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To cite this article: Jamie Manolev, Anna Sullivan & Roger Slee (2018): The datafication of discipline: ClassDojo, surveillance and a performative classroom culture, Learning, Media and Technology, DOI: [10.1080/17439884.2018.1558237](https://doi.org/10.1080/17439884.2018.1558237)

To link to this article: <https://doi.org/10.1080/17439884.2018.1558237>



Published online: 14 Dec 2018.



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The datafication of discipline: ClassDojo, surveillance and a performative classroom culture

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ABSTRACT

This paper critically examines the ways in which ClassDojo is altering the disciplinary landscape in schools through the datafication of discipline and student behaviour. ClassDojo is one of the most popular and successful educational technologies and is used internationally. It is a school-based social media platform that incorporates a gamified behaviour-shaping function, providing school communities with a centralised digital network in which to interact. We argue that ClassDojo's datafying system of school discipline intensifies and normalises the surveillance of students. Furthermore, it creates a culture of performativity and serves as a mechanism for behaviour control.

ARTICLE HISTORY

Received 14 April 2018
Accepted 7 December 2018

KEYWORDS

Datafication; surveillance; performativity; classroom management; student behaviour

Introduction

Education is increasingly shaped by digital technologies (Selwyn 2017), providing schools and educators with opportunities to understand and approach educational issues in new ways. The current techno-friendly obsession within education encourages the prolific spread of such education technologies, resulting in their infiltration into people's everyday lives (Boninger and Molnar 2016). In recent decades, this pervasive infiltration of education technology has intensified the datafication of education, producing a vast assortment of data forms to interpret and understand (Cukier and Mayer-Schoenberger 2013; Selwyn 2015) including data associated with classroom management and student discipline. Datafication is a complex process one in which the significance of data is raised in such a way as to influence the practices, values and subjectivities in a setting (Bradbury 2018). Understanding what is meant by the term datafication is critical to the position of this paper; therefore, drawing on Mayer-Schönberger and Cukier (2013) we define datafication as the conversion of social action into quantifiable data in a manner that enables the tracking of people in real-time. However, this definition does not recognise the role of power within the datafication process. Therefore, we argue that datafication should also be understood through a lens of power, making visible the ways in which power is implicated in decisions such as what constitutes and is selected as data, who controls it, who can alter it, how it is interpreted, and what purpose it will serve (Bradbury and Roberts-Holmes 2017).

ClassDojo is one of the most prominent technological tools supporting schools to manage classrooms and student behaviour. 'Happier Classrooms, the simple way to build an amazing classroom community' is the cornerstone message greeting visitors to ClassDojo's immensely popular ed-tech (education-technology) website. ClassDojo is a classroom management and communication platform designed for use in schools and classrooms by teachers, school administrators, students and parents. It was first launched as a behaviour tracking and feedback tool; however, it quickly evolved

to function with a much broader purpose and scope. In its current form it resembles a school-based social media platform (Williamson 2017b) that incorporates a prominent gamified behaviour-shaping function, providing school communities with a centralised digital network in which access to, and interaction between members of the school community takes place. ClassDojo is continually expanding its features.

Research on ClassDojo is scant. However, arguably, of the existing literature, Williamson's critical investigations provide the most in-depth analysis. His research on ClassDojo unravels the active and influential subterranean network of actors and power relations that materialise in the processes and functions of the ClassDojo app (Williamson 2017a, 2017b). According to Williamson, ClassDojo's capacity to function as a technology of control is evident. He argues that ClassDojo acts as a key technology of government, enacting governmental policy agendas aimed at changing the behaviour of students, and that ClassDojo's focus on the psychology of students aligns neatly with existing dominant psychological approaches to school discipline. This psychologisation of students situates responsibility for behaviour entirely with the student, ignoring the broader structural and contextual factors of schooling that influence the ways in which students behave (Slee 1995; Sullivan et al. 2014a). Of the remaining literature, only one other peer-reviewed analysis of ClassDojo could be located. A comparative psychology study by Krach, McCreery and Rimel (2017), it compared the quantity and reliability of behaviour management chart data gathered, between ClassDojo and paper pencil methods. Findings indicated that ClassDojo produced more data, and more reliability than paper pencil methods, however, the authors did not endorse the use of ClassDojo due to concerns associated with student shaming, data privacy and family access equity. Despite these concerns, ClassDojo continues to increase its presence within education.

In this paper, we critically examine ClassDojo as a classroom management and communication platform. Despite ClassDojo's popularity, a scarcity of research has investigated the ways in which it is used and how it is influencing education, particularly at the level of the school and classroom. We draw on publicly available online material as a data source for this study. First, we undertake a brief theoretical exploration of the ideas we use to understand ClassDojo, and identify that schools are increasingly using data and surveillance to track and monitor students. Then we describe the speed and volume of ClassDojo's uptake, and explain why it is so appealing to educators as a rationale for its uncritical adoption, and how it works. We then shift the focus to problematise the uncritical uptake of ClassDojo as a school discipline tool. Examining ClassDojo using the concepts of surveillance and performativity we identify how the datafication of school discipline and student behaviour is implicated in both. Within this analysis, we describe how ClassDojo is influencing educational processes related to the discipline, management and measurement of students, the way in which teachers understand students and the way in which students understand themselves.

