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Pieter Vanden Broeck and David Stark

ABSTRACT
Ever since education moved into schools, instruction has been considered the province of teachers. How does the status of professional judgement change when algorithms enter the classroom? We argue that the knowledge claims around algorithmic management are not a conflict among competing professionals. Nor does it replay the standard conflict between professionals and managerial oversight. Algorithmic management is not simply a different way of managing professional activity but claims to carry out the activities themselves. Here, we examine three public encounters as illustrative of the classification work in which the competing knowledge claims of teachers and engineers are tried out and tested.

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On teaching and teachers

In the schooled society, teaching is what teachers do. So tightly are they bound together that the English language never troubled to tell the work truly apart from its profession. A mere two letters separate verb from noun, as if to decree, with such parsimony, that teaching without teachers must read as a contradiction in terms. The derivation itself is of course nothing out of the ordinary: someone who hikes is a *hiker*, someone who runs a *runner*, and so forth. Language appears to mint such nouns freely and certainly not all of them amount to a profession. In the classroom, however, this small morphological habit evokes an arrangement. With no name for the job but its defining activity, already our vocabulary signals that teaching is what teachers do.[1]

Surveying the terminology by which a place is held or claimed within the taxonomy of social positions should not be mistaken for idle word play. For the practitioner, professional categories offer a marker to demarcate the in-crowd from the outsiders, a currency to assert both value and virtue. For the sociologist, they provide a window into how taxonomies of occupations and expertise are drawn, redrawn, and made to count. A testimony to the coalitions and opposition, to the historical contingencies by which a group seeks societal valence, the deverbal noun 'teacher' ties together class and classification.

Consider the Recommendation this special issue takes as its occasion. When UNESCO and the International Labour Organisation gathered delegates in Paris to settle the status of teachers the world over, they started from little more than the tautology built into our grammar. The formal Recommendation (1966) they adopted stipulates at length its aspirations: the preparation, salaries and tenure to which future teachers should be entitled. But its opening definition, a perfect

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synthesis of the status quo, identifies them succinctly as *those responsible for the teaching of the pupils*.[2] The task allocation baked into our everyday speech was thus consecrated as a classifying principle: for teachers, professional standing derives from *teaching*, much as the noun derives from the verb.

The waves of reform that followed have left the equation between teaching and teachers largely intact. When schooling disappoints, the blame may fall on many suspects, whether funding shortfalls, outdated curricula, or slipping standards. But whatever the diagnosis, it is teachers who are expected to administer the cure: through better training and better pay where the profession finds its allies, or through stricter accountability and easier dismissal where it does not (Steiner-Khamsi 2025; Verger, Parcerisa, and Fontdevila 2019). An entire reform machinery trades on the conviction that schools rise or fall with their teachers. Its remedies, whether carrot or stick, rest on the same premise: the task of teaching belongs to teachers, whether in fact or by right. Isn't holding teachers to account the sternest tribute to their monopoly?

Of course the lesson needs a teacher. Who else would do the teaching?

In this essay, we peer into emerging patterns of interaction at and across the boundaries by which the teaching profession is defined. We examine how these boundaries are being redefined in contestations that seek to restructure the terminology and taxonomy by which the teaching profession is organised.

A contested taxonomy

The opening decades of the twentieth century marked a period of heightened conflict in which labour and capital were locked in struggle over the conditions and control of industrialised work. But alongside (or in between) that dichotomy was an emerging new class spearheaded by mechanical engineers championing the social movement known as scientific management. Pioneered by Frederick Winslow Taylor, scientific management made claims to legitimate the professional managers' share of the social surplus, not because they owned or because they laboured but because they knew better. On the strength of this knowledge claim, management travelled from factory to school (Bobbitt 1912), complete with rating scales, standardised tests, and balance sheets (Callahan, 1962).

The opening decades of the twenty-first century now mark another period in which a new set of actors is making new knowledge claims. At the forefront, again, we find engineers. But these are software engineers. They, too, stake a claim in education. But they show little regard for the taxonomy that kept school management distinct from the teaching profession. Nor is education the only domain they claim.

Algorithmic management is the name we have given to this wider claim (Stark and Vanden Broeck 2024). The term entered the vocabulary of labour studies as shorthand for the working conditions of the platform economy, its reach seemingly exhausted by rideshare drivers, delivery couriers, and warehouse pickers.[3] By that account, the engineers' algorithms reinforce and extend supervisory hierarchy beyond the shop floor, providing new ways to discipline labour where earlier management styles could not reach.

