Educating against technofascism: in favor of Educational Digital Sovereignty

Formar frente al tecnofascismo: por la Soberanía Digital Educativa

Educar contra o tecnofascismo: pela Soberania Digital na Educação

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Abstract

Educational digitization seems as inevitable. This article shows how, the adoption of algorithmic platforms and systems, is displacing pedagogical autonomy and teaching capacity from school communities, toward corporations and technofascist frameworks that impose a digitization prioritizing control, data extraction, and commercial ends, over educational objectives. The aim is to offer a critical analysis of this process and propose strategies to recover educational autonomy and democracy in the digital sphere. The analysis identifies three main findings: structural dependence on private infrastructures, with a libertarian-capitalist ideology, that condition curriculum, assessment, and communication; erosion of students' privacy and digital identity through the mass collection of data for primarily commercial purposes; and reduction of teacher autonomy through metrics and automation that reorganize school practice through remote governance mechanisms. Complementary strategies are integrating digitization into the educational project, through decision-making, and the democratic participation of the educational community; strengthen critical capacities, both institutional, technical and pedagogical, to evaluate decision-making on the incorporation of Artificial Intelligence and digital communication in the educational process; and build alliances with administrations, universities and civil society to build public alternatives that guarantee democracy, transparency and digital rights.

Keywords: Digital Sovereignty, Educational Policies, Technofascism, Artificial Intelligence, Community Participation, Digital Democracy.

Resumen

La digitalización educativa se ha presentado como inevitable. Este artículo analiza cómo la adopción de plataformas y sistemas algorítmicos está desplazando la autonomía pedagógica y la capacidad docente desde las comunidades escolares hacia corporaciones y marcos tecnofascistas, que imponen una digitalización que prioriza control, extracción de datos, y fines comerciales, por encima de objetivos educativos. La finalidad es ofrecer un análisis crítico de este proceso y proponer estrategias para

recuperar la autonomía y la democracia educativa en el ámbito digital. El análisis identifica tres resultados principales: dependencia estructural de infraestructuras privadas con ideología libertariana que condicionan currículo, evaluación y comunicación; erosión de la privacidad y la identidad digital del alumnado por recolección masiva de datos con finalidad fundamentalmente comercial; y reducción de la autonomía docente mediante métricas y automatismos que reorganizan la práctica escolar a través de mecanismos de gobierno en la distancia. A partir de estos hallazgos se plantean tres estrategias complementarias: integrar la digitalización dentro del proyecto educativo mediante la toma de decisiones y la participación democrática de toda la comunidad educativa; fortalecer capacidades críticas, tanto institucionales, técnicas como pedagógicas, para evaluar la toma de decisiones sobre la incorporación de la Inteligencia Artificial y la comunicación digital en el proceso educativo; y construir alianzas con administraciones, universidades y sociedad civil para construir alternativas públicas que garanticen democracia, transparencia y derechos digitales.

Palabras clave: Soberanía Digital, Políticas Educativas, Tecnofascismo, Inteligencia artificial, Participación de la Comunidad, Democracia Digital.

Resumo

A digitalização da educação tem sido apresentada como inevitável. Este artigo analisa como a adoção de plataformas e sistemas algorítmicos está a deslocar a autonomia pedagógica e a capacidade de ensino das comunidades escolares para corporações e estruturas tecnofascistas que impõem uma digitalização que prioriza o controlo, a extração de dados e os fins comerciais em detrimento dos objetivos educacionais. O objetivo é oferecer uma análise crítica deste processo e propor estratégias para recuperar a autonomia e a democracia na educação no âmbito digital. A análise identifica três constatações principais: dependência estrutural de infraestruturas privadas com ideologia libertária que condicionam o currículo, a avaliação e a comunicação; erosão da privacidade e da identidade digital dos alunos através da recolha massiva de dados para fins predominantemente comerciais; e redução da autonomia docente através de métricas e automatização que reorganizam a prática escolar através de mecanismos de governação remota. Com base nestas constatações, são propostas três estratégias complementares: integrar a digitalização no projeto educativo através da tomada de decisões e da participação democrática de toda a comunidade educativa; reforçar as capacidades críticas, tanto institucionais, como técnicas como pedagógicas, para avaliar a tomada de decisões sobre a incorporação da Inteligência Artificial e da comunicação digital no processo educativo; e construir alianças com as administrações, universidades e sociedade civil para criar alternativas públicas que garantam a democracia, a transparência e os direitos digitais.

