

# ***Surveillance, (dis)trust and teaching with plagiarism detection technology***

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## **Abstract**

Key dimensions of digital education practices are shaped by instrumental goals such as quality, efficiency and transparency. These goals are often addressed through high-level technology decisions which should be understood in terms of visibility and surveillance. Monitoring technology is deployed for multiple purposes in the contemporary university, in contexts from learning analytics to attendance tracking. This paper is a theoretical exploration of how the technologically-mediated practice of plagiarism detection, in the context of surveillance and distrust, might affect relationships amongst teachers, students and institutions. Drawing on Lyon's (2017) concept of 'surveillance culture', it examines the types of participation that are enacted in relation to managing student writing. It critiques the assumption that automated plagiarism detection is a neutral technology which can be used benevolently (guiding students gently towards 'good academic practice'). Instead, it suggests that this technology acts with and on already problematic conditions of digital visibility which are also seen in the wider digital culture beyond the university, and which require critical and thoughtful responses from within the academy. Logics of surveillance are strongly at work in practices which attempt to regulate student behaviour through the exposure of their writing to algorithmic scanning and monitoring. These logics frame students as in need of careful monitoring to ensure learning and teaching runs smoothly, and framing academic writing as a space of dishonesty which is both rampant and solvable through technology. Routines of plagiarism detection intervene negatively in one of the central facets of student-teacher relationships: the production and assessment of student work. Where these relationships become risk-averse and mutually suspicious, trust is blocked or lost and not easily regained. Effective strategies of resistance require finding ways to re-sensitise ourselves and our students to the values we want to prioritise in our classrooms, and offering means by which students can voice their responses to surveillance cultures in higher education; and addressing issues at strategic levels within our institutions and the sector more widely by developing robust mechanisms for engaging in critical debate, discussion about and review of technology platforms and practices.

## **Keywords**

Surveillance, trust, plagiarism detection, teaching with technology

## **Introduction**

Higher education, like other sectors, is in an intensely technologically mediated period, and most aspects of administration, research and teaching are suffused with digital processes aimed at managing growth and spending, competing in a global marketplace, and contributing to the knowledge economy (Lorenz, 2012). Goals of quality, efficiency and transparency lead to strategic and operational decisions about technology whose effects are to intensify the 'datafication' of academic productivity, engagement and outputs. Academic activity is increasingly subject to normative processes of algorithmic exposure and measurement, and academics entangled in what Lyon refers to as 'surveillance culture' (2017).

Defining what he suggests should be thought of as 'surveillance culture', Lyon (2017) describes "people actively participat[ing] in an attempt to regulate their own surveillance and the surveillance of others" (p.824). This participation need not be enthusiastic or strategic, but it indicates a different situation from the one Lyon and others previously described as "surveillance society":

Surveillance society is a concept originally used to indicate ways in which surveillance was spilling over the rims of its previous containers—government departments, policing agencies, workplaces—to affect many aspects of daily life. But the emphasis was still on how surveillance

was carried out by certain agencies in ways that increasingly touched the routines of social life—from outside, as it were. This concept was often used in ways that paid scant attention to citizens', consumers', travelers', or employees' experience of and engagement with surveillance. (p.826).

A surveillance society framing, then, is one where surveillance is, by and large, understood as being done to people by agencies. Surveillance culture, by contrast, is characterised by attention to “widespread compliance with surveillance” (p.828), and the way people “participate in, actively engage with, and initiate surveillance themselves” (p.829). It is closely linked to more benign concepts such as ‘sharing’, ‘safety’, and ‘transparency’. These concepts are far from neutral, however: ‘transparency’ for instance, as O’Neill (2002) puts it, “has marginalised the more basic and important obligation not to deceive”. Transparency seeks to formalise away the moral imperative not to deceive, seeking to remove the vulnerability that is the essential element of a trusting relationship, while still allowing things to be hidden in plain sight; retaining an intent to deceive. Furthermore, natural desires for connection and security, in a technological and market-driven context that makes possible and thrives on massive amounts of data, create practices which can be understood as ‘soft surveillance’ (Lyon 2017, p.833). A particularly important feature of surveillance in its cultural sense is that it need not be clandestine – it is better understood as a set of relations or a sensibility.

