

**EDUCATIONAL LEARNING TOOLS: DIGITAL SURVEILLANCE TECHNOLOGIES
AS MECHANISMS FOR SOCIETAL CONTROL AND EDUCATIONAL AGENCY**

by

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Introduction

Educators, parents, and the public are led to believe that if we want our students to succeed in twenty-first-century education and society, they need to demonstrate competencies in collaboration, communication, responsibility, critical thinking, and problem-solving - all with a particular focus on digital literacy and technologies (BC Ministry of Education, “Why change the system now?”, 2017). It is often assumed that learning management systems or e-portfolios help to accomplish these aims, benefitting student learning as key performance techniques that necessitate collaboration, demonstrate the learning competencies, and promote educational agency (Parker, Ndoye, & Ritzhaupt, 2012).

However, the aim of this paper is to explore the function of learning management systems and e-portfolios as collaborative or control mechanisms – that is not merely as benign, beneficial systems. I argue that both learning management systems (LMS) and e-portfolios can be aptly classified as digital surveillance technologies in our educational field today. Stakeholders present LMS and e-portfolios as positive and unproblematic digital technologies and research indicates these technologies do have some positive qualities that benefit students, teachers and parents. On the other hand, many of the negative implications of digital portfolios as surveillance technologies has been either overlooked or simply not considered. Most empirical research on LMS and e-portfolios has been undertaken with the underlying assumption that digital portfolios benefit the process of transformative learning. I will use surveillance theories from scholars, such as Foucault (1977/1995), Deleuze (1992), Haggerty and Ericson (2000), and Albrechtslund (2008), as a lens to analyze learning management systems and e-portfolios as digital surveillance technologies and to evaluate their role as mechanisms for societal control and educational agency.

Surveillance theories are currently debated from the Foucauldian panopticon perspective (Foucault, 1977/1995) and from post-panoptic and participatory surveillance perspectives, the latter two which diverge from the negative concept of surveillance (Galic, Timan, & Koops, 2017; Haggerty & Ericson, 2000). In participatory surveillance the watchers are not necessarily invisible as in Foucault's panopticon. This means the participants are both the watched and the watchers due to digital technology; thus, the debate is over whether this idea breaks from the docile body to reveal more agency, or if it is in essence just another means of control, cycling back to Foucauldian theory. This is part of the debate I would like to address regarding the agency and control of three parties in the realm of education: students, teachers, and parents. Therefore, in this paper surveillance theory will be grounded in Foucauldian theory, but also extended to more recent conceptualizations of surveillance because of our shift to a society increasingly reliant on digital technologies. It is evident that 21st century learning competencies are intimately connected to the applications of digital technology. Contemporary society recognizes the importance of incorporating digital technology as an educational tool to facilitate and monitor the participation of all partners in the learning community.

This paper outlines a complex investigation with curriculum goals, digital technologies, surveillance theories and how these all connect in a collaborative learning community of students, teachers and parents. This paper will first explore the core competencies outlined in the British Columbia (BC)'s New Curriculum (2017) to establish a foundational understanding of current pedagogical theory and learning goals that position educational aims for BC students in the 21st century. Next, I will explain the purpose of digital technologies, learning management systems and e-portfolios (also referred to as electronic portfolios, digital portfolios, ePortfolios, online portfolios) as they are used in schools, to indicate their pedagogical application in an

educational context. This will be followed by an exploration of three elements of surveillance theories - Foucauldian panopticon, post-panopticon, and participatory surveillance - which will be later used to analyze the positive and negative uses of digital surveillance technologies for each of the three stakeholders: students, teachers, and parents. The Foucauldian conception of power relations, via a surveillance lens, will be used to claim that LMS and e-portfolios function as mechanisms to create a complicit populace in a “normalized” frame, in a manner that, circumvents agency and renders the populace targets in an educational space of societal control. This will be juxtaposed with a consideration of how these digital technologies sometimes seemingly function as collaborative educational tools to promote agency and to enhance student learning in a self-actualizing space. This paper will also extend to analyze the function of these digital technologies in relation to the roles of teachers and parents in a digitally shared learning space.