Palavras-chave: Soberania Digital, Políticas Educativas, Tecnofascismo, Inteligência Artificial, Participação Comunitária, Democracia Digital.

Introduction

"Educational digitization" is spreading as absolute progress, almost a dogma, but in practice it has functioned more as a silent imposition of a techno-caste or "techno-oligarchy," than as a collective, shared and democratic decision involving the active participation of the educational community (Calzada, 2022). Education authorities and technology companies have pushed schools and teachers to adopt platforms and tools in their educational practice, as if the mere incorporation of screens and applications automatically guaranteed pedagogical improvement. This triumphalist narrative, which has embraced the discourse of "technological solutionism" (Sharma, 2026), has overshadowed a central problem: digitalisation does not always respond to educational needs, but rather to external agendas, frequently shaped by neoliberal corporate interests linked to these so-called "digital or algorithmic nations".

Whilst official discourse glorifies "innovation", thousands of teachers have been forced to reorganise their work around software, algorithms and digital platforms that nobody asked for. This "technological clutter" has become the cornerstone of current educational interaction, without anyone critically evaluating its adoption to investigate what its introduction into the educational sphere entailed. From the perspective of teaching practice, in many cases, it appears that these tools hinder the pedagogical relationship more than they help (Dong and Sheng, 2026; Yeşilçınar & Yasin-Öztürk, 2026). The feeling amongst a large part of the educational community is that decisions on 'educational reforms' continue to be made from remote offices, without dialogue with those who sustain the day-to-day running of education (Selwyn, 2022). Thus, far from empowering, digitalisation and Artificial Intelligence have, in the educational sphere, largely functioned as a progressive loss of professional autonomy, reducing teachers' autonomy and transforming profound processes into mere data flows (Duan & Zhao, 2024; Filgueiras, 2024; Matar, 2025; Rensfeldt & Rahm, 2023; Williamson et al., 2023).

But even more worrying than all of the above is the surrender of digital sovereignty that schools and universities have relinquished with hardly any resistance (Díez-Gutiérrez & Jarquín-Ramírez, 2026). Currently, most of the education system, and many of the institutions that make it up worldwide, rely on digital platforms and algorithmic technology, which constantly captures sensitive information from millions of students, teachers, the educational community and the administration. From their study habits to their browsing patterns, interactions, behaviours, desires, motivations, etc. This massive extraction of data, disguised as efficiency, raises enormous ethical questions: who really controls this information? What is done with it? Why does the educational community have no voice or clear access to decide on its own digital ecosystem?

To this must be added the principle that all technology carries an implicit ideology (Barbrook & Cameron, 2023; Rosen & Álvarez-León, 2022). Underlying digital technology and Generative Artificial Intelligence (GAI) is what has been termed the 'Silicon Doctrine': libertarian neoliberal policy (Cugurullo, 2026), which some describe as techno-fascism (Coeckelbergh, 2026; Kabakov, 2022). The *Silicon Doctrine*, shaped by the arms industry and speculative investment and h funds, demands freedom for corporations and subjugation for consumers, contributing to greater capitalist control and

more authoritarian policies.

It operates through control mechanisms that are more discreet and insidious than those of classical fascism, such as data extraction, algorithmic governance, behavioural manipulation and the monopolisation of platforms (Coeckelbergh, 2026). These mechanisms create conditions of depoliticisation, atomisation and polarisation, all under the mantra of innovation and personalisation (Kabakov, 2022).