While this approach is valuable, it is not exhaustive. In our gloss, algorithmic management involves a *different* conflict because it proposes not simply a different way of managing the work of others but claims to carry out that work itself (see also Stark 2022).

In the domain of education, this new conflict is particularly acute. Since reformers first promised the 'one best system' (Tyack 1974), schools have been superintended and inspected. But even then, school organisation and classroom instruction remained strictly distinct activities. Algorithmic management, however, steps into the classroom. Through codes and protocols, platforms and automated tutors intervene directly in teaching, materialising precepts that are antithetical to the judgment professionals exercise when deciding what, if any, precept applies in a given situation (Freidson 2001).

Examined within a single field, this budding conflict might still read as competition over professional jurisdiction. The opposition would then do nothing but play out the well-documented dynamic whereby one occupational group usurps the tasks of another, while the system of professions rearranges itself accordingly (Abbott 1988). But algorithms intervene in the diagnosing of patients (Cambrosio, Campbell, and Bourret 2021), the auditing of accounts (Power 2026) or the drafting of contracts (Faulconbridge 2025; Remus and Levy 2017), changing what each of these tasks means in the process. A claim staked in all domains can no longer be understood as a jurisdictional dispute over who qualifies as the legitimate expert. Professional borders run between territories, separating the doctor's expertise from the accountant's, the accountant's from the lawyer's, the lawyer's from the teacher's. The trajectory traced by algorithmic management cuts across *all* these domains alike, asking what can be formalised in computer code and what cannot. Totalising where the professions are territorial, the engineers' knowledge claim is thus precisely *not* professional. Our task in this short essay is to examine the opposition that thus emerges between the bounded expertise of the teaching profession and the totalising aspirations of algorithmic management.

We proceed by illustrating the competing knowledge claims at stake in their encounters. We do so by way of three scenes, performed in the public domain and drawn from a broader ethnographic study.[4] In each scene, educational expertise and algorithmic management meet in different constellations. The claims advanced by teachers and educationalists, engineers and platform operators are not merely opposed; they are frequently orthogonal. The participants do not share the same vocabulary, the same term can have different referents, and the shape of the terrain on which contention occurs can itself differ. In fact, not all participants would even agree that the debate concerns the field of education.

To put their contending claims in sharp relief, we present our analysis punctuated by stylised exchanges, in which each party advances claims and counterclaims, justifications and denunciations. Although these exchanges frequently adopt the format of argument and counterargument, the reader should be aware that—as in any real-life contestation—the positions taken are often not head-to-head.

Their positions, we posit, are not stable; nor are they given in advance. Rather, we seek to establish how positions are tried out and tested through the encounters in which they are staked.

The opposition we are after is not education versus technology. Our account runs counter to the more familiar telling in which technology comes to datafy, platformise or automate education from without, almost inevitably pushing the classroom into crisis. Casting technology as an exogenous menace overlooks that schooling has always relied on artefacts to occur, or that teachers necessarily proceed by technique to nudge instruction into learning (see also Grimaldi, Parola, and Pastore 2025). More importantly, such a telling leaves the engineers behind the machine unexamined and undertheorised.[5]

What sort of place do they carve out for themselves in these encounters? And whose recognition, whose alliance, does their algorithmic management come to attract? Both questions we reserve for the closing section.

Three incommensurabilities

Scene 1

In a Chinese television studio blazing with pink and blue neon, Mr. Yang, a teacher from Zhengzhou, walks into the spotlights.[6] He smiles, enthusiastically greeting the audience. Yang has taught mathematics for twenty-eight years and proudly boasts to the show host: the curriculum, the textbook, the mistakes students tend to make, 'I know it all'. But an AI teacher is rumoured to know his students better than he does, leaving him and the spectators to wonder how that is even possible.

To find out, he has brought six of his students, all with varying proficiency in middle-school mathematics. The broadcaster has stipulated the format of the rather curious duel that will

ensue. For each pupil, teacher and algorithm will predict how well the students will fare on a given maths puzzle. A correct prediction earns one point. The game will be settled after six rounds. The stakes seem straightforward enough: who knows the pupils best? Their seasoned teacher, with whom they spent the last two years in class? Or the computer program that quizzed them for a mere two hours, just before they went on air?

