoked. Is it sufficient to call AI “artificial agency” to neutralise anthropomorphism? Not entirely. Schools are relational institutions: learning is not produced by information alone. Even when teachers and students know that AI is not a person, the pragmatic dynamics of interaction—immediacy, turn-taking, confident tone, apparent competence—can generate affective-cognitive reliance. Anthropomorphism is not only a conceptual error; it is a relational temptation. Hence, literacy about GenAI cannot be reduced to technical explanations. It must become education for judgement: how claims are verified, how sources and inferences are reconstructed, how biases and omissions are detected, and how “good evidence” is decided.

Here, Italian traditions of media education and critical literacy are particularly relevant: competence is not equivalent to use, but to understanding the dispositifs that mediate experience and orient meaning-making (Panciroli et al., 2020; Ranieri, 2022). If schooling abdicates this function, GenAI risks shifting from an opportunity for reflexivity to an infrastructure of hetero-direction, normalising pre-packaged knowledge that is difficult to interrogate precisely because it arrives already shaped as plausible discourse. In this direction, Costa’s earlier work is also instructive, because it frames the educational task as an “attitude of openness and willingness to undertake an intellectual activity on action that starts from action” (Costa, 2020, p. 99): a disposition that GenAI can either stimulate (as an object of critique) or erode (as a shortcut).

### **From ethical declarations to the didactic translation of principles**

An increasingly shared claim in the international literature should be taken, in educational settings, as a criterion of rigour: ethical principles do not educate anyone on their own. They may orient, constrain, and inspire, but remain declarative unless converted into practices, procedures, roles, and responsibilities. This is the decisive move: translating ethics into *didactic operability*.

A recurring school rhetoric – “we use AI to help students” – is pedagogically insufficient. In education, intention is never a guarantee; it can even become an alibi. If a system promises personalisation, one must interrogate the implied concept of learning; if it promises instant feedback, one must ask what happens to the time of error, maturation, and struggle; if it promises automated assessment, one must examine which notion of competence is embedded and what space remains for interpretation, negotiation of meaning, and evaluative justice. Research that discusses the opportunities

and risks of large language models in education repeatedly highlights these tensions precisely: the same tool can amplify learning opportunities or normalise shallow plausibility and miscalibrated trust, depending on the pedagogical architecture that contains it (Kasneci et al., 2023).

The OECD Recommendation on AI makes explicit a constellation of principles that, for schooling, must be turned into concrete governance dispositifs: inclusive growth, sustainable development and well-being; human-centred values and fairness; transparency and explainability; robustness, security and safety; and accountability (OECD, 2024, p. 3). It also stresses “responsible stewardship of trustworthy AI” aligned with human rights and democratic values (OECD, 2024, p. 2). The pedagogically uncomfortable question is therefore unavoidable: who exercises such stewardship in real schools? The answer cannot be deferred to technology providers or to generic policy documents. It implicates the teacher as an institutional actor whose professionalism functions as the moral infrastructure of innovation.

If principles remain at the level of documents, schools will consume them as legitimising vocabulary; if transformed into design criteria, they shape everyday decisions: which data are collected and why; which prompts and uses are allowed and under what constraints; how processes are documented; how products are evaluated; how authorship is recognised; how those most exposed to bias and discrimination are protected. Without this didactic translation, the proliferation of ethical guidelines—often convergent in titles but divergent in operational substance—risks remaining a threshold phenomenon: ethics at the door of practice, unable to cross into routine.

### **Competence frameworks and the centrality of teachers between Europe and Italian scholarship**

If schools are to govern GenAI rather than undergo it, digital literacy cannot be equated with training-by-acclimatisation. Here, European competence frameworks offer an advantage: they provide a shared grammar and, at least potentially, reduce innovation to something more than episodic enthusiasm. DigComp 3.0 updates the citizens’ digital competence framework by making the horizon of data-driven technologies and AI-related challenges more explicit, while aiming to remain adaptable across educational and formative contexts (Cosgrove & Cachia, 2025). However, a critical level of vigilance is required: Is it conceptually sound to treat citizens’ digital competence as a sufficient metric for teacher professionalism? If one wants to remain rigorous, the answer is no. The teacher is not simply a “digital citizen”: the teacher is a professional of design, assessment, inclusion, and educational relationships.

