

This Site Cannot Be Reached: Braverman and Academic Labor's Digital Decomposition

Robert Ovetz
San José State University

Introduction

In May 2024, UC Santa Cruz moved classes online for the first four days of the UAW 4811 graduate student strike in solidarity with Gaza, following violent attacks on student encampments by campus and local police. The “stand up” strike was called on six campuses of the UC system (UAW 4811 2024). The UCSC student workers were acting alongside the weeks-long encampment from which hundreds of students shut down the campus several times since Fall 2023 (Students for Justice in Palestine at UC Santa Cruz 2024).

The use of online education, as with Boston University's proposal that faculty use generative AI to scab on the work of striking graduate workers in March (Tran 2024), is only one recent university effort to deploy online education and generative AI as weapons against organized academic workers. Online education was also used at Cal Poly Humboldt to break the student Gaza solidarity encampment in April to May 2024 (Vaziri and Linton 2024). While we academic workers increasingly recognize the strategic use of these technologies to undermine, or decompose our power, we have yet to fully examine why they were developed.

Contrary to widespread edtech and campus administrators' claims, online Learning Management Systems (LMS) and generative AI do not exist to

further student learning or “student success.” Rather, these are technological weapons for university administrators to impose their power over faculty and students. Edtech refers to the section of the tech industry that develops software and platforms targeted specifically at education. The largest LMS provider, Instructure (Canvas), is valued at \$3.5 billion, followed by Moodle, Blackboard, and Google Classroom (CNBC 2024).

Drawing on Harry Braverman's analysis of the role of technology in the changing division of labor in his classic 1974 book *Labor and Monopoly Capital: The Degradation of Labor in the Twentieth Century*, I see LMSs and AI as Taylor's “digital stopwatch”—designed to rationalize, deskill, and automate academic labor, thereby decomposing our growing power while standardizing work to restore control and increase productivity of both waged and unwaged academic workers. Generative AI predicts patterns in existing data to generate new data and create something, in contrast to AI that merely completes tasks by interpreting existing data and adapting its actions based on new information. By carefully understanding Braverman's key ideas in his now fifty-year-old study, we can inform academic workers to organize new tactics, strategies, and objectives.

Taylor's Digital Stopwatch: The Rationalization of Academic Labor

Over the past few years we have seen a massive upsurge in academic workers organizing, strike threats, and strikes. The 2024 UAW 4811 strike was preceded by the largest academic strike in history in 2022 when graduate student unions UAW 2865, UAW 5810, and SRU-UAW (now merged as UAW 4811) struck, shutting down the entire UC system. This strike was preceded a year earlier by the UCSC wildcat strike that was curtailed by the March 2020 pandemic closure. The 2022 strike is the latest peak in a two-decade-long upsurge in worker organizing among contingent and tenure-line faculty, graduate and undergraduate student workers, academic staff, and researchers. There has been a tenfold increase in the number of new unions of undergraduate workers formed each year between 2021 and 2023 (Milkman and van der Naald 2023, 7–8).

In 2024, 20,000 student assistants voted to join CSUEU/SEIU Local 2579 in the CSUs, making it the largest union of undergraduates in the US (Associated Press 2023). This upsurge follows decades of neoliberal restructuring since the 1970s (Ovetz 1996). Organized academic workers challenge both the erosion of academic governance and the exploitation of underpaid student workers and contingent faculty, who now compose about 70 percent of all faculty. Unfortunately, we have only slowed but not stopped or reversed the entrepreneurialization of higher education.

In response to the potential power of academic workers to disrupt neoliberal higher education, administrators first expanded precariousness among the faculty and more recently embraced first the LMS and now generative AI as tools for rationalizing academic labor. The LMS was becoming embedded in higher education but experienced its most accelerated growth during the pandemic when every student was forced into online “remote learning.” Although the National Center for Education Statistics has not updated its reports since Fall 2021, it is likely that a large minority of higher education instruction has been permanently moved online (NCES 2022).