Bohan, one of Yang's stronger pupils, sits at a white desk under the studio lights, a math problem projected on the wall of screens behind him. 'Which of the following are square-root expressions?' Around him stand the show hosts, his teacher and the start-up's founder. The boy marks only one answer; three are correct. 'This shouldn't be happening', stammers his teacher, staring at the screen. 'It is a straightforward definition problem'. But hours earlier, the algorithm had already rendered its negative verdict: Bohan would not get it right.

The contest staged by the Hunan satellite broadcaster strikes at a first incommensurability between what teachers consider central to their professional care and the knowledge claim put forward by learning engineers.

As Everett Hughes (1963) reminds us, 'professionals profess' and their profession of skill is in essence a claim of *knowing better*. But no teacher would argue that prediction is an essential aspect to that claim. The teacher might be convinced that he is more in tune with his pupils' needs than they themselves are. But such a claim is not understood as a matter of *prediction*. On the contrary, at least since Robert Rosenthal and Lenore Jacobson (1968) pointed out as much, nurturing certain expectations about the academic performance of certain pupils is treated as a professional *mistake*, since it tends to invisibly shape their results to what is expected. Not surprisingly, then, the engineer's attempt to predict the future has been greeted by the educational establishment with suspicion and even outright rejection. Correctly predicting pupils' future is denounced as a barren attempt at control and thus at pre-emptively restricting, rather than unlocking, what lies ahead. Aspiring to be 'always right' about that future is dismissed as the surest telltale of doing it wrong (Witzenberger and Gulson 2021).

Practitioners of predictive analytics might be quick to point out here that their predictions operate in an entirely different temporal frame. Yes, we measure and collect data, the engineers reply, in order to better understand and optimise learning.[7] Such an ambition requires attention to the slightest events of the learning process, invisible even to the most attentive teacher. Our models do indeed predict learning outcomes, they proudly acknowledge. But the stakes involved remain limited to the *next question*.

Teachers are trained to think in lesson plans and grades, preparing students for an unknown future they would rather not predetermine. The engineers' algorithms do not deal in such open timespans. Their predictions only concern the next item, whose success rate has been determined well before the student even reads it. Such incommensurability, strictly speaking, escapes the logic of duels. Without a shared measure of what matters, how could teacher and algorithm even compete?

When they do collide head-on, in outlier events like this one, it is only because one party's measure has been successfully imposed on the other. What the subtly rigged, televised confrontation has thus staged is how accurate prediction makes a claim for the correct measure of understanding. The teacher who can recount and explain a student's trajectory is challenged by a system that cannot explain, only count.[8] But, the algorithmic advocate retorts, counting – calculating what a pupil will and will not get right – is exactly what we've got down to a science.

Scene 2

'*Hello, teachers*'. In a video recorded to launch *Duolingo for Schools*, CEO Luis von Ahn sits in front of a bookshelf, a mic clipped to his white shirt.[9] He is addressing teachers directly. But his argument carefully dances around what teachers do. Rather, he dwells on what schools *fail* to do. As if taking a page from the sociology playbook written by Pierre Bourdieu, he readily points towards school's

thin track record in keeping up with its lofty promises. 'A lot of people talk about education as something that brings equality to different social classes', he muses. 'But I always saw it as the opposite, as something that brings inequality'. Growing up in Guatemala, von Ahn continues, he saw how wealth purchased good schooling and good schooling reproduced wealth, while those without money 'barely learn how to read and write'. His app, we are given to understand, is what schools never truly became: a single system that serves everyone, calibrating itself with equal automated diligence to each of them *personally*.

Signing off, he thanks all teachers for their efforts, as if the just voiced criticism had no connection whatsoever with them. Such gratitude might be less a recognition of their past service than a solicitation to adopt his platform. Either way, the underlying incommensurability is kept safely out of view.

First visible through the worldwide spread of school attendance mandates (Ramirez 1989; Van Horn Melton 1988), education has ever since been increasingly thought of as for everyone, irrespective of social origin. But for that to succeed, school education had to break established forms of belonging and bring about a new one. However teachers understand their work, it always includes this situated, sometimes ungainly and never truly finished work of composing a group. The classroom is not only a physical place; it is a communal space. The lesson plan is not simply a transmission vehicle; it is an exercise in collectivity (Bruner 1982).