We argue that ClassDojo is a school-based technology of surveillance encouraging teachers to enact disciplinary practices underpinned by behaviourist principles that require intensified monitoring of students (Watters 2017a; Williamson 2017a). Moreover, we contend that ClassDojo's application in schools is part of, and contributing to, the expansion of established surveillance trajectories within contemporary education (Taylor and Kearney 2018). Behaviourism, in simple terms, is a behavioural learning theory that promotes the use of rewards and punishments to modify behaviour (McEwan, Gathercoal, and Nimmo 1999). This new data-based variation on behaviourism relies heavily on compliance techniques, while creating a performative classroom culture in which students are reconstructed as statistical data representations of normalised culturally produced behaviours. This reduction of students to data points based on the performance of behaviour facilitates data-driven techniques of governance that function through the classification, ranking and comparison of students. Furthermore, this process encourages a view of behaviour that is decontextualised and situated entirely within the student, possibly producing flawed behavioural data. Lastly, we argue that the construction of student identities is influenced by the creation of a performative classroom culture in which behaviour quality is framed against numerical parameters of behavioural success (Nairn and Higgins 2007; Keddie 2016).

The growing use of data and surveillance in schools

To understand surveillance in schools it is useful to refer to Foucault's (1979) ideas related to disciplinary power, in particular its relationship with the process of datafication, and how technological advancement has impacted educational practices in these areas. Foucault's ideas have been largely neglected in educational technology scholarship, therefore, they offer an atypical approach to critically engaging with the introduction of data and surveillance oriented educational technologies in schools (Hope 2014). To briefly step away from the individualised and granular focus of disciplinary power, we first situate schools and the disciplinary mechanisms they deploy within Foucault's concept of governmentality. According to Foucault, governmentality is the 'ensemble formed by institutions, procedures, analysis and reflections, calculations, and tactics that allow the exercise of a specific and complex power that has the population as its target' and functions through technical instruments he refers to as apparatuses of security (Foucault et al. 2009, 108). As apparatuses of security, schools are instrumental to governing the population. To this end, schools function as mechanisms of social control, using techniques of normalisation that serve the broader political strategy (Foucault et al. 2009) of securing the productive capacity of the future citizenry. Importantly, the surveillance, categorisations and data-based calculations that serve disciplinary power's purpose of producing specific individuals, may be simultaneously acquired in support of this broader objective (Ball 2013).

From its inception the 'school' has been a data-rich site of surveillance, architecturally designed to reflect the panopticon, in which hierarchised surveillance practices are deployed as a disciplinary mechanism (Foucault 1979) of control. Hierarchised surveillance in this context can be thought of as a system of observation featuring a ranked ordering of watchers and watched. Power is exercised through this ranked observational process, establishing an efficient system of surveillance that produces a totalising method of supervision. Foucault describes hierarchised surveillance as an instrument responsible for the success of disciplinary power. It is: 'An apparatus in which the techniques that make it possible to see induce effects of power, and in which, conversely, the means of coercion make those on whom they are applied clearly visible' (1979, 170–171).

Hierarchised surveillance enacts the school's disciplinary purpose, entrenching distinctly unequal distributions of power and rendering students visible through a range of coercive methods. Data occupies a central role within these techniques. The techniques are embedded throughout the system, existing in a multitude of forms including student testing and classification, and involve data recording, storing and analysing processes. Historically, early technology development introduced new efficiencies but still often required manual, time-consuming processes. Yet, over time steady technological advancement and a growing valorisation of data in education has seen the production of new technologies designed to increase the effectiveness, efficiency and productivity of surveillance and data-related capabilities in schools. This intensification is exemplified by the infiltration into schools of CCTV networks (Hope 2009); adaptive learning technologies that record students' keystrokes, answers and response times (Boninger and Molnar 2016); student drug testing systems (Taylor 2018); biometric tracking (Nemorin 2017); data-driven decision-making tools for teachers (Jarke and Breiter 2015); national and international school performance assessments (Hardy and Lewis 2018); emergent screen capture technology (Pinkerton 2017); and behaviour tracking and management technologies like ClassDojo. This list barely scratches the surface of surveillance and datafying practices used within education; however, it is illustrative of the extent to which practices are used within contemporary education to track and monitor students.

The rise of ClassDojo as an ed-tech success

The company behind ClassDojo is a model of entrepreneurial success, winning awards and recognition from the US business sector for being a leading technological innovator. Software developer Class Twist, which operates under the name ClassDojo, is its creator. Located in California's high-

tech Silicon Valley, ClassDojo has emerged from the highly competitive \$8.38 billion ed-tech industry (Richards and Stebbins 2014) to produce one of the most globally successful education technologies (Williamson 2017a).