Its radical challenge, in the face of any attempt to regulate its capitalist model of political concentration of power, is intertwined with an individualistic rhetoric of free consent and surveillance capitalism (Zuboff, 2019). It proposes restricting the scope of action of states and encouraging private actors to assume an increasing role in areas such as education, healthcare or public services, guided by market logic. Progress or failure is the personal responsibility of each individual. The consumer is at the heart of its creed: a monetised version of the radically neoliberal individual, enthusiastic about the prospect of social advancement within the ecosystem of technological meritocracy. As analysed by Aitor Jiménez (2020), a professor at the University of Auckland (Australia), and Jaime Caro (2023), the *Silicon Doctrine* is based on three pillars (Díez, 2025):

- An economic model based on the systematic appropriation of data generated by digital workers;
- A libertarian-capitalist form of internet governance, where production, information and communication channels are subordinated to private entities and market logic, viewing rights-based laws as obstacles to progress;
- A fully ‘deregulated’ labour market, that is, defined by employment relationships without collective bargaining and by extreme criteria of temporary employment, flexibility and expiry, which implies dismantling both the welfare state and the guarantees inherent to the rule of law.

Imposed digitalisation is also redefining education under a technocratic logic of remote governance that reduces the teaching process and learning to indicators, dashboards and metrics that have little to do with genuine, critical and deep learning. This obsession with quantifying everything, of measuring tasks, of evaluating metrically, of transcribing processes not only perpetuates a culture of control that erodes privacy and turns students into monitored users rather than subjects of law, but also exponentially increases the bureaucratic logic of schools, turning teachers into part of that bureaucracy which currently inundates the education system and exhausts the teaching community.

School Digitalisation: An Imposed Process Dependence on Technology Corporations

The transition to digital tools in schools has left many institutions in a situation where they are forced to use commercial services and cloud platforms, offering a semblance of efficiency at the expense of pedagogical autonomy, of adopting a technological environment and ecosystem designed externally, and with criteria that are not pedagogical, but rather aimed at generating profit for the shareholders of BigTech, the new techno-feudal lords who dominate the digital space. As various

studies point out, schools often accept decisions regarding technology -most recently the use of IAG (Radtke-Bederode & Meireles-Riberiro, 2025)- that are made outside their communities, resulting in a significant loss of control over their digital environment but also massive data extraction (Erstad et al., 2021; Saura et al., 2021).

However, this dependency is not merely technical: it also implies subordination to design and operational models, updates, usage policies and business logic that respond to corporate interests rather than educational needs. Many platforms introduce changes without consulting schools, altering work dynamics, communication flows and teaching practices. This phenomenon has turned schools into captive users of systems they do not control and whose infrastructure is opaque, both in terms of how they operate and how they manage the data they collect, an effect widely documented in analyses of the expansion of BigTech digital capitalism and its influence on educational sovereignty (Rivera-Vargas et al., 2025).

Added to this loss of institutional autonomy is the growing pressure on teachers, who are pushed to rapidly incorporate new devices, applications or learning management systems, for which they work as ‘forced labour’, almost as slaves, whose information, work and interaction feed the ‘technological machinery’ that extracts constant and immense cognitive surplus value at zero cost. Furthermore, these implementations are often carried out without allowing sufficient time to analyse their pedagogical implications, their actual impact on learning, or the risks they pose to students’ privacy, as highlighted by recent studies on the platforming of education using generative AI and its effects on teacher autonomy (Radtke-Bederode & Meireles-Ribeiro, 2025).

Similarly, international reports warn that the accelerated adoption of digital platforms, without participatory processes or guarantees of democratic governance, increases the risks associated with privacy, technological dependency and vulnerability to corporate business models (Inter-American Dialogue, 2025).

Similarly, recent reviews of the use of digital platforms in 21st-century education show that many schools incorporate technologies without assessing their ethical implications, their effects on teachers’ autonomy, or the challenges they pose in terms of equity and data protection (Loor et al., 2025).

The result is a climate in which teachers no longer adopt technologies out of conviction or for pedagogical relevance, but out of obligation, to comply with bureaucratic requirements, or to avoid falling behind institutional expectations that impose a constant demand for updating digital skills, as if this were the re-evolution of the education system.

Ultimately, reliance on technology corporations entrenches an ecosystem in which fundamental decisions about education -how it is designed, recorded, managed, delivered, assessed and monitored- slip from the hands of educational and social communities, falling instead to the shareholders of these digital corporations whose sole creed is profit… for their balance sheets.

