



The Role of AI in School Education: A Sociological Study

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DOI : <https://doi.org/10.5281/zenodo.20047150>

ARTICLE DETAILS

Research Paper

Accepted: 02-04-2026

Published: 18-04-2026

Keywords:

*Artificial Intelligence,
School Education and
Sociological approach*

ABSTRACT

The integration of Artificial Intelligence (AI) into school education represents a profound sociological shift, reconfiguring power dynamics, authority structures, and social stratification within the classroom. This study examines AI not merely as a pedagogical tool but as a non-human actor that actively mediates social relationships between students, teachers, and institutions. Drawing on Bourdieu's concepts of habitus and capital, the analysis reveals how AI disrupts the teacher's traditional monopoly on knowledge, necessitating a renegotiation of professional identity and the emergence of new forms of digital cultural capital. Crucially, the study identifies a "Digital Divide 2.0," where AI risks exacerbating existing inequalities: affluent students leverage AI for creative augmentation and agency, while marginalized learners are often subjected to remedial automation and algorithmic control. Furthermore, the research explores the hidden curriculum of datafication, arguing that constant algorithmic surveillance normalizes a worldview where human potential is reduced to optimizable metrics, potentially eroding privacy and autonomy. The paper also addresses the ethical dangers of algorithmic tracking, which may resurrect discredited ability-grouping practices under the guise of objective data, thereby cementing social reproduction rather than fostering mobility. Ultimately, this study contends that the challenge of AI in education is not technical but deeply social. It calls for a human-



centric policy framework that prioritizes digital equity and ensures AI serves to augment human connection and critical agency, rather than replacing them with efficient, yet dehumanizing, algorithmic determinism.

Introduction

The integration of Artificial Intelligence (AI) into school education represents one of the most profound sociological shifts in the history of pedagogy. While often framed through the lens of technological efficiency or economic competitiveness, the deployment of AI in classrooms is fundamentally a social experiment that reconfigures power dynamics, redefines the role of the teacher, and reshapes the very nature of knowledge acquisition. From a sociological perspective, AI is not merely a tool but an actor in the educational ecosystem, mediating relationships between students, teachers, institutions, and the broader society. This article examines the role of AI in school education through a sociological framework, analyzing its impact on social stratification, the changing habitus of the classroom, the redefinition of cultural capital, and the emergent ethical dilemmas that threaten to exacerbate existing inequalities.

Theoretical Framework: AI as a Social Force

To understand AI's role sociologically, one must move beyond the functionalist view of technology as a neutral instrument. Instead, drawing on the works of Bruno Latour's Actor-Network Theory (ANT) and Pierre Bourdieu's concepts of habitus and capital, AI can be seen as a non-human agent that actively shapes social structures. In the traditional classroom, the teacher was the sole gatekeeper of knowledge and the primary arbiter of validity. AI disrupts this monopoly, decentralizing authority and creating a new network where algorithms co-construct reality with human actors.

This shift alters the habitus the ingrained habits, skills, and dispositions of both students and educators. For students, the habitus shifts from rote memorization to prompt engineering and critical verification. For teachers, it shifts from content delivery to curatorial oversight and emotional mentorship. This transformation is not seamless; it generates hysteresis, a lag between the new technological field and the old dispositions of the actors, leading to resistance, anxiety, and a renegotiation of professional identity.



The Reconfiguration of Authority and the Teacher's Role

Historically, the teacher's authority was derived from their possession of cultural capital specifically, their mastery of subject matter. AI, particularly Large Language Models (LLMs) and adaptive tutoring systems, democratizes access to this information, effectively devaluing knowledge retention as a primary form of capital. Sociologically, this precipitates a crisis of legitimacy for the traditional teacher figure.

In this new landscape, the teacher's role is transitioning from the "Sage on the Stage" to the "Guide on the Side," a metaphor that now carries deeper sociological weight. The teacher is no longer the sole source of truth but becomes a mediator of algorithmic output. Their authority is increasingly derived not from what they know, but from their ability to navigate, verify, and contextualize AI-generated content. This shift demands a new form of cultural capital: digital pedagogical capital. Teachers who fail to acquire this new capital risk marginalization, while those who master it gain a new form of status as "AI-literate" mentors.

However, this transition is uneven. In under-resourced schools, where professional development is scarce, teachers may find their authority eroded without the support to rebuild it, leading to a sense of deskilling. Conversely, in elite institutions, teachers leverage AI to offload administrative drudgery, elevating their role to that of high-level coaches. This divergence suggests that AI does not merely change the teacher's role; it stratifies the teaching profession itself, creating a new hierarchy based on technological fluency.

Social Stratification and the Digital Divide 2.0

Perhaps the most critical sociological implication of AI in education is its potential to exacerbate social stratification. The "digital divide" was once defined by access to hardware and internet connectivity. Today, we face a "Digital Divide 2.0," characterized by disparities in how technology is used.

Sociologist Neil Selwyn argues that technology often amplifies existing social inequalities rather than mitigating them. In the context of AI, this manifests in two distinct modes of usage:

1. **Remedial Automation:** In low-income schools, AI is often deployed as a cost-cutting measure a substitute for human interaction. Students in these environments may find themselves subjected to "algorithmic schooling," where their education is reduced to gamified drills, automated grading, and rigid adaptive pathways designed to maximize test scores with minimal human overhead. Here, AI



acts as a mechanism of social control, reinforcing a banking model of education where students are passive recipients of algorithmically delivered content.

2. **Augmented Empowerment:** In affluent schools, AI is used as a tool for enrichment. Students engage with AI as a collaborative partner for brainstorming, coding, and creative writing. Teachers use it to personalize learning at a granular level, fostering critical thinking and creativity. Here, AI acts as a multiplier of cultural capital, allowing privileged students to accelerate their learning and acquire high-status skills like prompt engineering and AI ethics.