Much has been written about the negative effects of surveillance on academic freedom, and often this refers to knowledge production as carried out by academics (Lorenz, 2012). However, insights about how the surveillance of students affects the relationship between students and their teachers is equally important. This paper explores an example of this surveillance: the algorithmic management of student writing through plagiarism detection software.

Educational technologies, including plagiarism detection software, are not neutral tools deployed unproblematically for individuals’ or organisations’ instrumental purposes. They are actors in practices and processes, affecting and shaping education as they participate in it (Williamson, 2015), with some unanticipated effects. A recent example comes from a study of the introduction of lecture capture in a Canadian institution with a satellite campus, and the experiences of students and teachers that resulted from this (Tummons, Fournier, Kits, & MacLeod, 2016). It is important, therefore, to explore plagiarism detection processes not only in terms of how well they meet their stated aims (and there is some evidence that they do not do this particularly well – see for example Youmans, 2011), but in terms of their other effects (Zwagerman, 2008, p. 691). And, as Zwagerman puts it: “these tools are the inevitable end point of the integrity scare: an efficient, perhaps even foolproof, technology of surveillance” (p.691). What teachers intend, however benevolent their purposes in deploying plagiarism detection software, we will argue that their own practices, and indeed what it means to teach, is altered in the process, and not for the better.

Lyon (2017) argues that questions around visibility are ethical ones, and that “surveillance ought not merely to be of people (technologized risk; isolating privacy) so much as for people—and thus should be practiced carefully and held to account” (p.835). Here we wish to focus on the ethical dimensions of visibility and surveillance that can be thought of in relation to trust. It is increasingly being argued, for example in relation to the emergence of cryptocurrencies, that the direction of travel for a functioning society relies on ‘trustless’ systems – those which are risk free because they do not require human judgement or negotiation, instead relying on unbreakable, perfect recording and visibility of financial or other transactions (Schaub, Bazin, Hasan, & Brunie, 2016). The desirability of this is in sharp contrast with many decades of research into, for example, the place of collaboration and sociality in human society and evolutionary success (Wright, 2001).

In addition, as Zuboff (2015) argues, summarising Hannah Arendt’s work on the concept of the contract, “human fallibility in the execution of contracts is the price of freedom” (p.81). She critiques the claims that surveillance enables new contractual forms, instead describing it in terms of what she calls “Big Other”:

the sovereign power of a near future that annihilates the freedom achieved by the rule of law... habitats inside and outside the human body are saturated with data and produce radically distributed opportunities for observation, interpretation, communication, influence, prediction, and ultimately modification of the totality of action. Unlike the centralized power of mass society, there is no escape from Big Other. There is no place to be where the Other is not. (pp.81-2)

Those of us who work in networked learning contexts have long been aware that many, if not all, of the spaces in which we meet to engage in online education are subject to embedded practices of surveillance, analytics and data mining, either for educational or for commercial organisations. These issues are becoming more

pronounced as the consequences of digital data tracking and analysis become more significant (as technologies and processes grow in sophistication) and better-understood. Commodification is not the only risk here – teacher-student relationships are changed by cultures of surveillance in the university, and technology is implicated in these cultures. To the extent that the human-technology teaching assemblage is constituted in ways we might not want, we need to consider what we want to do, and what is possible, going forward.

## Trust, teaching and technology

There are many conceptualisations of trust, coming from literature in social psychology, sociology, philosophy, business and education, amongst other places. Philosopher Annette Baier (1986) defines interpersonal trust as “accepted vulnerability to another’s possible but not expected ill will (or lack of good will) toward one” (235). She explains that trust is necessary because “no one is able by herself to look after everything she wants to have looked after, nor even alone to look after her own “private” goods, such as health and bodily safety” (1986, 236). It is important to stress that trust exists *because* of risk and vulnerability – “where there is no vulnerability there is no need for trust” (Tschannen-Moran & Hoy, 1998, p. 337). As Baier (1986) puts it,

to understand the moral risks of trust, it is important to see the special sort of vulnerability it introduces. Yet the discretionary element which introduces this special danger is essential to that which trust at its best makes possible. To elaborate Hume: "Tis impossible to separate the chance of good from the risk of ill." (p.239)