This is why DigCompEdu shifts the centre of gravity from consumption to pedagogical action, including domains such as digital resources, teaching and learning, assessment, empowering learners, and professional engagement (Redecker & Punie, 2017). However, DigCompEdu alone cannot absorb the specific shock of GenAI. GenAI destabilises not only technique but also the personal, social, and learning-to-learn competences that sustain educational subjectivity: self-regulation, emotional management, flexibility, critical thinking, and learning how to learn. This is the conceptual space of

LifeComp, whose formulation is unambiguous: personal, social, and learning-to-learn competences apply “to all spheres of life” and can be developed through formal, non-formal, and informal education (Sala et al., 2020, p. 7). Without this dimension, education about GenAI risks becoming a didactics of use rather than a formation of the subject.

The problem, therefore, is not to accumulate frameworks as if they were checklists, but to build an integrated architecture that foregrounds the professional nucleus of teaching in the age of AI. Models such as TPACK show that technology becomes educational only when disciplinary, pedagogical, and technological knowledge are intertwined rather than merely juxtaposed (Mishra & Koehler, 2006). As for SAMR, scholarship has noted its practical diffusion but also its theoretical ambiguity: it can be employed as a reflective heuristic only if it is not mistaken for a theory of learning and is accompanied by critical readings (Hamilton et al., 2016). A similar point applies to UDL: AI can widen accessibility and differentiation, but only if inclusion remains a design criterion rather than a technological promise.

Italian scholarship adds an epistemologically significant contribution: media education and “connected didactics” insist that innovation, if it is to remain humanly defensible, must safeguard relation, meaning, and responsibility. Panciroli and Rivoltella press the issue into an explicitly formative demand: “Understanding and activating awareness about how, why, meaning, effects, benefits, what is ‘lost’ and what is ‘gained’ must become educational practice [...] it is about building, training, and exercising daily [...] a stance of ‘craftsmanship’ that does not renounce these questions” (Panciroli & Rivoltella, 2024, p. 40). This notion of pedagogical craftsmanship is crucial because it refuses both technophilia and technophobia in favour of an ethics embodied in practice.

Italian research on intelligent digital ecosystems also warns against a reductive imagination of AI as mere automation: it may function as an accelerator of personalisation and efficiency only if these processes are governed didactically rather than surrendered to the logic of optimisation. In this vein, Messina and colleagues describe AI as “acting as a catalyst for the personalisation and optimisation of learning processes” (Messina et al., 2024, p. 81). The decisive conditional clause remains: *if* schools hold the pedagogical steering wheel. Otherwise, “optimisation” becomes a proxy for standardisation.

From this angle, the teacher's centrality becomes unavoidable. A thesis follows—counterintuitive only at first sight: GenAI increases the need for school not because it makes students less knowledgeable, but because it makes it harder to distinguish knowledge from verisimilitude, evidence from narration, sources from derivatives. Teacher professionalism must therefore be strengthened as it has at least four constitutive functions: an epistemic function (criteria of truth and verification), an ethical function (responsibility and protection), a projective function (design of learning environments), and an evaluative function (justice and meaning of assessment). This is not merely a contemporary requirement: it resonates with a more profound theory of formation. Margiotta reminds us that “the need for personal development presupposes awareness of ‘incompleteness’ (perfectibility, improvability) [...] and the existence of human potential” (Margiotta, 2015, p. 235). In such a view, teacher education is not the

acquisition of a toolkit but the cultivation of a professional ethos grounded in human perfectibility—precisely what GenAI, paradoxically, makes newly visible. In this direction, the notion of empowerment – which Costa (2025, p. 5) defines as “the concrete expansion of freedoms and possibilities to design oneself and the world” – can be taken as a basic pedagogical criterion: in the age of AI, schools should not limit themselves to training competent users, but rather individuals capable of maintaining autonomy, judgement and responsibility about the devices that speak for them.

## Conclusions

GenAI compels educational sciences to choose a posture: either treat it as an external device to be “managed”, or recognise it as a cultural environment that reshapes the meaning of educating itself. The second posture is more demanding, but it is the only one that allows non-reactive governance of innovation. Framing AI as artificial agency can help avoid anthropomorphism and prevent moral delegation; yet this conceptual move alone does not generate good practice. For ethics not to remain a declaration, principles must undergo a didactic translation: situated operability that touches assessment, design, data governance, inclusion, and relational care.

This paper has argued that frameworks – OECD, DigComp 3.0, DigCompEdu, LifeComp – are valuable not as solutions but as a shared grammar within which professionalism can be constructed. The decisive issue remains the figure of the teacher: not as an executor of guidelines, but as an architect of formative environments in which GenAI becomes an occasion for judgement, reflexivity, responsibility, and autonomy. If this does not happen, GenAI will tend to accelerate standardisation and inequality. If it does, it may paradoxically become a powerful educational pretext for refounding the school as an institution of critical thought and human dignity.

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