A milestone timeline on the company's website reveals the extent of its remarkable growth and expansion from its earliest manifestation in 2011, primarily as a behaviour management tool. Starting with 80 users in its first week, by week ten the number of teachers signed up had increased to 35,000. Late 2012 and early 2013 witnessed the launch of ClassDojo on Apple iOS and Android respectively, opening up the prospective user base significantly. Considerable funding investments, as listed on the Crunchbase website, of \$8.5 million in 2013, and \$21 million in 2016 provided financial support for the company to continue product development and growth. These significant funding investments are a critical aspect of ClassDojo's continued operations and growth, as at the time of writing they are its sole revenue source due to the company's commitment to remain a free technology for teachers' to download and use. In 2015, ClassDojo launched 'Translate', a new feature enabling the translation of messages into more than 35 different languages, likely a response to the transnational appeal and adoption of the software, and a strategic move to embrace a globally expanding user base. According to ClassDojo co-founder and CEO Sam Chaudhary, adoption of the technology in Vietnam and Turkey has been impressive, and its spread into China and India indicates potential future market success in Asia (Hess 2015). The company promotes its product and engages with users in part through social media platforms like Facebook, with national-based ClassDojo community group pages set up to support and connect users across the globe, some of which hosting more than a thousand members. By 2016, ClassDojo had developed a partnership with Stanford University's Project for Education Research that Scales, delivering educational content focused on the concept of 'growth mindset' to students. In the same year the company claimed two thirds of US schools were actively using ClassDojo in classrooms, its reach extended into 180 countries worldwide, and more than three million teachers and 35 million children had signed up and were using the platform (Williamson 2017b). ClassDojo is targeted toward, and according to its website, predominantly active in K-8 schools. It is difficult to determine if ClassDojo's claims regarding user statistics are accurate due to a reliance on self-generated data (Watters 2017a), however independent data associated with app downloads provides at minimum an indication of how widespread ClassDojo's reach may be. According to leading mobile app analytics company App Annie (Clancy 2015), as of November 2018 ClassDojo is ranked within the top ten downloaded education apps on iPhones in the US (App 2018). Furthermore, according to metrics provided by Crunchbase in November 2018, ClassDojo's apps (ClassDojo, ClassDojo Messenger, and ClassDojo for Students) had been downloaded 969,409 times in the previous month (Crunchbase 2018). Therefore, despite ClassDojo's uncertain self-reported statistics the company has clearly expanded its reach over time, and is clearly a popular technological tool within education. The proliferation of ClassDojo into classrooms around the world has occurred within a six-year timeframe, suggesting its spread is unconfined by geographical borders and impervious to the typical bureaucratic gatekeeping processes of national education systems.

How does ClassDojo work?

At its inception, ClassDojo was a tool that digitised and datafied student behaviour and the process by which teachers sought to condition that behaviour. Its primary function was to provide teachers with a way in which to track student behaviours and provide immediate feedback to students about behaviour. Its functionalities introduced new data-driven possibilities for teachers, equipping them with a tool that automatically generates individual student and whole-class behavioural data records, and an ability to respond in real time, on the move and from any location to student behaviour. Theoretically, ClassDojo draws on a logic of behaviourism to influence student behaviour. Students are reinforced with positive, negative and neutral 'Dojo points' as a means to encourage and discourage particular behaviours (Goldstein 2013).

ClassDojo is free to download and its user-friendly interface makes it simple to operate. The software is compatible with most mobile devices and personal computers with online connectivity, ensuring that almost all teachers, administrators and parents are able to use the application. Moreover, for teachers, ClassDojo is a convenient and immediate administrative, behavioural and communicative support tool that allows teachers to use the programme from anywhere and at any time. Initially, teachers must create a class list in which each student is represented by a customisable ClassDojo monster avatar. Teachers then choose the behaviours and/or skills they wish to target and develop in students. Teachers can select from a range of default options, or they can customise their own. Once this is complete, teachers can begin implementing ClassDojo at its most rudimentary level.

However, ClassDojo has rapidly moved beyond functioning exclusively as a behaviour support application for teachers, and evolved into a social media platform for schools (Williamson 2017b), targeting not only teachers, but also students, parents and school leaders/administrators. In basic terms, a platform in this context is an online digital infrastructure facilitating the interaction of different user groups (Davies 2017). ClassDojo in this sense acts as an intermediary bringing together its targeted user groups, including teachers, students, parents and schools. This is a key feature for the success of online platforms. Users participate in what is referred to as a value exchange process, in which the facilitation of user interactions and the management of user relationships is highly prioritised (Van Alstyne and Parker 2017). A suite of additional features facilitates this value exchange process in ClassDojo, each one designed for one particular user group while providing value for other user groups. ClassDojo, therefore, by design promotes a participatory culture. Users' participation then leads to the production and consumption of data, so that users become data subjects, data generators and data consumers (Langley and Leyshon 2016).

The behaviour component of ClassDojo operates by way of teachers issuing feedback to individual students, groups of students or the entire class for particular behaviours or skills performed. The behaviours and skills to be targeted are customisable, with default options such as working hard, on task, displaying grit, off task and unprepared. The datafication of this feedback is integral to ClassDojo's discipline approach. Two feedback categories are available: 'positive' and 'needs work'. Despite the obvious intention to apply a positive vocabulary, the visual and auditory cues accompanying each category expose a more traditional separation between 'positive' and 'negative' feedback. 'Positive' feedback is coloured green and arrives with a pleasant ding sounding auditory cue, while 'needs work' feedback is coloured red and arrives with an auditory cue to match, a harsh buzz sound. Furthermore, affixed to all feedback is a numerical value that transforms feedback to students from a qualitative form into feedback that is both qualitative and quantitative. This quantified aspect of feedback produces statistical data representations of behaviour, better known as 'Dojo points'. Dojo points accumulate and appear as an aggregated score above student avatars until they are reset by the teacher. The default value setting for 'positive' feedback is one positive point, and for 'needs work' feedback is one negative point. Teachers can alter the numerical values attached to behaviours and skills, including a value of zero. This function of situating feedback along a numerical scale allows teachers to datafy behaviours according to a hierarchy of importance.