This vulnerability can extend in both directions in, for example, a teacher/student relationship. Townley and Parsell (2004) characterise this as a situation where “students risk error, failure, humiliation, teachers risk disappointment, deception, and indifference” (p.275). Power imbalances make trusting relationships more (and more complicated) than a simple contract between consenting people. The notion of ‘blind trust’ is therefore not a particularly useful one, as it does not distinguish between trust which is deserved and that which is given through ignorance, and in any case is usually not how trust operates:

"Trust me!" is for most of us an invitation which we cannot accept at will - either we do already trust the one who says it, in which case it serves at best as reassurance, or it is properly responded to with, "Why should and how can I, until I have cause to?" (Baier, 1986, p. 244)

At an organisational level, trust makes possible the smooth operation of day-to-day business, minimising costly and time-consuming practices of control, such as monitoring and safeguarding (McEvily, Perrone, & Zaheer, 2003, p. 98), and maintaining social relationships, which are threatened by mistrust: “unwillingness to take any degree of risk makes [a] relationship less, not more secure. (Townley & Parsell, 2004, p. 275). This undermines the possibility of professional autonomy and agency. Where there is manifest ‘checking up’, that may invite pushback and alienation, and it is perhaps this erosion of academic freedom and discretion that Lorenz (2012) and others are seeking to highlight.

Cook-Sather (2002) argues that the climate in many if not most school education settings is resolutely mistrustful of children’s capacity to be good and responsible, and to use relevant knowledge (p.4):

The educational institutions and practices that have prevailed ...reflect a basic lack of trust in students and have evolved to keep students under control and in their place as the largely passive recipients of what others determine is education. (p. 4)

In higher education settings, academics are monitored extensively, and a culture of surveillance, facilitated and changed by use of technology in many aspects of teaching, research and administration, creates conditions which are highly risk averse (Tschannen-Moran & Hoy, 1998, p. 334) and where “formal controls instituted to enhance trust by increasing performance reliability can undermine trust and interfere with the achievement of the very goals they were put in place to serve” (p.340). As Hope (2008) points out, “climates of unease, like *disease*, tend to provoke over-reactions” (p. 111).

In his discussion of trust in higher education assessment, Carless (2009) frames the question as follows:

to what extent is trust exhibited between lecturers and students; lecturers and their colleagues; students and their classmates; or management and teaching staff? (p.81)

He concludes that mistrust in each of these areas has significantly constrained the possibilities of what he calls 'learning-oriented assessment', and helps to explain a continued reliance on and preference for examinations and individual work, for example. He suggests that solutions can be found in developing leadership and increasing transparency around assessment (pp.85-6). However, modes of leadership in higher education are shifting, too, towards regulation and away from trust:

Under *liberal governmentality*, the 'professions' constituted a mode of institutional organization characterized by a principle of *autonomy* which characterized a form of power based on 'delegation' (i.e., delegated authority) and underpinned by relations of trust. Under *neoliberal governmentality*, principal-agent line management chains replace delegated power with hierarchical forms of authoritatively structured relation, which erode, and seek to prohibit, an autonomous space from emerging. (Olssen & Peters, 2005, p. 324)

This is a dimension of managerialism – the idea that education activity is analogous to industrial production, and should be understood through concepts of regulation, efficiency and economy (Hall, 2016; Lynch, 2006). As we will see, this is precisely the mechanism at work in the construction of student writing through the lens of plagiarism.

## Plagiarism detection and surveillance culture

plagiarism detection treats writing as a product, grounds the student-teacher relationship in mistrust, and requires students to actively comply with a system that marks them as untrustworthy. (Zwagerman, 2008, p. 692)

Logics of surveillance culture are strongly at work in the practices of plagiarism detection, which attempt to regulate student behaviour through the exposure of their writing to algorithmic scanning and monitoring. These practices are entirely compatible with the understanding of surveillance culture as a space of participation in the surveillance of self and others. These logics are ones in which:

- students, for their own good and for the smooth functioning of the learning and teaching process, must be carefully monitored;
- opportunities for dishonesty can and should be designed out through the use of technology.

