3. The new spirit of education and the techno-politics of AI

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3.1 INTRODUCTION

A (new) spectre is haunting education – the spectre of Artificial Intelligence (AI). This spectre is being shaped, promoted, and delivered by a new holy alliance: Big Tech corporations and venture capitalists, neoliberals and ultra-libertarians, neo-reactionaries, and proponents of eugenics. Moreover, intergovernmental organisations such as the World Bank (WB), Organisation for Economic Co-operation and Development (OECD), United Nations (UN), and European Union (EU), among others, further contribute to this phenomenon through policies and soft governance practices often framed in the language of neutrality and objectivity. While diverse in nature, these political-ideological rationalities converge, mutually reinforce, and collectively shape contemporary educational agendas.

To critically explore the shifting role of education under these technological and ideological conditions, this chapter introduces the concept of the 'New Spirit of Education' (NSE).[1] The NSE describes the contemporary ideological, political, and technological paradigm reshaping education through intensified market rationalities, data-driven governance, and technological determinism. To situate NSE within historical continuities and changes, the chapter unfolds in three interconnected parts.

First, the chapter historicises the techno-political apparatus in education and establishes the earlier 'spirits' that shaped educational practices, governance structures, and ideological orientations. This section, titled 'Schools-as-Machines-for-Learning', provides a critical genealogy tracing how instruments for behavioural control, surveillance, and punishment were introduced in educational settings. It starts with eighteenth-century Victorian-era disciplinary techniques, exemplified by the Lancaster Method, moves through the emergence of statistical prediction and eugenics in the nineteenth century, and culminates in the post-World War II momentum of radical behaviourism and early teaching machines.

The second section argues that the advent of AI in education does not represent a departure from this historical trajectory but rather extends and intensifies it under the contemporary banner of Machine Learning-for-Schools. Here we define the NSE explicitly as a cohesive ideological transformation expressed through three interrelated dimensions: (i) the resurgence of metaphysical quantification and classification, now rebranded through machine learning (ML) science (Agüera y Arcas, 2019; Winston, 2018; Michell, 2022); (ii) the neoliberal imperative of market-driven education, characterised by increasing influence from business firms acting as political entities that privatise, commodify, and redefine public educational goods (Scherer et al., 2009; Santori et al., 2016; Komljenovic et al., 2023); and (iii) the rise of anti-democratic ideologies and culture driven by Big Tech elites and neo-reactionaries associated with movements such as the 'Dark Enlightenment' and ultra-libertarianism (McQuillan, 2022; Gebru & Torres, 2024). Together, these features represent not isolated phenomena but the collective

manifestation of a cohesive, ideologically driven transformation reshaping contemporary educational institutions.

Finally, the third section explores how the NSE affects the educational experiences, agency, and autonomy of teachers and learners. Introducing theoretical concepts of *seriality* (Sartre, 1978/2004) and *interpassivity* (Pfaller, 2017), we critically analyse how AI-driven education fosters alienation, passive engagement, and isolated subjectivities. Such outcomes undermine education's crucial role as a precondition for democratic society – developing competent, reflective agents who actively take part in social, economic, cultural, and political life, capable of collectively changing and renewing societal norms and structures.

In conclusion, the chapter calls for reclaiming education as a democratic, relational, and emancipatory public good, proposing pathways of resistance to the technologically intensified threats posed by the NSE.

3.2 SCHOOLS-AS-MACHINES-FOR-LEARNING: HISTORICISING THE TECHNO-POLITICAL APPARATUS IN EDUCATION

Throughout history, education has been continually reshaped by technological advancements, political ideologies, and governance structures. The Industrial Revolution of the late eighteenth and early nineteenth centuries, alongside the 'March of Intellect', spurred public debates on education's role in an industrialising society. Started as a campaign in England, the March of Intellect advocated reforming society through public education, emphasising education as a means to alleviate social ills and uplift disadvantaged populations (Pasquinelli, 2023).

During this period, British educator Joseph Lancaster developed the Lancaster Method, an inexpensive method for mass education by employing students as monitors, who performed many of the tasks normally undertaken by a teacher. Lancaster opened his first 'school' in 1798, making the 'simple desks' in a 'room on his father's premises' (Taylor, 1996, p. 3). By 1803, Lancaster had significantly redesigned his Borough Road school according to his monitorial philosophy, shaping it into a meticulously structured environment where student-monitors, akin to 'sergeant-majors', proudly enforced discipline and order through spatial and temporal control (Hassard & Rowlinson, 2002).

As Hassard and Rowlinson (2002) note, Lancaster's key innovations in monitorial schooling involved meticulous spatial-temporal organisation, hierarchical surveillance, rigid discipline, standardised tasks, and systematic use of rewards and punishments to foster efficiency and docility among large student groups. For example, spatial-temporal organisation was achieved through marked 'reading stations' in precise semicircles, representing the school's material economy: 'rather than purchasing books for each child – and based on the notion that only one page of a book could be used at one time – Lancaster developed the concept of having books printed in very large type and mounted, each page on a bord' (Hassard & Rowlinson, 2002, p. 627). Additionally, hierarchical surveillance was implemented through an elevated teacher's dais for continuous observation. Standardised tasks involved the repetitive use of slates and large printed instructional boards to ensure uniformity in lessons, while systematic rewards and punishments were enforced through a ticket-based system, prizes for performance, public shaming, and physical restrictions for misbehaviour.

These historical mechanisms resonate closely with contemporary educational technology practices. Modern Artificial Intelligence in Education (AIED) platforms continue to employ a

similar integrated system of 'continuous observation [surveillance], rewards and punishments, and distributed control' (Biddle, 2023, p. 120), reflecting long-standing behavioural traditions. For example, ClassDojo, claimed to be used by over 50 million teachers and families, exemplifies Skinner's vision of behavioural engineering by integrating Silicon Valley technology, reward-and-punishment mechanisms, and gamified psychological surveillance to shape student behaviour algorithmically (Williamson, 2016).