This creates a model in which digitalisation does not act as a tool at the service of pedagogy, but as a structure that reorganises education according to criteria of efficiency, automation and standardisation, undermining schools' ability to decide their own digital future. The use of proprietary educational technologies creates a dangerous 'vendor lock-in' within a clos[1], in which teachers' capabilities and institutional autonomy are compromised. This not only jeopardises the social transformation objectives of education (Kasinathan and Sreemala, 2025), but also represents a radical compromise of the educational model we are designing for future generations.

Impacts on Privacy and Digital Identity

The use of digital platforms in education raises serious concerns about how student data is managed, stored and circulated. A growing body of research warns that personal information -ranging from basic academic data to behavioural patterns, usage traces, online interactions and activity logs- is systematically collected, without educational institutions exercising effective control over these processes (National Education Association, 2025; Vetter & McDowell, 2023).

Educational institutions are in a vulnerable position, as they depend on external providers operating under opaque criteria and usage agreements that are difficult to interpret, even for those who are supposed to oversee them. The privatisation of the school's digital ecosystem means that vast amounts of sensitive data fall into the hands of companies, whose interests do not always align with those of the educational community. This shift in informational sovereignty generates not only technical risks, but also ethical ones, as it places pupils' digital identities within systems whose business model may include the extraction, analysis and monetisation of the information collected (Consortium for School Networking, 2025)

The absence of independent audit mechanisms or clear safeguards regarding the use of this data increases the sense of helplessness felt by families and education professionals. Furthermore, the exposure of personal information to external parties significantly increases the likelihood of data leaks, misuse and security breaches. The most worrying scenarios range from the indirect sale of educational profiles for commercial purposes to the reuse of data without the explicit consent of students or their legal guardians (National Education Association, 2025).

The Urgency of Critical Reflection

The urgency to adapt teaching practices to a constantly evolving digital environment has overshadowed critical reflection on what schools truly aspire to be in this new era. This situation has been exacerbated by the growing integration of artificial intelligence (AI) systems into education (promising personalisation and efficiency), but whose deployment must be assessed with extreme

[1] Vendor lock-in is a situation in which a user becomes overly dependent on a specific technology provider, making it extremely difficult, costly or impractical to switch to another.

caution. The installation of these systems presents significant risks relating to the privacy and security of student data. EdTech platforms often collect large volumes of personal data, including performance, behaviour and sensitive data, without robust governance frameworks or clear transparency regarding how such data is used, stored or shared, exposing students to risks of commercial exploitation, discrimination and security breaches (Penagos, 2025).

Decisions about which technologies to implement continue to be made without informed deliberation or robust oversight mechanisms: schools will progressively lose their capacity to act as agents of change within their own educational communities. Digital transformation requires clear governance frameworks, regulatory mechanisms and oversight to ensure that digitalisation does not limit pedagogical autonomy, but rather strengthens it through responsible policies and continuous impact assessments (Boeskens & Meyer, 2025).

The growing reliance on technology companies to provide digital tools can lead to an environment where pedagogical decisions are replaced by purely utilitarian or operational efficiency criteria. There is a worrying trend towards adopting digital platforms, based more on promises of automation and performance, than on a rigorous assessment of their pedagogical value, which results in teachers and schools becoming mere users of external infrastructure, losing their critical capacity, and autonomy within the educational process (Viera, 2025).

Everything is further exacerbated by the lack of an in-depth debate on how digitalisation transforms the dynamics of teaching and learning. It is essential that schools create spaces for critical reflection that allow for a collective assessment of the real impacts of technological integration, preventing institutional pressure or the discourse of innovation from supplanting the pedagogical and ethical reflection necessary for the meaningful adoption of technology in the classroom. Without this discussion, digitalisation risks perpetuating pre-existing inequalities, or introducing new forms of institutional dependency (de Miguel, 2024).

AI in the educational system raises questions not only about data collection and management, but also about the ethical and social values that such technologies embody. Duque et al. (2025) warn that AI in education must be analysed from a comprehensive ethical perspective, covering issues such as algorithmic bias, the opacity of automated decision-making processes, and the impact on teacher and student autonomy. They point out that the lack of robust ethical frameworks can lead to practices that reproduce inequalities even further within educational ecosystems.