We can see monitoring technology being deployed for multiple purposes in the contemporary university, in contexts from learning analytics to attendance monitoring. Plagiarism detection software is just one example of the surveillance culture in which higher education now operates. It is a particularly striking example because of how explicitly it intervenes in one of the central facets of student-teacher relationships: the production and assessment of student work.

Plagiarism detection software generally works as an intermediary 'layer' between the student, who submits writing online either directly via the service or through a virtual learning environment which connects to the service via plugins or other software links; and the teacher, who retrieves the writing and provides feedback and a mark, often within the same online system. The plagiarism detection software applies matching algorithms to the submitted work, comparing it to the many hundreds of thousands of texts contained in its databases. The higher the match, the higher the 'similarity score'<sup>1</sup> the work will receive. Teachers receive this score, along with colour coded views of the student's text, when they retrieve the work from the system.

This process is meant to act as both a deterrent and a method of identification of work which may be plagiarised (plagiarism detection companies are always careful to stress that the decision about what constitutes plagiarism is always one for the human teacher to make). Many claims are made about the effectiveness of these systems in helping students learn about good academic practice, particularly where students are allowed to run their work through the system before formally submitting assignments. They are also claimed to save time for teachers, and

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<sup>1</sup> Much of the critical literature around plagiarism detection practices explores, in one form or another, the shifting, historically specific, and thorny terrain of authorship (Blair, 2011; Marsh, 2004; Vie, 2013), an issue which has been further highlighted by networked writing practices including collaboration and remix. Plagiarism detection processes oversimplify this complex set of issues, implying a clear-cut answer to conceptually very difficult questions around what is meant by originality.

to be more effective in identifying plagiarism than the teacher alone can be. They offer to make visible what might otherwise be hidden or missed. This visibility is at the heart of the surveillance culture operating in universities, and it is changing relationships between students and teachers, and the understanding of what higher education is for.

Fundamentally, being monitored cannot be perceived as a neutral act, and the implication that ‘good behaviour’ is not anticipated signals that the one doing the checking assumes a relationship of distrust, which in turn breeds more distrust. Indeed, and ironically, the surveillance practices instantiated in plagiarism detection may encourage the subversiveness and disobedience they seek to eradicate, by fostering “attitudes of ill-will, skepticism, and distrust by signaling suspicion” (McEvily et al., 2003, p. 99). ‘Excessively restrictive role constraints’ (ibid) make it impossible to tell whether behaviours are simply a result of those constraints – further eroding trust.

Zwagerman (2008) describes plagiarism detection as “crusade against academic dishonesty” which is more damaging to the ideals of academia than cheating (p.677), and which “diverts us from developing a pedagogy that encourages students’ authentic engagement with words and ideas” (p.682). This aligns with the argument that educators should attempt to “design out” plagiarism rather than “catch” it (Carroll, 2002; Macdonald & Carroll, 2006), but Zwagerman goes further, arguing that a routine of plagiarism detection “reinforces rather than interrogates social roles and power differentials [and is] hostile toward-critical thinking” (p.693).

Zwagerman argues, persuasively, that the use of plagiarism detection software sends entirely unhelpful messages about student work: “requiring students to submit their writing to an outside vendor for analysis, before teachers even see it, tells students that the first thing we look for in their work is evidence of cheating” (p. 694). Introna (2016), in his work on algorithmic surveillance, judges this to be part of a commodification of academic writing:

the academic essay (with its associated credits) is enacted as the site of economic exchange—academic writing for credit, credit for degree, degree for employment, and so forth. Within such a rationality, academic writing is an important commodity whose originality (or ownership) needs to be ensured—that is, against the unoriginal copy, presented fraudulently. (p.33)

As Gneezy and Rustichini (2000) found in their work on social and economic contracts, goodwill lost by making what was a relationship of trust into an economic contract cannot be regained. Institutions engaging in the commodification of student work through processes of plagiarism detection put teacher-student relationships of trust at great risk. Commodification also impacts on students’ ability to be and be seen as “brave writers and thinkers who can engage in discourses in their discipline” (Penketh & Beaumont, 2014, p. 103):