Michel Foucault's seminal analysis in *Discipline and Punish* (1975/1995) highlights how Lancaster's schools embodied disciplinary power through meticulous temporal regulation, hierarchical surveillance, and calibrated reinforcement, transforming education into a 'machine for learning' that shaped students into docile, efficient subjects (Foucault, 1975/1995, p. 165). This disciplinary logic persists in modern AI-driven classrooms, which similarly prioritise efficiency, scalability, and predictability through technology.

The techno-political apparatus of control, punishment, and exploitation extended into another realm – prediction. This shift emerged with eugenics, which gained influence in Europe and the United States, influencing social policies and intellectual thought. In 1883, Francis Galton coined the term 'eugenics' (Bashford, 2010), a framework for controlling human breeding using statistical probability and heredity (Levine & Bashford, 2010, p. 5). Eugenics introduced prediction into human reproduction by applying statistical methods to forecast, control and shape future societal outcomes based on genetic traits, advocating for the restriction of 'the Unfit' (negative eugenics) while promoting the reproduction of 'a galaxy of Genius' (positive eugenics) (Galton, 1865, p. 165).

Leading figures in education and social science embraced eugenics, viewing heredity as a determinant of health, behaviour, intelligence, and educability. This belief spurred initiatives in schools and universities aimed at 'improving' the populace through educational sorting and selective talent development. Figures like Henry H. Goddard, who introduced intelligence testing to the United States in 1912, implemented 'evidence-informed' educational policies that segregated and sterilised the 'feeble-minded' (Smith, 2019). Additionally, America's collective of new social scientists and the so-called 'fathers of curriculum' – John F. Bobbitt, G. Stanley Hall, David Snedden, and Edward L. Thorndike – openly identified as eugenicists, influencing curriculum design and administration (Winfield, 2007). They architectured 'social efficiency', a doctrine that structured schools as business-like systems, maximising output and minimising waste. The model tailored curricula to students' aptitudes, preparing them for predefined social roles, optimising the 'social machine' (Drost, 1977). John Dewey fiercely opposed this approach, arguing it was 'undemocratic, preparing students for a very limited future in a single industry' (Drost, 1977, p. 25). Dewey considered social efficiency as an approach that reduced education to a mechanical process, undermining the broader purposes of education, such as cultivating thoughtful and engaged citizens (Dewey, 1916).

By the mid-twenteth century, the overt influence of eugenics on education began to wane, due in large part to the horrors of Nazi Germany's racial policies and growing scientific criticism of eugenic pseudo-science. The most significant intellectual movement that supplanted eugenics in educational theory was behaviourism (Yakushko, 2019). While eugenics sought to control future generations through heredity, the emergence of behaviourism introduced a method to control individual actions. It was John Broadus Watson who, in 1913, established classical behaviourism as a new field of scientific study whose 'theoretical goal', as Biddle (2023, p. 141) observes, was the prediction and control of behaviour. Watson's 'Behaviourist Manifesto' embraced values closely aligned with eugenic thinking, including a reliance on

ostensibly objective experimental methods, a dismissal of social contexts, the assertion of continuity between human and animal behaviour, and the reduction of complex human psychological phenomena purely to biological processes (Yakushko, 2019, p. 8).

By the 1920s, during the Progressive Era in the United States, eugenics passed its peak (Bashford & Levine, 2010) and behaviourism was consolidating itself as a 'whole field of human adjustments' (Watson, 1924, p. 11). As behaviourism gained influence in mid-century American psychology and education, its principles translated into new educational practices. One of the earliest examples was Sydney Pressey's development of the first multiple-choice 'teaching machine' in 1924, influenced by Edward Thorndike's 'law of effect'. Pressey's machine marked the first wave of behaviourally driven educational technology, explicitly designed to reinforce learning through immediate feedback. Notably, he added an optional feature that dispensed sweets whenever a student answered correctly, a mechanism that foreshadowed contemporary AIED and EdTech platforms, which employ gamification and instant rewards to reinforce 'the right kind of learning behavior' (Watters, 2021, p. 46).

Post-World War II developments in the field of AI and radical behaviourism were shaped by socio-political tensions. While figures like Alain Newell and Herbert Simon pioneered AI by programming computers to mimic human problem-solving through heuristics (Holmes & Tuomi, 2022), B. F. Skinner was developing his own version of a teaching machine[2] based on his theory of radical behaviourism. Skinner's machine, designed to reinforce correct answers and facilitate personalised learning, was intended to serve as an individual tutor, enhancing 'learning efficiency' through operant conditioning. He broke learning into small steps with immediate feedback and rewards, embodying the behaviourist idea that learning is driven by environmental stimuli and responses. The latter was described by Skinner as 'the process [that] supplements natural selection' (1976, p. 51). This shares an affinity with eugenics in its belief in shaping and optimising human outcomes through engineered interventions.

The development of both AI and radical behaviourism did not occur in a vacuum but was deeply shaped by socio-political tensions, just as the contemporary AI industry is influenced by current geo-political forces and interests. The civil rights struggles and racial segregation of the time significantly influenced how education and technology evolved in the USA. While AI and teaching machines were being developed, many schools remained segregated, and access to quality education was unequal. Despite this, Skinner's behaviourist ideas – like operant conditioning and reinforcement – along with programmed instruction, found some appeal within the civil rights movement as potential tools for education and literacy. In Mississippi, during the summer of 1964, alternative schools known as Freedom Schools flourished as part of the Mississippi Summer Project. Robert Parris Moses, leader of the Student Nonviolent Coordinating Committee (SNCC), was keen to try programmed instruction as part of an adult literacy project called 'Freedom Summer'. However, despite Moses's and a small group of SNCC's initial enthusiasm for using programmed instruction as a tool for adult literacy, the method ultimately proved incompatible with the educational goals of the civil rights movement, which were focused on the liberation and transformation of oppressed communities rather than on conditioning and conforming to societal norms of the time. Eventually, '*S*NCC activists relied on other movement educational programs in planning the Freedom Schools … suggesting the need to relate education directly to the experience and problem of students' (Perlstein, 1990, p. 306).