It is essential that teaching staff and management teams are empowered to critically evaluate the technological tools they decide to integrate into their teaching practices. The adoption of educational technologies must be based on formal evaluation processes that prioritise pedagogy, contextual suitability and data protection over institutional pressures or technological fads. Their systematic review demonstrates that technological integration is only effective when accompanied by critical evaluation, training and appropriate implementation conditions, preventing technology from becoming an end in itself (Granić, 2022).

The Need for Pedagogical Autonomy and Digital Sovereignty

Pedagogical autonomy and democratic participation

Autonomy in the educational context is not limited to the ability of teachers and students to make informed decisions: it also involves critically understanding how digital environments shape their pedagogical choices and the dynamics of institutional participation. In this sense, educational autonomy is a situated practice that requires interpreting, questioning and transforming the material, technical and symbolic conditions of learning.

When educational institutions become passive users of externally designed technologies, there is a loss of professional and organisational autonomy that reduces their capacity to respond creatively to the real needs of their students. The growing dependence on corporate digital infrastructures displaces pedagogical deliberation and limits democratic imagination within schools (Sriprakash et al., 2025).

The consequence is an impoverishment of the school ecosystem, in which decisions cease to be a reflective act, and become the automatic acceptance of instructions embedded in opaque technological systems. As Korhonen et al. (2024) argue, when teachers' professional autonomy is reduced, so too does the possibility of driving meaningful educational transformations in digital contexts.

The importance of digital sovereignty

Digital sovereignty becomes central at a time when the management of learning, school communication and access to knowledge increasingly depend on global digital platforms. It is not merely a matter of controlling the flow of data, but of maintaining the collective capacity to decide how the digital educational ecosystem should be configured. Without this decision-making capacity, schools risk becoming spaces governed by commercial logic, where curricular, assessment and organisational decisions are subordinated to the functions and metrics of corporate digital platforms (Parcerisa et al., 2024).

Hamadeh and Amin (2025) consider the digitalisation of education as increasingly integrated into geopolitical debates on sovereignty, infrastructure and epistemological power, which has a direct impact on the democratic margins of education systems and the advance of the technological oligarchy (Huber et al., 2026).

When schools lose digital sovereignty, curricula end up adapting to the functionalities of platforms, assessments are conditioned by automated metrics, learning is subjected to the logic of performance and traceability, and pupils' rights are sidelined in favour of economic interests; all of this leads to a clear weakening of the emancipatory purpose of public education.

Transformative autonomy in the digital context

Digital transformative autonomy involves not only interacting with technologies, but also questioning them, reconfiguring them and challenging the values they embody. This autonomy requires critical skills that enable us to identify which assumptions, biases and priorities are embedded in digital platforms, and how these platforms categorise students, encourage certain behaviours or limit certain forms of participation (Engeness & Gamlem, 2025),

Promoting this transformative autonomy involves creating spaces where teachers can co-create, select and evaluate digital tools in a deliberative manner, avoid the uncritical adoption of pre-configured platforms, and recognise students as agents capable of questioning invasive data collection practices or automated decisions; a perspective that aligns with the research of Korhonen et al. (2024), who demonstrate that teacher and student autonomy is indispensable for driving educational innovations in complex digital ecosystems (ERIC). Without this transformative dimension, technology risks reinforcing opaque power relations and reproducing control mechanisms under the guise of innovation.

Risks to democracy and children's rights and their implications

When the digital infrastructures used in schools operate without mechanisms for democratic participation or guarantees of transparency, fundamental pillars of public education are compromised: equity, participation, social justice and child protection. UNESCO (2025) warns that accelerated digitalisation and the mass deployment of AI in education pose significant risks to students' rights, particularly in terms of privacy, algorithmic discrimination and the erosion of personal autonomy.

Center for Democracy and Technology (2025) reveals that many technologies adopted in education, including monitoring systems, algorithmic prediction and school surveillance, are implemented without the involvement of families or students, creating risk scenarios that directly affect children. When these practices become normalised, they shape the way in which children relate to authority, knowledge and digital citizenship, potentially limiting their critical thinking skills and their understanding of their own rights.