ClassDojo automatically tracks and stores every piece of student feedback data, creating interpretations of individual student and whole-class behaviours that are constructed as objective representations of truth through the production of a report. Reports include data on each behaviour or skill awarded, the time and date at which it was awarded, the number of accumulated 'positive' points, the number of accumulated 'needs work' points, and a green and red donut chart representing all feedback received that includes the percentage of positive points awarded. The timeframe from which data is represented within student reports is adjustable, including options to display data accumulated over a day, week, month, year, all time, or over a customised date range. Teachers can print reports for students to take home, or share with registered parents and students over the platform. Furthermore, registered parents receive automatic weekly email notifications reminding them to check their child's latest report.

An uncritical uptake of ClassDojo

On the surface, it is not too difficult to recognise why ClassDojo appeals to many teachers as a convenient technological tool supporting their management of student behaviour and the classroom more generally. Managing student behaviour is an aspect of teaching in which many teachers encounter persistent challenging professional dilemmas (Evertson and Weinstein 2006a). Schools and teachers are subject to consistent pressures to ‘control’ student behaviour in order to maintain ‘good order’ (Johnson and Sullivan 2016). In fact, this incessant, often politicised issue has led to ‘an uncritical acceptance of discipline as a synonym, and ultimately a verb, for control’, rather than viewing school discipline as an educational endeavour (Slee 1995, 7). This contextual backdrop creates an environment in which teachers frequently adopt discipline approaches designed to control the conduct of students (Armstrong 2018), despite research associating this approach with student alienation (Hoy 1972). ClassDojo provides teachers with a disciplinary model based on the control-oriented paradigm of behaviourism (Slee 1995). Relying heavily on external positive reinforcement, or rewards, ClassDojo ultimately controls through seduction (Deci and Ryan 1985). This type of disciplinary approach provides teachers with the allure of a behavioural quick fix while appealing to a broadly accepted, uncritical, common-sense logic that rewards are an effective and efficient means to get children to do what they are told (Kohn 1993). This is despite a strong body of research demonstrating that rewards undermine intrinsic motivation and the development of self-regulation (Deci, Koestner, and Ryan 1999), questioning their use as a strategy to achieve long-lasting behaviour change. Such behaviour control strategies offer teachers practical means to produce obedient students, but ignore the lessons of educational research on effective approaches to discipline (Slee 2014).

Teachers continually report that managing student behaviour is difficult, that persistent minor behaviour problems are very prevalent and they are aware that they often do not use effective discipline strategies (Johnson, Oswald, and Adey 1993; Sullivan et al. 2014a). Contributing to this problematisation of school discipline is a preoccupation with student behaviour within the education, political and public spheres of life, often playing out in the media. Reports of ‘bad student behaviour’ stoke societal fears of chaos, crime and disorder, leading to unsubstantiated moral panics. The response to such pressures is enacted through school discipline approaches, the technology through which the institution of education imposes and maintains its view of order (Ball, Maguire, and Braun 2012) and the process by which relations of power are deployed (Slee 1995). This is evident when analysing school discipline strategies, many of which involve ‘controlling’ students to ensure their compliance (Slee 1995). In particular, schools often use behaviourist approaches to discipline that involve issuing rewards to promote compliant behaviour and sanctions to deter undesirable behaviour (Slee 1995; Kohn 2006; Maguire, Ball, and Braun 2010). ClassDojo’s variation on behaviourism integrates the datafication of behaviour into its approach, enhancing its disciplinary and organisational capabilities. Teachers have an increased capacity to organise, analyse and compile student behavioural information, invoking a pedagogical shift in discipline practice, and students can be subject to an increasing array of evaluations and representations directly related to their behaviour. Therefore, ClassDojo provides teachers with an attractive data-driven technology of control, constructing an image of itself as a convenient way in which to gain student compliance and maintain classroom order.

In contemporary educational discourse, technology is framed as a positive transformational agent (Watters 2017b) and data revered as the key to effective schooling (Pasi and Hasak 2017). These ideas do not confine themselves to the realm of policy makers or the ed-tech sector; rather they are pervasive, traversing through education systems all the way into schools, materialising as visions of progressive education and innovative teaching. In a sense, these ideas have emerged as modern values of education. The consequence of this, at the school and classroom levels, is that resistance by educators to the adoption of modern technology, particularly that which incorporates data-related processes, risks being perceived as an obstacle to beneficial change (Watters 2017b). Therefore, through this dominant tech- and data-positive narrative, schools and educators are encouraged to consider

how to incorporate technology and data processes into practices to improve performance. ClassDojo's self-representation and industry recognition as a novel education technology innovator position it as an attractive educational product within this context.