This misalignment speaks to Paolo Freire's categories of anti-dialogical and dialogical teachings. For Freire (1970/2000, p. 126), 'manipulation, sloganising, "depositing,"

regimentation, and prescription' are the components of the anti-dialogical praxis of domination, and 'they cannot be the components of revolutionary praxis' consisting of 'action and reflection directed at the structures to be transformed'. Freire critiqued mechanistic, behaviourist approaches championed by figures like Skinner, arguing that humans, as beings of praxis, differ fundamentally from animals. Unlike animals, which are immersed in the world, humans emerge from it, objectify it, and can understand and transform it through their labour (Freire, 1970/2000, p. 125).

Skinner's approach treated human beings as purely reactive organisms, incapable of reflective action – a perspective that Freire strongly opposed and one that remains critically relevant today. Contemporary data-driven AI and many student-focused AIED platforms, such as adaptive learning platforms, offer personalised instruction through sequential, bite-sized learning modules, claiming to enhance learning efficiency. However, they often immerse students in rigid, predefined tasks, much like Skinner's conditioning, limiting opportunities for reflection on the broader realities of their lived experiences and restricting possibilities for radical questioning and transformation (Holmes & Tuomi, 2022).

The 1980s saw the rise of neoliberal and neoconservative policies under Ronald Reagan and Margaret Thatcher, which further entrenched market-driven ideologies in education. As Giroux and McLaren observed, these reforms, dubbed 'the new conservative' discourse, transformed schools into 'company stores', aligning education with economic modes of production, eroding teacher autonomy, reducing education to technocratic management, and shifting away from defining schools as agencies of equity and justice (Giroux & McLaren, 1986, p. 218).

Neoliberal and conservative politics – and we might also include ultra-libertarians and proponents of eugenics – have converged in multiple fields over time. One area where this convergence is particularly evident, and relevant to this chapter, is the psycho-technological dispositif[3] of intelligence testing such as IQ and AI.

For neoliberals – ranging from radical figures like Murray Rothbard, Richard J. Herrnstein, and Charles Murray to mainstream economists such as Milton Friedman – IQ testing has played a crucial role in shaping neoliberal and libertarian thought. IQ became an important means of naturalising economic and racial inequality, and supporting neoliberal visions of a competitive society, free markets for all goods and services, lower taxes, deregulation, and privatisation (Winston, 2018). By presenting intelligence as largely genetically predetermined and measurable through standardised tests, this wing of neoliberal intellectuals was able to frame economic disparities as natural and inevitable, thereby justifying policies that promoted competitive markets, minimised welfare provision, lowered taxation, deregulation, and widespread privatisation. A prominent and controversial manifestation of this intellectual tradition appeared in Richard J. Herrnstein and Charles Murray's *The Bell Curve* (1994). This popular text argued explicitly that intelligence could be reduced to a number and measured as IQ, and significantly determines life outcomes, social mobility, and socio-economic status, and that this trait is genetically determined. The authors used statistical data to reinforce neoliberal and ultra-libertarian political agendas, suggesting that inequalities were immutable, natural outcomes rather than products of policy or institutional structures. Critics such as Stephen Jay Gould (1996) and Quinn Slobodian (2023) sharply contested these claims, highlighting methodological flaws, cultural biases, and hidden racial assumptions embedded in IQ tests and their interpretations.

This logic is paralleled in Friedrich Hayek's influential concept of spontaneous order, which found resonance in the early development of connectionist AI.[4] According to Pasquinelli

(2023, p. 183), Hayek appropriated ideas of pattern recognition from neuroscience and reworked them into neoliberal principles of market regulation. By analogising markets to neural networks, Hayek proposed that decentralised, self-organising systems – whether economic or cognitive – are inherently optimal, self-regulating, and efficient without central oversight. This conceptual synthesis helped frame neoliberal market ideology as both natural and scientifically validated, laying intellectual groundwork for contemporary smart technologies and AI-driven decision-making platforms that continue to embed market logics within educational and social institutions.

Contemporary AIED represents a seamless extension of the neoliberal logic of measurement, efficiency, and individual optimisation. Adaptive learning platforms, learning management systems, and educational data analytics all collect vast amounts of data on student performance. This data-centric approach allows for ever-more fine-grained testing and tracking of students, effectively turning everyday learning into a continuous stream of assessment. For example, modern online learning platforms like Coursera have scaled up an 'abstract IQ model' on a global scale by surveilling learners' quiz answers, time on tasks, and behaviours to algorithmically rank people by skill proficiency, thereby generating profit from educational rankings (Katz, 2022). In this model, as Katz (2022, para. 44) highlights, 'The old eugenics terms have been updated: "intelligence" was replaced by having "long shelf-life skills" that boost GDP, "intelligence testing" became "skill assessment," and the person being used to expand the company's data was reframed as a "learner"'. What remains is a hierarchical sorting mechanism, now powered by big data and AI, that mirrors the old stratifications of IQ testing – even echoing its biases. The net result of this would be, as social computing scholar Dan McQuillan puts it, 'data-driven educational apartheid' (McQuillan, 2022, p. 91).

This convergence of political ideologies and psycho-technological dispositifs of mental testing and AI has historically served to naturalise and institutionalise what Charles W. Mills (2007) termed 'white ignorance', a form of epistemological ignorance intertwined with white supremacy. As Mills observes, 'the privilege of one group is necessarily defined in relation to the disadvantage of another' (Mills, 2007, p. 15). As we transition from 'schools-as-machines-for-learning' into the promise of 'machine learning-for-schools', these historical logics not only persist but intensify, becoming more sophisticated, algorithmically obfuscated.

This leads us to the NSE, a paradigm in which contemporary forms of educational control, discipline, and optimisation are not merely continued but amplified. AI-enabled systems, market-driven agendas, and techno-political rationalities converge to reinforce and expand old mechanisms of surveillance, behavioural engineering, and inequality, under the banner of 'machine learning-for-schools'.