That *sounds* good, our not so hypothetical learning engineer interrupts. So long as one ignores what you do in practice. We're all too familiar with your talk about the 'problem student' and the 'gifted pupil'. It's for these that your schools have 'special programs'. Such programs and such language are unnecessary in models trained by machine learning. In the algorithmic approach you might equally well say that no child is special or that every child is special. In fact, our system is *specialised* – in the sense that the learning environment is always *personalised*. At any given moment, the user encounters a problem that precisely matches their proven capabilities and the measured level of difficulty.[10] Your traditional methods involve testing the student—everything from pop quizzes to unit exams, to end of year standardised tests. Yes, testing also occurs in the settings of machine learning. But what's tested are our models. On our platform, nothing is introduced without prior testing, and everything that is done is subject to rigorous, ongoing testing.[11] In the history of education there has never been more systematic testing—but it's the models, not the students that are being tested. Everything is continuously examined, but there are no exams.

'*Personalized?*' the teacher scoffs. What do your tests even know about persons? It is enough for my pupils to misread a quiz item to send your software haywire.[12] I know the questions and I know the pupils. I know what sort of day they are having and I know what their parents do.

Your attention to the background of the child is nothing but *bias*, the engineer retorts. Bringing background factors like race or gender or the material circumstances of the student's family into the learning setting is precisely one of the things that is so wrong with your approach. We don't need to know the student's gender. We don't want to know the student's race or class background. And so we don't use those kinds of categorical variables in our programming.[13]

Keep your code, the teacher flares up. Our knowledge is more than what computer code can contain. All you automate is rules and recipes, made to apply to anyone, anywhere. But you can't program for whom, or when, to break them. Your algorithms and programs might be learning machines. But they will never learn to teach![14]

Scene 3

At the bottom of a phone screen, five icons sit in a row: *Oggi, Didattica, Registro, MyTools, Extra*. One afternoon last year, a parent from Turin checking her daughter's grades ended up on the last icon, *Extra*, marked by a small red rocket.[15] The *registro elettronico* she just opened is the legally designated channel between school and family in Italy, accessed by millions of parents, pupils,

and teachers on any given day. One tap away from the exam marks and their bright coloured circles, the screen fills up with a recipe for carnival fritters and a mini-game starring a winged rabbit. Another page invites students to apply for loans ('Dream Big, Plan Smart') or seek psychological counselling ('First session is free'). One interface, one login, all under the same red header of the software's brand name. Inside the digital school register, exam marks, banner ads, and flashy entertainment all coexist, much to the parents' dismay.

Pedagogists, too, have long demanded that school be an autonomous space, buffered from external interference, whether religious, political or economic. The role of teachers, in Cornelissen's (2010) pointed rendering of that demand, is to keep the classroom door closed.

But doors presuppose walls, and walls presuppose that the inside can be told apart from the outside. The topology of platforms makes such distinctions hard to maintain. Once the Turin mother logs in, using her school-provided credentials, a single authenticated session identifies her as the legal recipient of the child's educational record, discharges the school and teacher of further obligations to inform as she taps on her child's results, records her device, location and browsing patterns for the platform provider, who promptly signals her presence to its commercial partners in order to route advertising content all while the app's own storefront is populated, sorting the over twenty thousand school products of its catalog to match her user profile. True to the technologist gospel of connectivity, the platform bridges household and school, school and marketplace, placing its users in all three spaces at once.

As the gradebook shapeshifts from ledger to software suite, serviced by external providers for an annual fee, the boundaries of the classroom start to dissolve, much to the sudden protest of the school establishment. Teacher associations indeed eventually intervened, calling on the state to reassert a boundary that the platform's architecture had dissolved. When Italy's Minister of Education eventually obliged, his decree reinstated, at least on paper, the distinction between public schooling and private interest.

But the third incommensurability between the teaching profession and algorithmic management cannot be grasped as one of pedagogical purity versus commercial profanation. For one thing, casting the engineers in the role of the impure contaminants forgets that they, too, have their purity ideals. Engineers pride themselves on clean and lean code, free from bugs or bias. Their tolerance for noise in the pedagogical transmission is much lower than such opposition implies. The real difference runs a notch deeper, at the reconfiguration of the boundaries by which attention is organised.

In classrooms, pupils' attention can be called to order, pooled on a single object or retrieved when it begins to stray. Within their walls, teachers hold in essence a well-intentioned monopoly on its organisation. However benign its pedagogical ambitions, that monopoly invariably runs aground on its own visibility (cf. Schorr 1987): in the close confines of the classroom, the education of attention always invites equally visible competitors, whether in the shape of silent detachment or defiant refusal. By doing what it does, teaching inevitably creates a small attention economy that continuously threatens to escape its control.

The algorithmic management of learning trades in a much larger economy. As the protagonist of the previous scene declared elsewhere, his competitors are Instagram, TikTok and 'whatever takes your time'. In the curiously unbounded topology of platforms, education is ever less contained by the classroom. What counts as educational in such setting is settled in the same competition for our attention as everything else.