The ubiquity of the LMS had the obvious effect of doubling the academic workload. Hardly

a labor-saving device, the LMS has forced faculty to duplicate in-person classes by moving some class content into the LMS with additional requirements due to standardization or replacing it with entirely “new” online classes. The consistent rise in online class sizes creates further pressure to raise in-person class sizes. The arrival of generative AI, coercively pushed onto faculty daily in streams of emails from administrators, campus centers for teaching, edtech companies, and publications, is certain to further increase our workload. The LMS is a tactic for increasing faculty productivity by rationalizing, standardizing, and stripping control from faculty over our labor and transferring it to administrators. Standardization of higher education is a century-long strategy first developed by the Carnegie Foundation for the Advancement of Teaching, which began the effort by inventing the interchangeable academic unit and trying it to faculty vesting rights in its TIAA-CREF faculty retirement investment scheme.

We can draw on Braverman's class analysis of the three principles of scientific management to understand the role of the LMS and generative AI to strip academic workers of control over our mental labor so that it can be rationalized, controlled, and more intensely exploited. Braverman showed how the boss uses surveillance to collect and classify workers' knowledge to achieve “the separation of conception from execution” and thereby “control each step of the labor process and its mode of execution” (Braverman 1974, 112–19). As he explained, mental labor undergoes the same fragmentation as manual labor: “mental labor is first separated from manual labor and, as we shall see, is then itself subdivided rigorously according to the same rule” (Braverman 1974, 114). This process of rationalization of all labor serves the purpose of stripping it from the workers' control, breaking it down into its component parts, distributing those parts either to the boss or augmenting or automating it with technology, and intensifying management control over the work. In the process, it deskills workers by transforming their labor into discrete interchangeable tasks and thereby transforming the division of labor.

The rationalization process continues taking place in higher education with the use of the LMS

and generative AI built into it as plug-ins. The very design of the LMS serves to both rationalize faculty academic labor while training the student to work without direct supervision. The virtual architecture of the LMS channels, controls, rationalizes, and breaks down academic labor into its component parts in the form of modules which are arranged in a fragmented sequence through which the student must now proceed as they engage in their unwaged schoolwork. Students move through each step in the LMS panoptic “learning machine” under ubiquitous surveillance—what Foucault termed “the eyes that must see without being seen” (Foucault 1995, 147, 171)—while the system collects extensive data about student activity, analyzes the productivity of their labor, and standardizes it for comparison to each other both in the same and all classes.

Students self-discipline themselves to proceed through the LMS by learning to labor, always knowing they are observed without ever experiencing it directly. The LMS becomes a tool for producing self-disciplined workers who will submit to the algorithmic management of the black box of the platform, gig app, or biophysical surveillance devices found in service and warehouse labor at Uber, Starbucks, and Amazon, to name only a few. By producing self-disciplined labor power, the LMS illustrates how the new technical composition of capital (the specific technologies and organizational forms capital employs) in higher education serves the emerging technical composition of capital in the rest of the economy (Ovetz 2020a).

Following the turbulent global wave of class struggle in the 1960s to 1970s, there was an imperative to restore control and reimpose work. The rationalization of academic labor has become a critical component of the strategy for producing self-disciplined labor power of university-educated workers. The LMS serves as a tool of the first principle of scientific management, of Taylor’s digital stopwatch. It does so by rationalizing the skills of teaching from the facilitation and guidance of learning into a series of discrete tasks sequenced as online assignments in the LMS through which students must move to complete the course and graduate. Faculty labor is rationalized, or, in the words of

edtech, “unbundled,” into course design, delivery, and assessment (McCowan 2017, 738). These are further fragmented and the pieces redistributed to non-faculty academic staff such as content experts, counselors, course designers, technical support, programmers, and outsourced to textbook and software companies. This fragmentation has spurred rapid growth in non-faculty distance education “instructional staff” to run the LMS and train faculty, but also the layer of administrators to oversee it while also opening a beachhead for edtech penetration into higher education.