3.3 MACHINE LEARNING-FOR-SCHOOLS: THE NEW SPIRIT OF EDUCATION

The spectre of AI looming over public education promises unprecedented innovation through personalised tutoring, automated assessment, and adaptive learning at scale. However, AIED research, as an academic field, has existed since the 1980s, developing from earlier Computer Assisted Instruction and Intelligent Tutoring Systems in the 1960s and 1970s, followed by the first publication of the *International Journal of Artificial Intelligence in Education* in 1989 and the formation of the International AI in Education Society (IAIED) in 1993 (Williamson

& Eynon, 2020). Holmes et al. (2019) identify two key AIED complementary practices: the development of AI-based tools for classrooms, and the use of AI to measure and enhance learning. Yet, viewed through the lens of the NSE, today's 'Machine Learning-for-Schools' does not represent a break from historical practices of discipline, surveillance, and control which characterised Foucault's disciplinary power. Instead, it marks their intensification and sophistication through what Byung-Chul Han (2017) describes as 'smart power': a power that operates invisibly, drawing no attention to itself, yet exercising pervasive influence that guides others' behaviour invisibly without resistance to its own benefit.

The claims for reinventing the NSE, one driven by AI systems, can be traced back as early as 1989, when Schank and Edelson (1989) argued that 'AI people are in a unique position to improve education [and] we can couple our expertise in computer technology and our theories of learning and understanding to build computer-based instructional systems that will have a positive impact in education' (pp. 3–4). By 1995, these claims took even more reassuring form, as RAND researchers McArthur, Lewis, and Bishay (1995) argued that AI applications such as Intelligent Tutoring Systems (ITS) 'can significantly improve the speed and quality of students' learning' (p. 42). However, they also anticipated AI's potential to restructure education fundamentally, suggesting that its full realisation would require greater collaboration between high-tech companies, educational technology research, and classroom practice. Far from simply enhancing existing methods, they envisioned AI as a force capable of '*challenging and even threatening*' traditional teaching and learning practices, replacing them with individualised, computer-based tutoring and inquiry-driven learning that could 'transform *schools and classrooms, not improve them in any simple sense*' (p. 72, original emphasis).

These early claims have actively reinvented the NSE, shaping a system where AI-driven learning is framed as inevitable, necessary, and transformative. This transformation unfolds today through three interlocking dimensions: (1) the metaphysics of quantification and classification in education; (2) neoliberal marketisation of education under Big Tech hegemony; and (3) the rise of neo-reactionary thought for anti-democratic citizenship. Together, these elements define the NSE and drive the ongoing reconfiguration of education.

3.3.1 The Metaphysics of Quantification and Classification in Education

Modern AI systems thrive on data, with core techniques such as Artificial Neural Networks (ANNs) and Deep Learning (DL) driving their capabilities. Without data and human labour, these networks remain merely infinite layers of interconnected 'neurons' – mathematical fictions carrying empty weights in search of purpose (Markus, 2015; Salaj, 2024). Yet, despite access to vast amounts of data, AI often succumbs to speculative reasoning (e.g., see McQuillan, 2022, p. 54). This is evidenced by the 'Fragile Families Challenge', a Princeton University study involving hundreds of AI and machine learning (ML) researchers, data scientists, and statisticians. The goal was to predict six life outcomes, including a child's grade point average and their perseverance in schoolwork, as well as whether a family would face eviction. Despite access to nearly 13,000 data points on over 4000 families over a span of 15 years, none of the teams succeeded in developing even moderately successful statistical models (Salganik et al., 2020).

In educational contexts, this translates to an intensification of what we might call the *metaphysics of quantification and classification*: the deep-seated belief that everything important about learning – and teaching – can (and should) be measured, quantified, classified, reduced

to data points, and algorithmically optimised. For instance, a report by Luckin et al. (2016) framed AIED as a powerful system 'able to provide analysis about teaching and learning at every level, whether that is a particular subject, class, college, district, or country' (p. 48). A later publication by Luckin (2020) went further, claiming: 'For the first time we will be able to extend, develop and measure the complexity of human intelligence – an intellect that is more sophisticated than any AI.'

Such claims have deep historical precedents. Francis Galton, a pioneer of modern statistics and hereditarian thought, believed that mental traits, like physical traits, were measurable quantities amenable to rigorous scientific analysis. As Michell (2022, p. 2) notes, Galton defined psychometrics as 'the art of imposing measurement upon the mind', inaugurating the psychometric paradigm. Despite limited and frequently manipulated evidence – as well as problematic generalisations (Cowan, 1977; Sweeney, 2001) – Galton's legacy of measurement endures in contemporary data-driven, AI-enabled systems that seek to quantify not only academic performance but also socio-emotional skills (e.g., see Tuomi, 2022).

Crucially, Galton's dubious and controversial legacy has permeated educational policy discourses globally. Mertanen et al. (2022) observe how organisations like the OECD advocate for emotion-based behavioural governance in education, relying on data-driven frameworks that treat students' emotional or social traits as quantifiable variables (see also Brunila & Nehring, 2023). These developments reflect an enduring belief that learning outcomes (and even emotional states) can be accurately measured and predicted, echoing Galton's conviction that human attributes can be statistically captured and 'improved'. Yet, by championing increasingly AI-enhanced granular metrics, these quantification- and classification-based governance policies risk marginalising other critical functions of education, especially its role as a public sphere (Giroux, 2020, p. 114) – a space where politics and pedagogy jointly address the urgent crises of our time. Moreover, this overemphasis on quantification and measurement, which excessively focuses on 'learning' over broader aims of education, predominates among many AIED platforms and has led to what Biesta (2010) termed 'learnification'. When education is reconfigured around data-driven classification, it diminishes the relational and civic dimensions of education, reducing complex human experiences to numeric categories.

Beyond quantification, another core operation of AI is data classification – the automated sorting of data into categories based on predefined criteria using techniques such as Bayesian networks, decision trees, or support vector machines. A crucial but often overlooked aspect of this process is data labelling, which, while essential to AI, is one of the most anti-educational practices, reducing complex persons' identity to rigid categories for ML. In the classroom, these classification mechanisms manifest as labels (e.g., 'struggling student', 'proficient student', or 'advanced student') derived from quiz scores, engagement metrics, or error patterns. Platforms like ALEKS (Assessment and Learning in Knowledge Spaces), for example, continuously classify students into dynamic skill categories based on real-time performance data, adjusting content accordingly (Knox, 2024). Teachers, similarly, may be categorised as 'effective', 'needing improvement', or 'ineffective', based on AI-analysed metrics such as student progress, classroom engagement, or adherence to scripted teaching strategies (see Williamson, 2017 for a broader critique of teacher evaluation systems).