The algorithmic management of learning

In *Democracy and Education*, John Dewey (1916) declared three properties that make the school organisation a 'special environment'. Fusing institutional claims onto philosophical ideals, he saw it as the school's task to reduce the complexity of the outside world into simpler knowledge, balance differences in upbringing, while keeping impurities at bay. Together, he took these

functions to define a bounded environment whose purpose is to intervene in learning processes that otherwise would run their course untended.

Like Dewey, the three incommensurabilities we have highlighted concern the specifications whereby education is given shape, with which they indeed roughly match and overlap. But whereas Dewey could take for granted that these functions belonged to school, that the institution and its organisational form were one and the same, we see their bond unravelling and situate the emergence of algorithmic management within that historical evolution.

The bureaucratic school was and is organised along vertical lines.[16] Its internal hierarchy and standardised compartmentalisation extend from the administration to the curriculum itself, whose classificatory logic dictates that general subjects outrank applied ones. Assimilation, however unpredictable its actual course, is parcelled into discrete slots and expected to arrive on schedule, as if it were railroad traffic. Within this arrangement, the teacher's autonomy is defined with and against the state apparatus.

Post-bureaucratic ambitions sought to loosen that arrangement, spurred on by supranational funders in search of an educational space to call their own (Vanden Broeck 2020a, 2020b). Its reformers recast visible hierarchies within 'invisible pedagogies' (Bernstein 1975), idealising learning no longer according to a common canon but as expression of the self. The organisational form most congenial to that ambition was the project, which replaced the timetable with a new temporal discipline: the deadline. The teacher, at least discursively and certainly only temporarily, turned into an interlocutor, a facilitator, or a participant among others.

Algorithmic management, the heir to both but synthesis of neither, pushes the reorganisation of education further still. We have shown how its propositions, leaving none of Dewey's functions untouched, often stand orthogonally opposed to the institutionalised practices it encounters.

These encounters, it can be noted, have been staged before, albeit in entirely different settings and with very different actors.

When Taylor's industrial engineers stepped onto the shop floor, they claimed the supervision of work. Redefining oversight as measurement, they reconfigured the relations between capital and labour (Stark 1980). They did not step into a position that technological change had neatly vacated for them. There were no vacancies. Theirs was a 'middle class' most literally: midway between the classes above and below, inside the emerging corporate bureaucracies. Scientific management was the project through which a new class established itself, and its creed of exactitude became the ideology around which this new middle position could cohere.

Seen as such, class stems from class-ifications. Whereas in its canonical understanding, class constitutes the fixed starting point given by a shared material condition, we make the notion stand for the contingent outcome of acts of demarcation and positioning, for identity organised through the establishment of difference, sustained by a play of coalition and opposition.[17] The encounters between teacher and software engineer then take on a new meaning. The incommensurabilities they unearth are indeed performances of distinction. They are attempts to re-class-ify, running loudest where they turn theatrical, verging on the farcical, in televised contests and promotional videos.

Again, the engineers claim a middle position. Algorithmic management wedges itself into the relation that defines professional work, between teacher and pupil, between those licenced to profess and those in whose name they do so. A wedge driven into a single relation could still amount to a jurisdictional raid. But doesn't the same wedge, driven wherever expertise has settled into client-profession relations, add up to a position in the social structure itself, to a new class in formation?

Demarcation alone did not make the manager's classification work stick. The factory owners resisted the Taylorist creed, the craftsmen fought back, its science persuading few who were not already convinced. Ultimately, it was the state's demand for uninterrupted war-time production that rewrote industrial relations (Stark 1980, 106). Recognition for the manager came neither from labour nor capital, but from this third party, the state, with an interest of its own.

On that note, we conclude with two stagings.

The first one is the World Summit on Teachers, held last year in Santiago, where teacher unions and governments called upon UNESCO to list the relationship between teacher and pupil – and hence also between teachers and teaching – among the common heritage of humanity.[18]

On the other stage, mounted days later in Paris by the same convening power, we find again the company that duelled with the math teacher, Mr. Yang, in our opening scene.[19] Asked how her platform cultivates the deeply human and relational aspects of learning, the entrepreneur answers with an organisation chart. In the company's learning centres, she explains, the AI engine does the teaching, and the adults in the room are either supervisors or data analysts: none has taught before, and a month of training by the system makes them, in her words, 'very professional'. And the teachers? 'They don't teach, I'm sorry to say'.