The faculty worker becomes what Marx called the machine’s “appendage” (Marx 1867, 481–82), no longer facilitating learning but rather tending the system that assesses, classifies, disciplines, and monitors student labor. No longer is teaching about the facilitation and guidance of learning; rather, faculty are transformed into the machine’s appendage that guides students through the structured virtual architecture of the LMS to demonstrate “competency” to pass the class and graduate. The technical composition of industrial work, Marx explained, shows that “not only is the specialized work distributed among the different individuals, but the individual himself is divided up, and transformed into the automatic motor of a detail operation” thereby transforming the worker into an “appendage” of the machine and the factory (Marx 1867, 481–82). Each moment the student spends in the LMS is timed, analyzed, and assessed for the student as well as faculty so that the labor power of both become comparable, interchangeable, and standardized.

To borrow Mario Tronti’s term, this is the new “post-Fordist mass worker” that is self-disciplined as well as interchangeable. To see this requires, as Tronti urged us, that “we go from the struggle to the class: from the mass struggle to the massification of the class, but through the new reality, the new discovery, the new capitalist concept of collective contract” (Tronti 1971, 267–311). The rationalization of academic labor begins as a reaction to the organized disruptive power of academic workers. The objective of this rationalization is to restore control over that academic labor. Maintaining our disruptive power requires that we recognize the LMS as management’s

strategy to decompose the power of academic labor by fracturing control of the faculty over teaching and the assessment of learning.

“The separation of conception from execution,” as Braverman showed, takes place when “the first step breaks up only the process, while the second dismembers the worker as well” (Braverman 1974, 114). For Braverman, this “means nothing to the capitalist, and all the less since, in destroying the craft as a process under the control of the worker, he reconstitutes it as a process under his control” (Braverman 1974, 78). Faculty, departments, and programs no longer control the content or design of teaching as it is rationalized into standardized, interchangeable discrete tasks that can be delivered by non-faculty, administrators, “subject matter specialists” such as online technology staff or textbook companies providing canned course content, or even automated with generative AI.

The extreme end of this rationalization appears at Rio Salado College of the Maricopa Community Colleges, which offers staggered Canvas modules taught entirely by contingent faculty or “subject matter specialists” (Ovetz 2015b). Academic labor has become so fragmented and deskilled that the college class exists only as interchangeable modules deliverable by virtually anyone.

Capital Follows: Technology as a Weapon Against Academic Worker Revolt

While Braverman illuminates how technology rationalizes labor, his analysis has limitations. He can be faulted for overlooking why rationalization of labor is undertaken in response to disruptive class struggle. However, he provided us with a bright light to shine on how technology is introduced into the work process as a tactical weapon used against workers. As Marx put it, “machinery...is the most powerful weapon for suppressing strikes, those periodic revolts of the working class against the autocracy of capital... It would be possible to write a whole history of the inventions made since 1830 for the sole purpose of providing capital with weapons against working class revolt” (Marx 1867, 562–63).

While the history of class struggle is missing from Braverman, it’s up to those of us facing the introduction of new technologies into our work to

understand how and why it is intended to rationalize, break up, control, and further exploit our labor. To do that we can draw on class composition theory to carry out a workers’ inquiry to understand how these technologies are intended to decompose workers’ power, restore control, and impose a new composition of capital. The rest of this essay will explore how a workers’ inquiry can be used to examine the role of the LMS as a strategy for countering the power of academic workers. While a workers’ inquiry is specific to the organization of work of the workers that use it, this essay will identify why it can be invaluable in understanding how the technology is used to develop new tactics, strategies, and objectives.

A vivid illustration of the way in which the LMS has been used against organized faculty and student academic labor appears in the examples above at the UCs and Boston University. Online education was likely first used to break academic strikes in South Africa during the #FeesMustFall and #RhodesMustFall student strikes in that country in 2015–16 (Ivancheva et al. 2020). South Africa was thus a local trial run for the global shift from in-person teaching to online education that occurred during the COVID-19 pandemic, an innovation that is now becoming a tool to attack student and other academic worker struggles.

While online education is a new tactic of the academic boss, academic worker organizers ignore it at our own peril. When one of my unions, the California Faculty Association, carried out its first systemwide strike in decades in January 2024, there was no plan to disable the Canvas LMS to prevent online work during the planned five-day strike that was abruptly called off in less than twenty-four hours (Quinn 2024). It’s extremely unlikely that our strike shut down the system because many students kept working using the faculty labor previously entered the still-active Canvas LMS.