Although these processes appear objective and scientific, they often remain invisible to educators and students, especially when seamlessly integrated into adaptive learning platforms. As Bowker and Star (2000, p. 320) explain, such classifications are 'layered into inaccessible technological structures', making them exceedingly difficult to challenge. 'Classifications are

powerful technologies', they note, that once embedded in infrastructural systems, become 'relatively invisible without losing any of that power' (Bowker & Star, 2000, p. 319). The net effect is that labels – and the hierarchical assumptions behind them – solidify into official 'truths' about students and teachers, shaping decisions that profoundly affect learning trajectories and professional evaluations.

Bowker and Star (2000, p. 319) emphasise that 'significant political and ethical work' must be done to 'reclassify' these embedded categories. In an era of AI-driven education, *reclassifying* means recognising how classification systems function as instruments of power, legitimating particular norms and excluding others.

For teachers, reclassification involves uncovering what is 'right under their nose' – that is, understanding how AI-driven tools reflect the political and social implications that data classifications of AI systems for classrooms entail, particularly how they reproduce performative acts of everyday habits and norms. It further entails grappling with the moral and ethical implications of deploying data-driven labels that risk reifying inequities or oversimplifying the complexity of learning. For students, reclassification involves engaging in a struggle to build imaginary alternatives and breaking with the relationship between classifier and classified. This means also moving beyond mainstream, reductionist 'AI literacy' programmes (i.e., how to use AI, how to prompt, etc.) towards a more critical AI literacy, which interrogates these systems' broader socio-technical environments and histories.

Ultimately, teacher-student solidarity and mutual support can drive pedagogical practices that question, revise, or reject dehumanising classification regimes. Such collective engagement resonates with Freire's (1970/2000) vision of dialogical teaching – grounded in humanisation, shared inquiry, and social transformation. *Reclassifying* thus becomes an *active process* of unsettling AI-imposed categories and reclaiming education's public, democratic, and emancipatory functions.

3.3.2 Neoliberal Marketisation of Education and Big Tech Hegemony

The second dimension of the NSE is the neoliberal reframing of education as a marketplace. In this paradigm, schools become service providers, students are treated as human capital investments, and technology companies emerge as powerful 'partners' offering innovative solutions (Komljenovic et al., 2023). For nearly four decades, neoliberalism – which emphasises competition, choice, efficiency, individualisation, privatisation, and reduced public sector responsibilities – has infiltrated the educational sphere. As Brown (2006) points out, neoliberalism not only shapes economic policy but also 'frames "free markets, trade, and entrepreneurial rationality" as achieved and normative', reorganising citizens in economic terms and restructuring policies around productivity and profitability (p. 694).

Biesta (2010) illustrates how these ideological shifts 'reconfigure' the relationship between state and citizen, leading to a 'depoliticised' dynamic in which government and citizens no longer share a concern for the common good, but instead form a purely transactional, contractual relationship – one that recasts public services as commodities to be purchased (pp. 53–54). This market logic is now deeply embedded in education: students are regarded as future economic actors rather than holistic learners, while schooling is seen as an investment that must yield market returns (Mertanen et al., 2022).

Such logic paves the way for privatisation, commodification, marketisation, depoliticisation, and datafication of public education. Under socio-political, cultural, and spatial

reconfigurations – what Komljenovic et al. (2023) term 'processes of futuring' – both K-12 and Higher Education have undergone significant transformations, especially as part of 'platformisation' under the banner of 'digital transformation' (Williamson et al., 2022; Williamson, 2024). Education increasingly appears as an economic investment with an expected return on investment (ROI), reimagining students as 'future capital' and venture capitalists as 'saviours' of public policies (Komljenovic et al., 2023).

Concurrently, Big Tech corporations have taken on roles traditionally reserved for public education authorities – managing infrastructure, designing 'personalised' curricula, or providing learning analytics tools and dashboards – often with minimal accountability to democratic processes (Santori et al., 2016). No longer mere vendors, these companies are de facto political actors, shaping how education is defined and governed. By rolling out 'free' technology suites, they bind entire school systems to their digital ecosystems, effectively embedding private corporate logic into public institutions.

For instance, Google Classroom exemplifies this infiltration: widely adopted in K–12 education worldwide, it offloads core educational activities onto a proprietary platform (Williamson & Eynon, 2020). Google's logics of datafication, automation, surveillance, and interoperability funnel teachers and students into platform-mediated practices that serve corporate strategies (Perrotta et al., 2020). Superficial convenience obscures the deeper costs: schools effectively become data farms for refining AI algorithms, reinforcing the synergy of neoliberal agendas (efficiency, ROI) with Big Tech expansions (corporate brand, user data, and market dominance).

A compelling illustration of these converging forces – neoliberal marketisation and Big Tech hegemony – is provided by the Tony Blair Institute's (TBI) 2024 report, 'The Economic Case for AI-Enabled Education' (Ellina, 2024). Positioned as a forward-thinking policy proposal, the report touts AI-based educational interventions that promise to 'raise GDP by around six per cent in long-term and add more than 0.1 per cent to growth per year for over 40 years' (Ellina, 2024, p. 5) if rapidly deployed across the entire UK school system. On the surface, it frames AI as a pragmatic solution to close attainment gaps, unlock each student's potential, and modernise education for an emerging digital economy.

Yet a closer read reveals that neoliberal and Big Tech imperatives permeate the proposal. First, education is primarily conceptualised as an economic investment with an expected return. The TBI analysis suggests that AI adoption will pay for itself through productivity gains, effectively recasting the educational mission as a national growth strategy – rather than focusing on other, equally important, aspects of education such as subjectification, socialisation, and citizenship (Biesta, 2011). Second, the proposal calls for forging closer alliances with 'high-tech providers' – aligning with the view that private EdTech startups and tech giants are crucial partners to deliver large-scale AI solutions (Ellina, 2024). This approach effectively places corporate interests and data infrastructures at the core of public education, legitimising an outsourced approach to educational governance.