The Organisation for Economic Co-operation and Development (OECD, 2025) highlights that technological decisions in education have profound political implications, as they determine who controls educational information, for what purposes it is used, and who participates in public deliberation processes. In the case of children, these risks are even more serious because their digital identities are constructed within systems they have not chosen; they do not fully understand the data flows and algorithms that affect them; and they are exposed to forms of tracking and automated assessment from an early age; all of which affects not only their immediate privacy, but also their future right to decide on their information and to participate in a democratic, safe and fair digital ecosystem.

Strategies to promote Digital Sovereignty

To constructively address concerns about digitalisation and its impact on education, and in order to move beyond a merely negative assessment, a series of complementary strategies are presented below which, derived from the previous analysis, seek to promote digital sovereignty in educational institutions.

Recognition of the Educational Project

Recognising that digitalisation forms part of the educational project means accepting that every technological decision directly influences the school's educational aims, methods and relationships, and that these cannot be controlled or defined by the digital techno-oligarchy (Coeckelbergh, 2026; Huber et al., 2026). Therefore, it cannot be approached in an ad hoc manner, nor as a mere technical modernisation, but as a process that demands collective reflection and a shared understanding of the values that should guide it (Asiimwe-Kyomugisha, 2025). When schools integrate technology without this framework, they often reproduce dynamics that already exist on platforms -such as surveillance, traceability or automatic quantification- which end up shaping what is valued and measured in education without prior debate.

An educational project that incorporates digital sovereignty enables the school community to discuss fundamental questions such as: what kind of learning do we wish to foster? what role should technology play in this? how can we ensure that its use does not limit critical thinking, creativity or autonomy? how can we prevent certain platforms from influencing assessment or the relationships between teachers and students? The active involvement of teachers in these decisions promotes more coherent practices, as they are the ones who translate technology into everyday classroom life and can anticipate how it will impact pedagogical support (Mataboge & Khololo, 2024).

Recognising digitalisation as part of the educational project implies accepting that technology is not neutral, and that it incorporates models of thought, metrics, priorities and values that do not always align with those of the school. Therefore, participation also acts as a democratic control mechanism against discourses that present technological innovation as an inevitable process (Sriprakash et al., 2025). In this sense, a critical educational project allows us to question which technologies are adopted, why they are adopted and what impact they have on pupils, particularly in terms of equity, privacy and autonomy.

Capacity Building in Schools

Digital sovereignty requires educational institutions to have robust capabilities to analyse, evaluate and govern the technologies they adopt. These capabilities include technical aspects (such as understanding data flows, security risks and procurement criteria), as well as ethical and pedagogical considerations (such as understanding algorithmic biases, the impact of automation and the consequences of traceability on student autonomy). Various studies show that, without this training,

schools are at a clear disadvantage compared to technology providers who do have a complete grasp of the systems they offer (Li & Zhang, 2025).

Strengthening these capabilities involves fostering a culture of critical analysis of technology within the school, where contracts are reviewed, the proportionality of data use is assessed, more ethical technological alternatives are considered, and internal governance mechanisms are adopted to establish clear standards for the selection, use and monitoring of digital tools. It also means recognising that technological decisions are often not taken within the school itself, but through ministerial structures, supplier companies or international actors, which makes it all the more urgent to train teaching staff and management teams so that they can influence these other levels (Hamadeh & Amin, 2025).

Without critical skills, schools tend to adopt technologies that reinforce dependence on external platforms, consolidate algorithmic control or introduce market logic into school life. A recent systematic review highlights that further research is needed on how to foster critical leadership within schools, how to support management teams in technological governance, and how to ensure that digitalisation does not reproduce internal inequalities (Rodrigues et al., 2025). Developing capacities, in this sense, is not an ancillary process: it is the condition that enables educational institutions to decide autonomously on their digital future, rather than passively adapting to pre-designed technologies.

Building Social Alliances

Digital sovereignty cannot be achieved in isolation within a school. Studies on digital sovereignty highlight that no school can guarantee a secure infrastructure on its own, nor anticipate the complexity of the risks associated with global technological interdependence (Li & Zhang, 2025). The challenges associated with data protection, security, pressure from large platforms, the digital divide, and the regulation of educational technologies require the forging of broad alliances with social, community, and political actors. The literature on *platform governance* shows that digital platforms not only provide services but also mediate relationships between schools, administrations, families and companies, significantly influencing the educational agenda (Nichols & Dixon-Román, 2024).