In the broader context of education, ClassDojo situates itself firmly within the current technological and data-inspired education transformation as a free high-tech datacentric tool. Its packaging and functionality embed it deep within an educational environment on the precipice of a technological and data-based transformation (Digital Education Advisory Group 2013; US Department of Education 2017; Spires 2017; European Commission 2018). Driven, in large part, by hegemonic techno-solution (Maturio 2014) policy and rhetoric, technology and data are often viewed uncritically as solutions to complex educational issues, including persistent concerns about student behaviour and classroom management (Evertson and Weinstein 2006b; Sullivan et al. 2014b). Subsequently, within the public conscious data has gained an axiomatic quality, a taken-for-granted acceptance as a representation of the truth (Lyotard 1984). ClassDojo capitalises on this nexus of contextual elements, emerging from the ed-tech sector as an attractive proposition for teachers and schools in search of an innovative technological datafication tool to support teaching practice and student learning (Barseghian 2011).

Not only does ClassDojo represent itself as a useful technological tool to support pedagogy and data-related practices, but it also transforms school discipline and classroom management into a game that is strategically targeted to engage students. The diffusion of games and game-like elements throughout the digital world is prolific. Digital video games are extremely popular, particularly with youth, and they have become a dominant cultural feature in society (Lee and Hammer 2011; Devers and Gurung 2015; Nacke and Deterding 2017). Over recent years this cultural immersion and popularity has led educators to explore how gaming may be utilised within educational contexts to support student learning and engagement (Devers and Gurung 2015). This application of game design elements in non-game contexts is known as gamification (Deterding et al. 2011). Media reports (Henebery 2015; Pinkerton 2017) and teacher testimonials (Haiken 2017) suggest that gamification is influencing the pedagogical decisions of educators and the way students are engaging with particular learning approaches. Gamification techniques abound within ClassDojo's design, most notably through its behaviour component features. These game elements include a points system, leader board, badges, personalisation and customisation, avatars and goal setting, many of which require the production, storage and analysis of data. Through these techniques, ClassDojo transforms school discipline into a game in which the datafication of student behaviour is a critical aspect. This occurs through the application of playful frames in what is traditionally a serious educational space, while simultaneously leveraging surveillance to evoke behaviour change in students (Whitson 2013). Prominent Silicon Valley edu-business leaders such as the CEO of the Silicon Valley Education Foundation have publicly credited ClassDojo's popularity to gamification, stating: 'gaming techniques succeeded in turning ClassDojo into the most widely used and respected behavioural-management app out there' (Chaykowski 2017). Additionally, reports of 250,000 students sending ClassDojo drawings of its monster mascots and students describing ClassDojo as fun (iCan Ipad in Third Grade blog 2015) suggest ClassDojo's playful gamified elements appeal to its student users. These factors also make ClassDojo appealing to teachers, particularly those who view it as an engaging approach to classroom discipline.

Classdojo as a disciplinary system

ClassDojo's popular appeal has materialised in a rapid and widespread uncritical uptake of the technology by primary school teachers across the globe (Rodriguez 2016). We shift our discussion now to problematise this uncritical uptake, arguing that the implementation of ClassDojo as a disciplinary system may have profound implications for the educational trajectories of students. Working with conceptions of surveillance and performativity, we analyse ClassDojo from a critical standpoint, examining how it conceptualises and enacts discipline. We argue that ClassDojo operates as a

technology of power through which students are controlled via an intensification of surveillance, and that it functions via a process of datafication to produce an unjust behaviour-based performative culture. Moreover, it promotes a view of behaviour as emerging in isolation and unaffected by external influences (Sullivan et al. 2014b), situating responsibility for behaviour entirely with the student. Furthermore, it has the potential to produce decontextualised and possibly flawed behavioural data from which dossiers may be compiled with the potential of enduring on student records throughout their schooling.

Surveillance

Schools' digital data-gathering capabilities are extensive, typically including a multitude of instructional and assessment practices that by their nature function as mechanisms of surveillance (Boninger and Molnar 2016). Due to such conditions a culture of surveillance has become normalised in schools (Steeves and Jones 2010), creating a context in which the predilection of schools to adopt data-centric surveillance technologies in support of educational and institutionally designated objectives has carried on unchecked in recent times (Taylor 2017). ClassDojo exemplifies one such technology, one that promotes itself as a support for both school and institutional objectives relating to discipline. The effect of ClassDojo's datafied surveillance is an increased volume of behavioural data available to teachers and schools from which a wide range of decisions about students can be made. Therefore, ClassDojo can be understood as yet another data-gathering surveillance technology that is contributing to a culture of surveillance that has become normalised in schools.

ClassDojo requires teachers to monitor students constantly, catching students performing particular behaviours, generating, storing and analysing data through its software as this occurs. This approach, promoted on its website, describes the increased surveillance of students as a way for teachers to achieve behavioural success in the classroom. Exemplified by the following extract, ClassDojo's portability enables the constant surveillance of students and provides teachers with new ways in which to record that surveillance as data. "Lunch, recess, field trips, anything like that ClassDojo goes with us," ... [Mrs] Smith begins assigning points as soon as work starts' (Peak 2016). The idea is that, through increased surveillance, teacher feedback increases, and student data increases, which will lead to improved student behaviour and classroom culture. In effect, more surveillance equates to better behaviour and classroom culture. Foucault (1979, 170) describes this as 'coercion by means of observation'. He unmaskes the disciplinary objective underpinning this simple mechanism, revealing the aim is to be able to supervise the conduct of each individual, to assess them, judge them and calculate their qualities or merits (1979, 143), producing in today's digitised educational landscape a controllable datafied student subject for whom being watched is a normal part of every-day school life.