In short, the TBI's proposal endorses a logic that sees education as primarily serving economic growth, positioning schools as 'investment ecosystems' and companies as 'partners', thereby exemplifying the synergy between neoliberal frameworks (cost-efficiency, free-market solutions, ROI) and Big Tech expansions (infrastructure control, platform integration, user data extraction).

These overlapping frameworks erode public accountability and democratic deliberation in education. They have also exerted enormous influence over the organisation, governance,

and determination of 'the social', 'the subject', and 'the state' (Brown, 2006). When tech giants dictate the infrastructural and policy parameters of AI-based interventions – often through proprietary or black-boxed algorithms – teachers, parents, and local communities are sidelined. Intergovernmental organisations and philanthropic bodies (e.g., the WB, Gates Foundation) lend rhetorical support to 'data-driven reform' and 'modernisation', but they also open profitable new markets for Big Tech while implicitly reshaping education as a global enterprise rather than a public institution.

Under the NSE, AIED is not merely a technical upgrade, it is a techno-political project that shifts power from democratic bodies to private, transnational companies. Thus, educators, policymakers, and researchers must interrogate these alliances critically, recognising that AIED is far from neutral – as the TBI's (Ellina, 2024) report exemplifies – and requires careful scrutiny to ensure democratic accountability, equity, and a more expansive conception of education's public purpose.

3.3.3 The Rise of Neo-Reaction and the Anti-Democratic Turn in Education

The third dimension of the NSE involves an ideological shift that challenges democratic norms and procedures, perceives education as a sector ripe for disruption, and ushers in a post-neoliberal political moment. Central figures in this new shift include Nick Land and Curtis Yarvin (aka Mencius Moldbug), architects of the anti-egalitarian and anti-democratic neo-reactionary movement known as the 'Dark Enlightenment'. Both thinkers share a deep distrust of democracy. For example, Land (2012, para. 10) notoriously argued that 'for the hardcore neo-reactionaries, democracy is not merely doomed, it is doom itself', while Moldbug (2007, para. 78) decried democracy as an 'ineffective and destructive system of government'. In neo-reactionary thought, modern institutions of public education are viewed with profound suspicion, as part of a broader liberal 'cathedral' – comprising universities, schools, and media – that allegedly indoctrinates egalitarian values.

Yet these once-fringe views have converged in unsettling ways with the ambitions of certain Silicon Valley elites. Peter Thiel, co-founder of PayPal and Palantir, has explicitly questioned the compatibility of democracy with freedom, famously stating: 'I no longer believe that freedom and democracy are compatible' (Thiel, 2009, para. 2). Far from a one-off provocation, Thiel has actively patronised neo-reactionary thinkers and projects, blurring the lines between fringe philosophy and tech-industry mainstream. Through his venture funds, Thiel has backed a startup founded by Yarvin (Smith & Burrows, 2021) and offered both funding and public platforms for Dark Enlightenment ideas.

Marc Andreessen is another case of a Silicon Valley luminary flirting with anti-establishment visions. Alongside Thiel, Andreessen, and his venture capital firm Andreessen Horowitz (a16z) invested in Yarvin's Urbit project (Pein, 2018), thus tying Silicon Valley capital to an ideological movement bent on circumventing democratic institutions. Beyond this direct connection, Andreessen Horowitz has aggressively expanded into the EdTech sector – funding ventures like Ourschool, Wonderschool, and other 'disruptive' platforms – under the rubric of 'The New Learning Economy' (Skates, 2022).

a16z's framing of 'The New Learning Economy' crystallises how technocratic, market-driven imperatives can align with neo-reactionary distrust of public oversight. In their public-facing material, including the blog post 'The New Learning Economy: it's time to build in education', a16z presents education primarily as a trillion-dollar global market that is overdue

for 'innovation' and 'disruption'. Echoing both the ethos of venture capital and the neo-reactionary disdain for democratic deliberation, this vision positions private entrepreneurship – rather than public institutions or collective governance – as the central driver of progress.

What began as an Internet-based intellectual current has now translated into real political developments in education. Nowhere is this anti-democratic turn more evident than in recent moves to undermine the US Department of Education itself. In March 2025, President Donald Trump – emboldened by New Right advisors – signed an executive order initiating the dismantling of the Department of Education, effectively stripping away a central pillar of federal educational oversight established in the democratic era of civil rights.

The antidote to the rise of anti-democratic politics – which is so central to the neo-reactionary projects of Nick Land, Curtis Yarvin, and several of Silicon Valley's plutocrats – lies not in deploying more technology, automation, measurement, and precision, but rather in nurturing critique, autonomy, agency, and, above all, democracy in all its forms. By recognising schools as 'democratic sites for social transformation' and working towards 'developing a new language of democracy' (Giroux & McLaren, 1986, pp. 215–216), educators and policymakers can critically examine the spectres looming over public education, both present and future. This means embracing the notion that social control's counterforce is freedom, what Dewey (1938, p. 61) terms 'freedom of intelligence', defined as 'freedom of observation and of judgment exercised on behalf of purposes that are intrinsically worthwhile'. It also entails adopting pedagogical practices of freedom and autonomy, 'centered on experiences that stimulate decision making and responsibility, in other words, on experiences that respect freedom' (Freire, 2001, p. 98).

Reconfigured and layered with neoliberal, neoconservative, and neo-reactionary ideologies, and reinforced by Silicon Valley's techno-capitalist imperatives, AI-driven educational developments produce intensified, scalable, and optimised forms of control and social engineering under the banner of 'Machine Learning-for-Schools'. As we shall explore in the next section, these ideological convergences bear profound consequences, manifested through new modes of *seriality* and *interpassivity* in both learning and teaching.

3.4 SERIALITY AND INTERPASSIVITY: CONSEQUENCES FOR AUTONOMY AND AGENCY

The cumulative effect of the trends discussed – such as AI's regime expressed through datafication and measurement, marketisation of education, Big Tech hegemony, and the rise of anti-democratic culture – is to reshape the very experience of teaching and learning. Two philosophical concepts help make sense of what is happening on the ground in AI-mediated education: seriality and interpassivity. Together, these concepts capture how individuals in the education system (students and teachers alike) can become alienated from their own agency, functioning as isolated units in a predetermined machine process, all while *appearing* to participate.