This divergence creates a two-tiered system. The privileged learn to command the algorithm, developing the agency to shape AI to their will. The marginalized learn to obey the algorithm, training them for a future of low-agency, automated labor. Thus, AI risks becoming a mechanism of social reproduction, cementing class boundaries under the guise of technological progress.

The Hidden Curriculum of Algorithmic Determinism

Every educational system transmits a "hidden curriculum" the unwritten, unofficial, and often unintended lessons, values, and perspectives that students learn in school. The hidden curriculum of AI-infused education is one of algorithmic determinism and datafication.

By interacting daily with systems that quantify their every move time on task, click patterns, error rates students internalize the belief that human potential is reducible to data points. This fosters a worldview where value is derived from optimization and metricization. The sociological danger lies in the normalization of surveillance. When students grow up in environments where their reading speed, emotional tone, and social interactions are constantly tracked by "benevolent" algorithms, they may lose the capacity to conceive of privacy or autonomy outside of a monitored framework.

Furthermore, AI systems often embed the biases of their training data, presenting a skewed version of reality as objective truth. If an AI tutor consistently associates leadership roles with male pronouns or scientific breakthroughs with Western figures, it subtly reinforces existing patriarchal and colonial narratives. Students, lacking the critical maturity to question the "black box," may accept these biases as factual, leading to the algorithmic reproduction of prejudice. This challenges the school's traditional role as a site for social mobility and critical consciousness, potentially turning it into a factory for reproducing societal biases at scale.



Peer Dynamics and the Erosion of Collaborative Learning

The socialization function of schools extends beyond academic learning; it is where children learn to negotiate, collaborate, and build social capital. AI threatens to disrupt these peer dynamics.

The prevalence of AI tutors creates a risk of academic isolation. If a student can resolve every doubt instantly with an AI companion, the incentive to collaborate with peers diminishes. The "struggle" of learning, which often necessitates peer discussion and collective problem-solving, is short-circuited. This could lead to a decline in the development of soft skills empathy, negotiation, and conflict resolution that are cultivated through collaborative friction.

Moreover, AI introduces new forms of social stratification within the classroom. Students with access to premium, advanced AI models at home gain an unfair advantage, creating a "knowledge asymmetry" that can lead to resentment or a new form of cheating culture. The definition of "cheating" itself becomes a site of social conflict. As AI tools become ubiquitous, the norms around academic integrity are in flux. Students are navigating a gray area where using AI is sometimes encouraged and sometimes punished, leading to a culture of suspicion between peers and between students and teachers. This erodes the trust that is essential for a healthy learning community.

The Commodification of Education and the Parental Gaze

From a sociological standpoint, the introduction of AI accelerates the commodification of education. Real-time dashboards and predictive analytics provide parents with unprecedented visibility into their child's performance, transforming education into a product to be monitored and optimized.

This "parental gaze," intensified by AI data, increases pressure on students to perform. When a parent can receive a notification that their child struggled with a specific math concept at 10:15 AM, the boundary between school and home dissolves. The child is never truly "off the clock." This hyper-surveillance can lead to increased anxiety and a transactional approach to learning, where the goal is not understanding but the optimization of metrics to satisfy the parental consumer.

Furthermore, this datafication allows private ed-tech companies to insert themselves deeply into the family-school relationship. These corporations, driven by profit motives, shape the educational experience through their algorithmic design choices. The sociological implication is a shift in power from public educational institutions to private tech conglomerates, raising questions about who truly controls the socialization of the next generation.



Ethical Dilemmas and the Crisis of Agency

The deployment of AI in schools raises profound ethical questions regarding agency and autonomy. If an AI system predicts that a student is unlikely to succeed in an advanced physics track and subsequently steers them toward vocational courses, has the student's future been determined by an algorithm? This is the specter of algorithmic tracking, a digital resurrection of the discredited practice of ability grouping, now cloaked in the aura of objective data science.

Such systems risk creating self-fulfilling prophecies. A student labeled "at-risk" by an algorithm may receive a narrowed curriculum, limiting their exposure to the very knowledge they need to escape that label. This denies the student the agency to defy expectations, a crucial component of social mobility. The sociological danger is the creation of a "caste system" based on predictive scores, where life chances are determined by opaque algorithms trained on historical data that reflects past inequalities.

Additionally, the reliance on AI for emotional support (e.g., AI chatbots for mental health) raises concerns about the commodification of care. While these tools provide accessibility, they cannot replicate the genuine empathy and moral responsibility of a human teacher. Replacing human connection with simulated empathy could lead to a society less capable of deep, authentic interpersonal relationships.

Conclusion:

The role of AI in school education is not predetermined; it is a site of sociological struggle. It holds the potential to democratize knowledge and personalize learning, yet it equally holds the potential to deepen inequalities, erode privacy, and automate social reproduction.

A sociological analysis reveals that the challenge is not technical but social. We must ask not just "Can AI teach this?" but "What kind of society do we create if AI teaches this?" To harness AI for social good, educational policy must prioritize digital equity not just in access, but in the quality of usage. We must ensure that AI is used to augment human connection, not replace it, and that it serves to liberate the human mind from drudgery rather than confine it within algorithmic boxes.

Ultimately, the goal of education remains the cultivation of critical, empathetic, and autonomous citizens. If AI is to have a role in this project, it must be subservient to these humanistic ends. We must resist the temptation to let efficiency trump equity and data trump dignity. The future of school education depends on our ability to assert human agency over algorithmic determinism, ensuring that technology serves as a ladder for social mobility rather than a wall that locks existing hierarchies in place. The classroom of the



future must remain a fundamentally human space, where the algorithm is a tool in the service of the student, not the architect of their destiny.

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