The surveillance mechanisms embedded within ClassDojo are not confined to classroom observations but extend beyond the walls of the classroom. ClassDojo provides teachers with further new possibilities for practice in the domain of teacher–parent engagement. Through its digitised communication network ClassDojo provides teachers with the ability to deliver a child's behaviour data directly to parents, in real time, along with continual access to constantly updated behaviour profiles in the form of student reports. Registered parents are reminded every Friday via email to check their child's student report, a strategy deployed as a means to foster parental engagement. This feature effectively subjects students to a weekly report card of their behaviour delivered directly to a parents' inbox. This datafication of student discipline through surveillance and the digitised communication network servicing the school community combine to transform ClassDojo from a mechanism through which surveillance is datafied, into a dataveillance mechanism. Dataveillance in this context refers to the systematic use of a personal data system to monitor the actions of an individual (Clarke 1988). This capability enhances the reach and effect of surveillance. Prior to the digitisation of education, behavioural surveillance processes typically operated within the confines of the school, apart from exceptional cases. The arrival of technologies such as ClassDojo,

however, encourages an expansion of student surveillance that penetrates the family. Stanley Cohen, in his book *Visions of Social Control* (Cohen 1985), exposes how state disciplinary power utilised such a strategy to expand the reach of surveillance as a tool for controlling deviant youth. He argues that, when surveillance of the behaviour of children penetrates into the family, parents become correctional resources in service of the state. ClassDojo can be used in a similar manner. Teachers are able to recruit parents as correctional resources to reinforce classroom behaviours outside of school hours. Therefore, it is evident that if teachers modify their practice to implement ClassDojo according to company recommendations, students will be subject to an intensification of surveillance at school that encroaches into their homes, extending school-based disciplinary regimes further into the lives of young people.

ClassDojo's approach to behaviour can be understood as a technology of power, one in which coercive methods of control are deployed to make students visible. The visibility of students occurs by way of techniques associated with teacher observations and data generation, storage and analysis. These techniques function in response to a codified set of behaviours, and ClassDojo provides the digital framework on which to overlay the behaviour code. This enables the measurement of students in the form of data, producing a system in which the normalisation of particular behaviours occurs. Not only do these techniques make students visible; they also reveal the effects of power. The subjection of students to such techniques promotes the development of behaviour by way of value-laden measures and hierarchised rankings, creating what Foucault calls 'the constraint of a conformity' (Foucault 1979, 183). Conformity is the primary objective and facilitated through a system by which students are trained, separated, differentiated and analysed down to individual segments; they are objectified in a way that constrains autonomy and reduces them to visible data representations of behaviour (Foucault 1979). ClassDojo maintains the constant visibility of students via student accounts, the site at which students' can view their ClassDojo profile which includes behaviour reports that are constantly updated and evolving for as long as a student remains an active ClassDojo user.

In stark contradiction to the process by which students are individualised and made visible through an array of differentiating measures, ClassDojo simultaneously functions as a system for producing uniformity (Ball 2015). The visibility of differentiating measures in conjunction with a compliance mechanism of control manifest in conditions that encourage conformity. Such a system lends itself to a standards-based approach to discipline, in which the standards take the form of numerical targets or benchmarks that have been affixed to a range of predetermined behaviours. Reaching the standard becomes a measure of normality, and any student who fails to do this is at risk of being understood as non-conforming, below standard or abnormal. Normalising judgements in this context have a powerful effect in shaping human behaviour. Subsequently, normalising judgements act as an instrument of discipline and are reinforced by the visibility of student-differentiated measures (ClassDojo behaviour scores).

According to Foucault (1979), discipline operates through a coercive dual gratification–punishment system, deployed as a means by which to conduct training and correction. Foucault reveals that this mechanism creates the possibility of characterising behaviours as good or bad, and distributing them within a field delineated by an allocation of good and bad points. He explains that through such quantification an 'arithmetical economy' emerges, a behaviour economy in which individuals appear as balance sheets of behaviour (Foucault 1979, 180). ClassDojo utilises this method of behavioural quantification by affixing point values to all student feedback, driving the production of a classroom behaviour economy. According to the ClassDojo website, many teachers capitalise on this effect by converting 'Dojo points' into tangible classroom dollars that students can exchange for prizes (Greenberg 1980). In addition, ClassDojo recommends this idea as a way in which to 'keep students excited about ClassDojo', declaring that Dojo points need to mean something. Therefore, according to this logic, a tiered prize system from which to exchange Dojo points is imperative, and functions in conjunction with a dual gratification–punishment system to control student behaviour through coercion.