Any administrator can access the LMS of striking faculty and finish the course during a strike. During the five-month Graduate Employees’ Organization strike at the University of Michigan, administrators ordered faculty to enter missing grades from striking graduate student faculty, thereby forcing faculty to cross a virtual picket line (Anderson 2023). However,

when UC attempted to pressure lecturers in my other union (UC-AFT) to finish the grading of striking graduate students in 2022—which was outside our work requirements in the collective bargaining agreement—the union legally refused to do struck work (UC-AFT 2022). The failure to address the use of technology to rationalize academic labor will certainly result in increasing use of AI to scab on striking workers. Since assorted AI plug-ins are already built into many LMSs, administrators can simply turn them on to fully automate the LMS and break a strike.

An even bigger threat to the power of organized academic workers is our fragmentation into an extremely large number of unions on single and multiple campuses of the same system and state, creating almost insurmountable barriers to taking coordinated collective action. For example, there are five faculty unions and many other staff unions in the California community college system, one of the largest systems of higher education in the world with about 1.9 million students in 116 campuses organized into 73 districts. The extreme fragmentation is an impediment to coordinated collective action by academic workers.

The California State University system has eight different faculty, staff, graduate, and student unions, while the UC system has fifteen. That means when one set of workers strike, no-strike clauses and staggered contract expiration dates force all the other workers to scab. When UAW 2865, UAW 5810, and SRU-UAW struck the UCs in 2022, contingent lecturers and librarians of UC-AFT were forced to keep classes going even without graduate student readers and GSIs, although they could not be forced to do the struck work. To avoid having to literally cross a physical picket line, nearly all lecturers moved their classes online, thereby crossing the virtual picket line as virtual scabs.

Recomposing the Power of Academic Workers

Braverman's study of the use of technology to rationalize academic labor offers us some obvious and not-so-obvious tactics and strategies. First, we need to purge the ubiquitous no-strike clauses in our con-

tracts so that we can strike, both for ourselves and in solidarity with other workers, at any time even while still under contract. Second, we must align our contract end dates and ultimately merge our unions into wall-to-wall unions (unions encompassing all workers regardless of job classification) of all academic workers across campuses, systems, and even geographical boundaries such as states and provinces. The impact of doing so can be seen in the successful April 2023 Rutgers University strike of the full-time faculty, adjunct faculty, student employees, and graduate students of the American Association of University Professors (Pope 2024). Finally, we need to organize the growing army of online instructional staff and content specialists who are running the LMS, producing content, and training faculty. Having these and other skilled campus staff who keep the lights on in the same union is essential to keeping both physical and virtual classrooms empty and locked up tight during a strike.

To recompose our power, we need to return to Braverman's study of how capital introduces technology in response to our previous cycles of struggle to rationalize, break up, and strip us of what control we have over our work to restore control and reimpose work. This requires engaging in what Lorenza Monaco calls Tronti's "Copernican revolution," which repositions the working class as determining capitalist development's trajectory, with capital strategies emerging as mere "reactive formations" to labor struggles. For Monaco, "an irreconcilable dialectical conflict is triggered by the working class not simply in setting the development trajectory, but in posing a limit to capital. In his view, capital follows, to the extent that its moves are, in their essence, nothing but political attempts to control labour" (Monaco 2015, 244–45).

What Braverman has shown us is an ongoing dialectic between capital and workers. When we organize and fight, capital responds with new technology to erode our power, restore control over work, reimpose accumulation, and lessen its reliance on our labor. To escalate, academic workers can use a workers' inquiry to carefully study these new technologies and the changes to our work to identify new tactics, strategies, and objectives so that we can organize at

vulnerable choke points to disrupt academic capital. This dialectic will continue to spiral in increasing intensity of struggle as capital and workers exchange blows until at last we are so well organized and powerful that we can rupture this dialectic, as Harry Cleaver called it, and transcend capital's domination on all life (Cleaver 2017).

By understanding these technologies as weapons deployed against organized labor—as Braverman illuminated—academic workers can develop the tactics needed to recompose our power and reach the destination of genuine educational autonomy.

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