Several studies, in the Latin American context, show how global digital capitalism tends to reinforce economic and technological inequalities, turning education systems into spaces for data extraction, or markets for EdTech products that do not always bring about pedagogical improvements (Pérez-Vásquez, 2025). Against this backdrop, partnerships with organisations defending digital rights, universities, community groups and local authorities enable the development of digitalisation projects centred on social justice, transparency and the common good. These partnerships can also promote alternative standards, such as free software, local storage, algorithmic audits, impact assessments or ethical usage guidelines.

Schools face cyberattacks, data breaches and growing vulnerabilities: it is essential to coordinate

actions with experts, public institutions and international bodies such as Latin American free educational *software* projects (for example, Canaima in Venezuela,[2] Chamilo LMS in Peru,[3] Huayra in Argentina[4]), or the indigenous intercultural universities, or open repositories of the Global South, which represent concrete examples of this cognitive and digital sovereignty.

Certain initiatives work in this internationalist direction, and can guide an educational model with a democratic, cooperative, solidarity-based and shared vision. One example is the global cooperative AI of *the Platform Cooperativism Consortium*, built in the style of the SWIFT network (which connects bank transfers), with an AI based on four layers: *a)* federated and publicly managed clouds; *b)* data cooperatives in which communities decide what to share; *c)* open and auditable models; *d)* democratic governance involving local authorities, trade unions, public universities and digital cooperatives. Along the same lines is the Patio initiative, which connects technology cooperatives worldwide to democratise the sector.

It is also worth mentioning, in the field of education, *twin classrooms*, *which* have been very popular in educational settings since the early days of the internet, where a class in Spain is paired with one in Mexico to study the conquest and invasion together, or one in Kenya with one in Norway to compare ecosystems and share sustainability solutions. There are also global citizen science projects, such as iNaturalist[5], where students from all over the world contribute to a global database on biodiversity. Or multilingual OER repositories, such as Project Gutenberg[6] for books, or OER Commons[7] for various educational resources.

As we have been emphasising, this is not about rejecting technology or digitalisation, but about reorienting them towards democratic and community-based values, justice and reciprocity, in opposition to the extractivist logic of neo-colonial digital capitalism.

Conclusions

The digitisation of education, often presented as an inevitable step forward, is creating tensions between what institutions expect and what school communities actually experience. The rapid roll-out of technological platforms and tools has often taken place without dialogue or pedagogical evaluation, which has affected teaching practice and school life. As a result, professional autonomy

2 Canaima is a Linux distribution developed in Venezuela, designed specifically for use in educational and government institutions. This project is based on Debian and has been instrumental in driving the adoption of free software in the country: https://laboratoriolinux.es/index.php/-noticias-mundo-linux-/software/37327-los-mejores-proyectos-de-software-libre-creado-por-latinoamericanos.html

3 Chamilo LMS is a learning management system (LMS) created in Peru that is widely used in educational and corporate institutions around the world. Its aim is to democratise access to high-quality educational tools. It has also been translated into Quechua: https://laboratoriolinux.es/index.php/-noticias-mundo-linux-/software/37327-los-mejores-proyectos-de-software-libre-creado-por-latinoamericanos.html

4 Huayra is a Linux distribution created as part of the Conectar Igualdad programme in Argentina. This project aims to promote digital inclusion within the education system: https://laboratoriolinux.es/index.php/-noticias-mundo-linux-/software/37327-los-mejores-proyectos-de-software-libre-creado-por-latinoamericanos.html

5 iNaturalist is a platform that allows users to identify plants and animals in their local environment and contribute data to scientific research and biodiversity conservation: https://doi.org/10.1016/j.biocon.2009.04.016

6 Project Gutenberg is a library with over 75,000 free e-books.

7 OER Commons is a public digital library of open educational resources: https://www.uv.mx/ciies/documentos/bibilioteca/

has been undermined and an educational reorganisation has been driven more by technological criteria than by pedagogical principles