Jean-Paul Sartre introduced the concept of seriality to describe a particular type of social grouping in which individuals are gathered by external forces or circumstances yet remain fundamentally isolated and passive in relation to one another. Sartre illustrates seriality with the example of people queuing at a bus stop. Each person at the stop is inwardly oriented,

effectively isolated despite their physical proximity, thus creating what Sartre terms a 'plurality of isolations' (Sartre, 1978/2004, p. 256). In Sartre's depiction:

> [T]hese people do not care about or speak to each other and, in general, they do not look at one another; they exist side by side alongside a bus stop. … This man is isolated not only by his body as such, but also by the fact that he turns his back on his neighbour – who, moreover, has not even noticed him. (Sartre, 1978/2004, p. 256)

Contemporary advancements in AI and ML have given rise to new forms of *series* – social clustering based on behavioural similarity. This has become a core operation for major everyday platforms such as Google, YouTube, Amazon, Netflix, Facebook, X (formerly Twitter), Spotify, and many others (Tuomi, 2022). In the context of AIED, we can see a new form of seriality emerging. Consider a classroom where each student is working on a computer or tablet on a personalised learning programme. It may look like each student is deeply engaged with their own tailored material. Yet if we observe more closely, we might notice a scenario analogous to the bus queue. Each student is absorbed in their screen, isolated from classmates even though they sit in the same room.

In many ways, the narrative of 'personalisation of education' through AIED platforms offering data-driven, tailored learning experiences such as Intelligent Tutoring Systems reproduces Sartre's concept of plurality of isolations within the schools, universities, and classrooms. Like commuters at a bus stop, students are placed side by side, with everyone's subjectivity reduced to a series of data clusters and behaviour patterns. The machine-for-learning treats them as interchangeable units within a larger AI infrastructure. This subjective alienation, which students experience through algorithmically driven seriality – manifested as a plurality of isolations – is best captured in Sartre's assertion: 'Everyone is the same as the Others in so far as he is Other than himself' (Sartre, 1978/2004, p. 260).

Sartre's examination of seriality becomes even more relevant when we connect it with his other concept, that of interchangeability, wherein individuals (the commuters while waiting for the bus) are effectively produced by the system (the bus company) as united only in their identical roles. For Sartre, commuters at the bus stop perform a 'particular praxis' – a set of prescribed actions, such as boarding the bus or paying the fare, yet these actions are part of a broader 'synthetic praxis' which unites the driver, the conductor, and the system's operations.

In educational context, 'synthetic praxis' constitutes the broader infrastructure – data scientists, computer engineers, hardware and software infrastructure, and other actors who develop, maintain and provide the AI systems. On the other hand, students and teachers are expected to perform the 'particular praxis' which involves conforming to AI-determined metrics, schedules, data points, classifications, labels, assessments, and automated feedback systems. Their roles are largely reduced to complying with predetermined learning and teaching paths – relevant for both students and teachers – engaging in tasks designed for efficiency rather than creativity, prioritising score-based competition rather than meaningful and critical individual or group exploration, and meeting performance benchmarks dictated by algorithms. In a detailed study of Google Classroom's interoperability and data flows, Perrotta et al. (2020) demonstrate how diverse pedagogical tasks become subsumed within the platform's infrastructure, requiring teachers, administrators, and guardians to conform to system-defined parameters. Because the platform determines both the rules of participation and the automated processes used to extract, analyse, and redistribute data, educators themselves have

diminishing scope to decide which tools, features, or content are embedded. In effect, they become functional appendages to the larger software ecosystem, rather than agents actively shaping its design and trajectory. Such arrangements also pave the way for what Pfaller (2017) calls interpassivity, a situation where the apparent benefits of convenience and automation reduce professional autonomy to mere procedural compliance, hollowing out the possibility of substantive engagement with either curriculum or pedagogy.

While seriality reduces individuals to mere interchangeable units resulting in a plurality of isolations and alienation, interpassivity presents a new form of pseudo-engagement masked as engagement; pseudo-participation masked as participation, and the genuine act is replaced by 'acting as if' (Pfaller, 2017). Interpassive behaviour, notes Pfaller, entails letting others (people, animals, machines, etc.) consume in your place, whereas interpassive subjects 'delegate their enjoyment to some other agent' (p. 51). Pfaller's illustrative example of interpassivity is when some individuals meticulously programme their video recorders before leaving the house for the evening, even when interesting movies are scheduled on TV. Upon returning home, they anxiously check to confirm the recording was successful, only to place the tape on a shelf, never actually watching it, but feeling a sense of relief, nonetheless.

Interpassive behaviours are omnipresent today, with platforms like Netflix recommending/choosing our next movie or TV series; delegating to Spotify the act of musical discovery or playlist curation; or bookmarking endless articles that remain in the cloud, never to be read. Interpassive subjects, on the other hand, delegate their participation, enjoyment, and even responsibility to others – whether algorithms, machines, or automated systems – thus relinquishing direct involvement while still feeling a sense of fulfilment.

In an AI-driven classroom, interpassivity can manifest in both students and teachers. For students, the adaptive system might give the illusion of interactive learning – they click buttons, get immediate feedback, maybe earn badges or points. It feels like engagement. But if the system is highly scripted, the student's 'choices' might be quite superficial – for example, picking an answer from a limited set until correct, or passively watching videos that the algorithm queues up. The system is doing the heavy lifting of deciding what the student learns next, what mistakes matter, what content to review. The student could become a passive receiver of what the machine serves, *while feeling* busy and engaged because they are physically interacting. The learning platform is engaging itself; the student's agency is minimised to clicking and receiving hints, which is a 'pseudo-engagement masked as engagement'.

Under the new AI regime, public education is likely to intensify emerging forms of interpassive behaviour and subjectivity, wherein purportedly 'pedagogical enjoyments' – curriculum design, lesson preparation, critical and collaborative learning, and assessment – are progressively delegated to AI systems. In this arrangement, AI functions as both the object of enjoyment and the medium of consumption. The traditional 'social contract', in which parents entrust teachers with the holistic development of their children's subjectivities while teachers trust parents to nurture that development at home, is recast into a novel relationship involving educators, students, parents, and AI. This new dynamic aligns with what Slavoj Žižek terms the 'masochist contract' (Žižek, 2016, p. 489), wherein, as Žižek explains, it is not the Master-capitalist who pays the worker (to extract surplus value), but rather the victim who pays the Master-capitalist (in order for the Master to enact the performance that generates surplus enjoyment in the victim).