When the tutor engages with the originality report, it recontextualizes the student’s text—as dissected and codified according to color categories and links—as a text constituted through a variety of potentially illegitimate writing practices in need of remediation. (Introna, 2016, p. 35)

Returning to Baier’s definition of trust as necessary because ‘no one is able by herself to look after everything’, we might reflect on the nature of the teaching assemblage created by the algorithm and the human together. Outsourcing some of one’s cognitive functions to a person or a technology requires some fundamental investment of trust in that person or technology. Should teachers trust plagiarism detection software to be a partner with them in shaping students’ relationship to higher education, and to their own writing? Is the understanding of teaching that it helps to manifest for both teachers and students one that teachers should be comfortable with? We have concluded that it is not – we believe that plagiarism detection brings the algorithm and the human together in a teaching assemblage that is aligned with ethically unsound surveillance cultures in the university. This teaching assemblage cannot easily free itself from foundations of distrust and commodification embodied in the practice. We need, instead, to develop strategies of resistance and change, and we now move on to propose some possibilities that networked teachers and students may wish to explore.

## Strategies of resistance for networked learning

The concept of a safe online space or a digital sanctuary is attracting increasing attention (Collier, 2017), but solutions are still emergent, and calls for more digital literacy, or better legal protection for personal data, do relatively little to address the ethics of trust that are so urgently in need of attention. And, whatever safe spaces

might have existed in campus-based environments are being eroded with the introduction of the intelligent campus (JISC, 2017) and other initiatives that seek to make the concept of ‘off the record’ defunct. At the same time, individual acts of subversion, and the exploitation of loopholes, seem to be becoming less possible within the academy, as loopholes are cast as ‘lack of transparency’ and closed; and academics discover that they, as well as their students, are seen as a problem in need of technological solutions. This is not just a problem for digital educators, and the higher education community as a whole ignores it at our peril.

In our own teaching, we have discovered that students respond very strongly, and often negatively, when digital data practices that may be taken for granted are brought into focus. Our work with students on the MSc in Digital Education to explore the potential impacts of learning analytics has brought this to the fore, with students expressing anxiety, fear of judgement, and resistance to what they see as inaccurate reflections of their engagement. Research into student responses to plagiarism detection software has shown that students understand its required use to be equivalent to an accusation of cheating or dishonesty (Penketh & Beaumont, 2014, p. 100). When students comply with these practices or sign off on their use through accepting terms and conditions, that should not be taken as active, informed consent. As Lyon (2017) points out, normalisation of surveillance, and the erosion of expectations of privacy, is a central component of compliance with such practices (p.829). So, an effective strategy of resistance will include finding ways to re-sensitise ourselves and our students to the values we want to prioritise in our classrooms, and offering means by which students can voice their responses to surveillance cultures in higher education.

A second important dimension of resistance is how we address these issues at strategic levels within our institutions and the sector more widely. There is a problem of leadership in digital education when significant decisions about technology practices are made on the basis that they are technical rather than pedagogical or ethical. For this reason, important critical discussions may not take place before major initiatives are launched. There are moves towards redressing this – for example, the [institution name removed] learning analytics governance group has a remit to pay careful attention to “the ethical use of data and practices that are respectful of user privacy”<sup>2</sup>. More of these kinds of remits should be integrated into technology procurement and technology-enhanced learning processes, including ones that address plagiarism detection.

Townley and Parsell (2004) critique the assumption that plagiarism is a problem of technology, and therefore requires a technical solution. Instead, they argue that plagiarism arises because of a ‘failure of community’, where academic values and attitudes are not being transferred from teachers to students (p.276). The reinvigoration of concepts of trust – and the importance of distinguishing them from untrusting practices of transparency and surveillance – will require both discussion and action on the part of digital educators. There is a considerable amount at stake for those of us who value networked learning spaces for the engagement, exploration and communicative potential they hold.

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<sup>2</sup> Reference removed to preserve author anonymity

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