Notes

1. Our use of the term "schooled society" refers of course to David Baker (2014), who thus summarised how the institutionalisation of schooling shaped modern society. Teachers scarcely figure in that account and mostly as secondary to the credentialing apparatus that installed a global culture of cognition. For a corrective argued from within the same neo-institutionalist tradition, see LeTendre (2021).
2. In its original wording: "those persons in schools who are responsible for the education of pupils" (ILO and UNESCO, 1966). In our use, teaching thus designates the work by which teachers educate, including those activities that exceed the narrow understanding of the term as instruction. On the Recommendation's ramifications as a policy-making moment, see Dumay, Sorensen, & Paine (2025, 1-22).
3. For an overview, see Kellogg, Valentine, and Christin (2020) or contributions by Stark and Pais (2020), Curchod et al. (2020) and Rahman (2021).
4. In its current iteration, the study is titled *Learning Machines*, a header under which we survey the disparate shapes algorithmic management takes, whether by hopping on a John Deere tractor in the Midwest, immersing ourselves in New York's Silicon Alley, or observing how teachers work in Bologna and Kobe.
5. If at all present, they figure typically as the mouthless purveyors of school's infrastructure. But unlike school benches or chalk, software is never quite handed over. Licensed rather than sold, patched and updated from afar, reporting back on its own use, software remains tethered to its developers. If what happened in class was thus far an affair sealed within four walls, it now often leads a double life elsewhere, *on the platform*. On the latter's topology, see Stark and Vanden Broeck 2024.
6. From 我是未来第二季20181021期, https://w.mgtv.com/b/325153/4654513.html.
7. Consider how the Society for Learning Analytics defines its own jurisdiction, carefully avoiding any direct reference to school or education: "Learning analytics is the measurement, collection, analysis, and reporting of data about learners and their contexts, for purposes of understanding and optimising learning and the environments in which it occurs."
8. On model performance and explainability from a sociological perspective, see Esposito (2022a, 2022b).
9. From Thank You Teachers, https://youtu.be/E6hadnnW-JE.
10. In the domain of education, these personalisation efforts almost invariably find their notional starting gun in Bloom's (1984) *2 Sigma Problem*. More often than not, they also include a nod to Vygotsky's (1978) developmental psychology. Early techniques were still heavily indebted to the statistical apparatus of psychometrics, item response theory being chief among them (Lord 1980). Later approaches track the succession of paradigms that have shaped the computer sciences more broadly. Bayesian knowledge tracing (Corbett and Anderson 1994) came first, accompanied by efforts to let the user navigate freely within (fixed) hypertext structures (Brusilovsky 1996). Recommender models (Manouselis et al. 2011) came next, together with a revival of the Elo rating system (Klinkenberg, Straatemeier, and Van der Maas 2011), originally developed to quantify the strength of chess players. Neural networks followed suit soon after (Piech et al. 2015), before the most recent turn to generative language models (Kasneci et al. 2023).
11. Taking its cues from online games and e-commerce sites, Duolingo hones its curriculum via A/B testing, assigning users to either a test or to a control group to measure the effectiveness of any given product change: "Half the value of the company is our obsession with A/B testing," declared von Ahn on the Acquired podcast in 2024.
12. See Mercer and Fisher (1992, 148).
13. See Baker et al. (2023).
14. Or in the words of educators Poritz and Rees (2017): "education is not an app!".
15. From Forte (2025).

16. Many have downplayed the school's bureaucratic character (inter alia Weick 1976). Yet one can acknowledge the indeterminacy of classroom interactions without thereby discounting that bureaucracy supplied school's organisational grammar, from the curricular hierarchy of subjects to the standardisation of classroom units. See also Meyer and Rowan (1978).
17. Already in the Marxist tradition, where class is thought to be given by one's place in the production process, becoming a class for itself famously requires effort. For Pierre Bourdieu (1979) class positions still follow from the volume and composition of accumulated capital, yet he recognised the struggle over classifications as part and parcel of class struggle. Later scholarship, with which this essay aligns, loosened the fixity of class further still, making the lines of demarcation contingent on continuous activity, whether understood as conflict (Stark 1980), representation (Boltanski 1982) or the work of belonging (Luhmann 1985).
18. Much like Lady Liberty, Bologna's porticoes or Belgian beer culture.
19. From UNESCO Digital Learning Week 2025, https://www.youtube.com/watch?v=BOReOa6ogWw

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