Quantifying discipline and behaviour in a performative culture

ClassDojo's production of a behaviour economy establishes for teachers a relatively new form of governing students, a governance by numbers (Ball 2015). The pronounced power of numbers in relation to governing is unmistakable (Rose 1991). Through ClassDojo, student behaviour is displayed in the form of numerical data which functions as a representation of the student. Students become behavioural data points from which decisions can be made about teaching and learning. Through ClassDojo, student behavioural data may function in a myriad of ways to govern students. Behavioural data may be used to create an economy from which student privileges and punishments are determined. Data may also be used to build behavioural dossiers of students, to make decisions about behavioural areas of focus, to determine time spent on particular learning areas or to incentivise students to achieve particular objectives. The power of numerical data to govern students in these ways arises, in large part, from their 'ordering capacity': numbers provide a means by which to order students in a range of ways that make them comparable, and enable the calculation of probabilities such as those related to success (Cohen 1999). However, this attractive organisational quality is also problematic, particularly when applied to the complex social features of behaviour, as it decontextualises and reduces its complexity through its transformation into a number (Alonso and Starr 1987). Numerical data may not be capable of adequately representing the social, as it tends to obscure ambiguities and limit the explanatory possibilities necessary to adequately represent the complexities of social life (Selwyn 2015). Therefore, ClassDojo's numerical representation of students through behavioural data is a form of reductionism, dismantling the complexity of behaviour in order to facilitate the governance of students via classification, rankings, comparison and the like. The implications of this may be profound, in particular those associated with the production of student behavioural reports, which are potentially based on flawed data. The potential for such reports to be compiled and reconstituted in the form of individualised behavioural dossiers is not implausible; rather, they may be viewed as a valuable source of data from which decisions about students' educational trajectories occur.

It is useful here to consider 'the examination', which is another method of governing students in schools. Drawing on Foucault, Ball reveals the effects of examinations on students and highlights the aspects that make it such an attractive tool for governance:

the learner is ... made visible and calculable, but power is rendered invisible, and the learner sees only the task ... which they must undertake and their 'result', position, ranking, category. They are made intelligible and manageable in these terms. (Ball 2015, 299)

This explanation of the effects of examinations on learners helps us to understand the ways in which ClassDojo can be used to govern students. According to Foucault, the examination 'is a normalising gaze, a surveillance that makes it possible to qualify, to classify and to punish' (1979, 184). Therefore, ClassDojo, through its datafication of behaviour and digitised organisation of students, can be understood as a continuous behavioural examination tool, unrelentingly evaluating the behavioural performance of students on a daily basis, providing an abundance of numerical data from which to conduct classroom decisions relating to behaviour. This evaluating process, along with test-scores shapes the way in which students understand themselves (Stobart 2008).

Numerical data is transformational, reconfiguring a complex social environment into statistical information, rendering it amenable to control and establishing the classifications by which people come to think of themselves and their choices (Hacking 1991). It thus generates the conditions from which a culture of performativity may arise. Performativity is synonymous with governance, measurement by numbers and control.

Performativity is a technology, a culture and a mode of regulation, or a system of 'terror' in Lyotard's words, that employs judgements, comparisons and displays as a means of control, attrition and change. The performances ... serve as measures of productivity or output, or displays of 'quality', or 'moments' of promotion ... or inspection. They stand for, encapsulate or represent the worth, quality or value of an individual or organisation within a field of judgement. (Ball 2000, 1)

We argue that the features through which ClassDojo shapes and controls student behaviour contribute to the creation of a classroom culture of performativity. Therefore, we now turn the focus to the ways in which ClassDojo uses numerical data to represent the behaviour performance of students, arguing that it concomitantly serves as a measure of student productivity, a comparative display of student quality, and a display through which students reconstruct their identities.

ClassDojo's performative approach is exemplified through its class list display, providing a modern digitised version of the traditional behaviour chart. Capable of being broadcast on large classroom screens to the entire class, visible to anybody who enters, a numbered ranking of students according to their behaviour fills the screen and invites a comparison of students. This public display of performance, even that which is sporadic, may serve as a behaviour-controlling mechanism (Sullivan 2016). The implementation of ClassDojo in this manner utilises the measurement of two student categories, output and quality, in effect transforming behaviour into a commodity and increasing the possibilities for control. High scores indicate high levels of student productivity and quality; conversely, low scores indicate low levels of student productivity and quality. Within such a system student compliance is traded for 'Dojo points', which represent outputs of productivity and quality. The audit-like nature of this approach promotes competition between students in a race to the top of the rankings while simultaneously creating a hierarchical ordering of students that may influence the way in which students understand themselves (Espeland and Sauder 2007). Thus, technologies such as ClassDojo, which rank students according to their performance, can be understood as contributing to the creation of a culture of performativity in the classroom (Jarke and Breiter 2015).