Despite limited independent evidence of effectiveness, safety, and success for AIED (Holmes, 2023), despite studies suggesting that AI may harm learning (Bastani et al., 2024);

Williamson et al., 2024), and despite scholarship critically challenging the 'learning capabilities' of ML (Tuomi, 2018; Reigeluth & Castelle, 2020), public education remains under pressure to stage precisely this performance. The resulting contract not only amplifies interpassivity and seriality but also entails broader social consequences: processes of exclusion and marginalisation affecting students, and the precarisation of teaching labour.

These developments restructure the entire nexus between human agents and technological systems, cultivating a 'masochistic' dynamic of disempowerment, alienation, and submission to an apparatus that thrives on extracting surplus enjoyment and surplus labour from those it subjugates. Accepting AI under these conditions diminishes human and educational relationships to mere instruments of automation, classification, and objectification, thereby undermining fundamental functions of education such as agency, autonomy, subjectivity, and socialisation.

The NSE, in its enthusiasm for innovation, overlooks these new forms of alienation. In fact, it often celebrates the *engagement metrics* or *personalised pathways* that, under scrutiny, reveal a kind of pseudo-engagement. It is vital, then, for policymakers, educators, students, and researchers to bring concepts like seriality and interpassivity into the conversation. By naming these phenomena, we can begin to devise counterstrategies of resistance to break the serial isolation; or ensuring that teachers remain the central intellectual figures who stay actively connected to their students' stories and lived experiences, which go beyond the metrics. Recognising these patterns is a first step towards resisting the reduction of education to a clinical, automated process, and reinfusing it with the human agency and interaction that democratic education demands.

3.5 CONCLUSIONS

The integration of AI into education under the banner of 'Machine Learning-for-Schools' does not depart fundamentally from historical regimes of surveillance, discipline, and exclusion. Rather than marking a clear rupture from the past, AI-enhanced initiatives merely perfect the well-worn structures that once fuelled the Victorian monitorial school, eugenics-era psychometrics, and behaviourist teaching machines – embedding them into software platforms of expansive scope and scale. While the rhetoric of efficiency, personalisation, and innovation underpins these platforms, a closer look reveals how they retool and repurpose older patterns of discipline, surveillance, punishment, and reward.

Throughout this chapter, we have explored how three interlocking dimensions compose the NSE. First, the 'metaphysics of quantification' intensifies datafication, reducing the complexities of human learning to standardised metrics and algorithmic labels. Second, 'neoliberal marketisation' recasts education as an economic endeavour aimed at producing human capital, enabling Big Tech to consolidate infrastructural control with minimal public oversight. Finally, 'anti-democratic ideologies' percolating among certain Silicon Valley elites, venture capitalists, and neo-reactionary theorists undermine democratic governance in education, normalising technocratic control as an acceptable substitute for deliberative public engagement.

Viewed together, these forces foster new forms of 'seriality' (where teachers and students become functionally interchangeable units subjected to analytics-driven workflows) and 'interpassivity' (where genuine engagement is replaced by algorithmic mediation that appears interactive but in fact attenuates human agency). As such, autonomy, critical reflection, and

relational capacities are eroded, raising the risk that education becomes a site of technical management rather than a public and democratic sphere for shared inquiry, awareness, and empowerment.

By foregrounding efficiency, standardisation, and algorithmic control, today's AI-driven reforms risk perpetuating a system of education that undermines the very foundations of democratic life and deepens the logic of 'social efficiency', logics that reduce education to the narrow production of 'egoistic specialists' (Dewey, 1916, p. 8). For a robust democratic public sphere, well-informed citizens are essential for maintaining, questioning, and, when necessary, renewing the epistemic infrastructure of democracy – including governmental institutions and legal frameworks, educational institutions, media and public discourse, civil society organisations, trade unions, and the digital sphere.

To counteract this, we need to reclaim Dewey's project of civic efficiency, or 'good citizenship' (Dewey 1916, p. 71), which centres on citizens who are politically competent, able to deliberate communally, and genuinely engaged with social and political questions. By recommitting to educational approaches grounded in experience, shared inquiry, social responsibility, and the cultivation of critical and relational capacities, we can resist the reductionist tendencies of algorithmic governance and preserve education's broader democratic purpose. Rather than deploying 'technologies of behavior' that reinforce seriality and interpassivity, democratic education should advocate for what Jasanoff (2007) calls 'technologies of humility', an approach foregrounding reflexivity, pluralism, and ethically grounded decision-making in the face of complex societal challenges. By actively embracing uncertainty – instead of prediction – and incorporating diverse voices, such humility ensures there remains space for civic technologies in education, provided they do not override the pluralistic and deliberative practices essential to civic life.

NOTES

1. The term 'New Spirit of Education' (NSE) is inspired by Luc Boltanski and Eve Chiapello's influential book *The New Spirit of Capitalism* (2005). Boltanski and Chiapello argue that capitalism repeatedly reinvents itself through evolving cultural, political, ideological, and economic justifications, or 'spirits', which legitimise its continuity.
2. Holmes and Tuomi (2022, p. 544) rightly observe that 'the first truly adaptive "teaching machine" was developed by Pask, known as the self-adaptive keyboard instructor or SAKI'. Skinner, therefore, was not alone, nor the only one, in developing teaching machines for personalised instruction.
3. I use the term 'dispositif' in the strict Foucauldian sense. For Foucault, the term *dispositif* (often translated as 'apparatus') refers to a 'heterogeneous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions … .' (Foucault, 1980, p. 194).
4. In 1958, Frank Rosenblatt defined the perceptron (the first operative artificial neural network for pattern recognition) as 'connectionist' and acknowledged that the work of 'Hebb and Hayek' was 'the most suggestive' for his own (Pasquinelli, 2023, p. 183).

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