The growing dependence on corporate platforms has placed schools within a digital ecosystem beyond their control, where unilateral updates, imposed usage policies and a lack of transparency in data management dictate key decisions regarding teaching, assessment and communication, limiting institutional autonomy and making it difficult to adapt technology to pupils' actual needs. At the same time, mass data collection, constant tracking and the integration of algorithmic models intensify the risks to students' privacy and digital identity, creating vulnerable profiles and calling into question principles of equity and child protection within a poorly regulated system lacking effective oversight mechanisms, which leaves teachers, students and families in a defenceless position

The advent of emerging technologies -and in particular systems based on artificial intelligence- introduces ethical and pedagogical challenges that demand far broader deliberation than usually accompanies their deployment. The promises of efficiency and personalised education must be weighed against the risks posed by algorithmic bias, opacity in data processing and the reproduction of pre-existing inequalities. When technological decisions are made without sufficient information or the involvement of the school community, they can silently alter relationships between schools, teachers and pupils, reinforcing logics of control and surveillance.

It becomes essential to strengthen educational autonomy and digital sovereignty. Teachers need time, training opportunities and institutional support to critically analyse the tools they use, question their assumptions and actively participate in decisions regarding their integration into the classroom. Similarly, students require opportunities to understand how digital platforms operate, interpret their implications and contribute to the construction of learning environments that protect their rights and meet their needs

Strategies aimed at strengthening digital sovereignty -such as community participation, the development of institutional capacities, and the forging of alliances with organisations defending digital rights- enable the reorientation of digitalisation towards a process guided by pedagogical and democratic criteria… rather than by market logic. These actions ensure that technology serves the well-being and critical education of students, preventing it from becoming a force that unilaterally dictates the direction of schools. In the face of the salvationist narrative promoted by digital platform capitalism, it is essential to question how Big Tech extracts and commercialises data -the 'gold of the 21st century'- reproducing extractive dynamics, and consolidating control over our digital sovereignty.

Business is not only education, but the students themselves, whose data is extracted to turn schools into factories of marketable information, useful for building loyalty among future consumers and feeding sectors such as insurance, banking or finance. The digital age follows the logic of contemporary capitalism: commodifying the human experience, translating behaviours and educational trajectories into data that allows for the generation of predictions that can be bought and

sold in opaque and highly profitable markets.

Thus, the tech giant that places the most of its applications in the market for personalised education in schools will have the best source for extracting and compiling information and data, trends and desires, detected using artificial intelligence algorithms that will record the activity of every pupil, in order to educate and secure the loyalty of the future generation of consumers (Díez-Gutiérrez, 2021). This is the new 'white gold' of the 21st century, a virtually inexhaustible 'commodity' in a system based on compulsory schooling.

Big tech companies have come to control the digital infrastructure of schools and universities -servers, the cloud, and applications-, which has led many institutions to outsource essential services to their platforms. This dependence involves ceding digital sovereignty to corporations that turn student and teacher data into a strategic resource.

Technologies are essential for education, but they must be under the control of the educational and social community, not subordinated to the profit of the tech oligopoly. Hence the need to promote public and open-source platforms created by teachers and communities themselves, following examples such as X-net or the cooperative AI promoted by the *Platform Cooperativism Consortium*, with a four-layer architecture (public federated clouds, data cooperatives with community decision-making, open and auditable models, and democratic governance involving local authorities, trade unions, universities and cooperatives), as well as networks such as Patio, which connect technology cooperatives to democratise the sector (Grimstad, 2026; Tortorici, 2026). This approach would make it possible to break the private monopoly and move towards progressive digital autonomy for these centres.

Given that the internet and digital communication have become an essential asset for humanity, they should be treated as a non-profit common good (Klein, 2020). A public strategy is therefore proposed to reclaim digital sovereignty and reduce existing gaps -in access, territory and technology- either through the creation of an alternative global public network, or through the nationalisation of the current infrastructure to place it at the service of the common good.

We propose to move towards a model of democratic digital socialism (Mason, 2016; Morozov, 2018), which requires the adoption of regulatory measures at all levels to reclaim digital and technological sovereignty. To this end, it would be necessary to socialise the cloud and create public digital infrastructures, placing these means of production in the hands of the common people -in the Marxist sense- in order to promote the 'socialisation of data' and consolidate digital democracy as an essential public good.

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