Student constructions of identity have been shown to be influenced by discourses of performativity that are produced and reinforced by calculations associated with student measures of success (Keddie 2016). The emergence of cultures of performativity in classrooms is linked to the infiltration of new managerialism in education, a mode of governance in which numbers and rankings are prioritised and framed as objective representations of value, creating an impression that what is of value can simply be counted (Lynch 2013). We argue that ClassDojo's datafication of student discipline and application as a behaviour governance tool demonstrably classifies it as a performative technology, transforming students and their behaviour into numerical data that is organised and ranked as a quantifiable measure of behavioural success. Through performative technologies such as ClassDojo, the path to student success is grounded in neoliberal notions of competitive individualism, and the enterprising individual, in which success is framed in individualistic terms and associated with merit and self-improvement (Nairn and Higgins 2007). Within such a climate, worth and value are framed against numbered parameters of behavioural success, from which students actively craft their identities (Nairn and Higgins 2007; Keddie 2016). Behaviours that are considered worth acquiring and performing are those embedded within the behaviour code applied to the ClassDojo framework, and subsequently are the only behaviours that count. Furthermore, ClassDojo's individualised psychological regime (Madsen and Brinkmann 2010) construes students as responsible for their own success, reinforcing notions of meritocracy that ignore structural and contextual barriers to success. This framing of ClassDojo as an objective measure of success establishes it as a self-validating vehicle for teachers and students to interpret a perceived 'true' behaviour performance of students. Subsequently, students are likely to associate their ClassDojo behaviour score and ranking with notions of worth, value and ideals of self-improvement (Lupton and Smith 2018). This means for students facing challenges associated with behavioural compliance, such as those bringing to school non-dominant cultural understandings of behaviour, forced failure becomes a possibility. Compelled to understand themselves through the calculation of performed behaviours that count, students may fail if they do not measure up to the narrow demands and expectations that are asked of them through such a performative behaviour system (Keddie 2016).

As a final contribution to this argument, there is a necessity to provide an alternative vision for school discipline. Therefore, we offer an approach to school discipline using ideas drawn from classroom ecology (Sullivan et al. 2014b) and democratic education (Pearl and Knight 1999), one that is

consistent with an educational discourse of discipline (Slee 1995). Such an approach would be underpinned by the values of respect, caring, and dignity, promoting practices that exhibit and develop such qualities in students (Johnson and Sullivan 2016). It would recognise the complexities of behaviour and consider the role of not only internal, but also external, influences on behaviour such as curriculum, pedagogy, relationships, student experiences and more. It would value a notion of connection, involving understandings linked to the why and how of learning. It would shift away from controlling discipline practices to practices that engage students with learning, and incorporate student voice and a more equal distribution of power between teacher and student (Sullivan 2009).

Conclusion

This paper has critically examined the ways in which ClassDojo is influencing the disciplinary landscape in schools and classrooms, in particular its datafication of school discipline and student behaviour. ClassDojo's popular appeal, and the relative scarcity of critical research investigating its influence on school discipline, was the motivation for this critical analysis. Moreover, this combination of factors indicates a necessity for further research into ClassDojo to uncover deeper understandings of its impact on teacher practice, student behaviour development and the education landscape more broadly. We have argued that within contemporary education's techno-friendly zeitgeist (Boninger and Molnar 2016) ClassDojo frames itself as a successful innovative educational technology (Williamson 2017a). However, despite representing itself in this way, closer inspection reveals a technological layering over older ideas and practices (Watters 2017b), resulting in a reconstitution of behaviouristic techniques that incorporate the datafication of student behaviour. However, ClassDojo's expanded surveillance techniques and datafying properties are producing new possibilities for teachers. These new possibilities expose ClassDojo's power-inducing effects as they promote controlling techniques of discipline and governance, rather than an educational approach to school discipline.

ClassDojo exists as an instrument of governance available to schools through which political objectives that prioritise state interests may be realised (Williamson 2017a). We argue that ClassDojo's datafying system of school discipline is intensifying and normalising the surveillance of students, and serving as a mechanism for behaviour control. This datafication and numerisation of students entices teachers with the prospect of a new and supposed efficient method of student organisation and decision-making, a governance by numbers. Furthermore, this form of psychologised discipline situates responsibility for behaviour entirely with the student, problematically decontextualising and erasing the complexities of behaviour, in particular those influenced by structural and contextual components of schooling (Sullivan et al. 2014a). It follows that representing and governing students in this manner produces the conditions from which a classroom culture of performativity can emerge. Putting students' behaviour performance under constant evaluation and on constant display objectifies and reconstructs students as statistical data representations of normalised culturally produced behaviours. Educating students through such performative mechanisms produces a school experience in which students are constantly subject to, and participate in, a calculation and organisation of their performance in response to evaluations, benchmarks, ratios and more (Rose 1999; Ball 2003). Furthermore, performative data-driven discourses of discipline, such as that which operates through ClassDojo, we argue force students to understand themselves through a process of calculation, constantly measuring themselves against narrow representations of ideal behaviours derived from dominant cultural understandings (Keddie 2016). Consequently, critically examining ClassDojo's datafication of discipline is important to building a comprehensive understanding of how ClassDojo is influencing school discipline practice and education more broadly.

Through the proliferation of ClassDojo, schools and classrooms across the globe participate in the process of increasingly normalising and promoting systems of student surveillance, and data-driven performative cultures of discipline. Such practices impede the enactment of school discipline through an educational, as opposed to a management discourse (Slee 1995). More must be

demanding of a disciplinary system than coercive compliance techniques associated with external regulation, and the taken for granted uncritical acceptance of discipline as a synonym for control. If it is not, schools risk failing to develop in students the skills and qualities necessary for their future success as ethical, successful twenty-first-century citizens – skills such as participation, critical thinking, creativity, inclusiveness and a sense of fairness (Taylor and Kearney 2018).

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Disclosure statement

No potential conflict of interest was reported by the authors.

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