Educational Pedagogy: Building Student Success - BC’s New Curriculum

Much rhetoric in educational research suggests that “collaboration, communication, digital literacy, citizenship, problem solving, critical thinking, creativity and productivity are essential for living in and contributing to our present societies” (Voogt, Erstad, Dede, & Mishra, 2013, p. 404). Specific to this understanding is the role digital technology is expected to play in the learning process that encompasses what students should learn and how the learning will take place. Digital technology is now revered as the mechanism through which education is being transformed from traditional formal pedagogy to cyber and e-learning methods (Voogt et al., 2013).

BC’s New Curriculum follows the international trend in educational transformation “so

students can succeed in the 21st Century” in a “technology-rich world, where communication is instant and information is immediately accessible” in a way that has changed how we interact personally, socially, and professionally (BC Ministry of Education, “Curriculum Overview”, 2017). To meet these new demands, the new BC curriculum has been redesigned and adopted the core competency areas of *communication*; *critical and creative thinking*; and *personal identity and personal and social responsibility* (BC Ministry of Education, “New Curriculum Information: Key Features of the New Curriculum, Core Competencies”, 2017). Students are to be “empowered by their school experience” by becoming flexible, self-motivated people while developing a positive self-image and strong communication skills (BC Ministry of Education, “Curriculum Overview”, 2017).

Central to all three core competency areas is collaboration. The first core competency, *communication*, incorporates four interrelated facets: to connect and engage with others; to acquire, interpret and present information; to collaborate; and to recount and reflect on experiences and accomplishments. Specifically, the new BC curriculum states:

“Communication competency encompasses the set of abilities that students use to impart and exchange information, experiences, and ideas, to explore the world around them, and to understand and effectively engage in the use of digital media. Communication competency provides a bridge between students’ learning, their personal and social identity and relationships, and the world in which they interact.” (BC Ministry of Education, “Communication Competency Profiles”, 2017).

The second core competency area encompasses *critical thinking*, which involves students making reasoned judgements and examining their own thinking and that of others regarding information acquired through experience, observation, and communication (BC Ministry of

Education, “Critical Thinking Competency Profiles”, 2017); and *creative thinking*, in which students are “deeply collaborative” during the process of creating new thoughts and concepts (BC Ministry of Education, “Creative Thinking Competency Profiles”, 2017). In the third core competency area, *personal identity* and *personal and social responsibility*, students focus on understanding the role of relationships and cultural contexts in their personal and social identity formation as well as the significance of building positive peer and intergenerational relationships with others (BC Ministry of Education, “Positive personal and cultural identity”, 2017; BC Ministry of Education, “Social Responsibility Profiles”, 2017). This area aims for students to develop a sense of personal efficacy, confidence and self-advocacy as well as exercise self-regulation to monitor progress and take responsibility for their own choices and actions (BC Ministry of Education, “Personal Awareness and Responsibility Competency Profile”, 2017).

Of particular focus in BC’s redesigned curriculum is personalized learning, which is meant to enhance the learning experience by “involving students in reflecting on their work [which] allows them to take more control of their learning” (BC Ministry of Education, “Curricular Overview”, 2017). Each student’s unique learning needs are expected to be addressed to generate success. The BC Ministry of Education (2017) claims personalized learning promotes the integration of digital technology and flexible learning environments to enable teachers to explore the use of time and space of learning environments in creative ways to meet the unique needs of students (“Curricular Overview”). The BC Ministry of Education (2017) states in the new curriculum that it is necessary to provide students with the opportunity “to use current and emerging technologies effectively in all aspects of their learning and life” (“Curriculum Overview – ICT-enabled learning environments”).

Pedagogically, digital technology is present in several ways in the new BC curriculum.

First, the BC Ministry of Education includes digital technology as a tool to facilitate learning and support the development of the three core competency areas. For example, digital technology is seen as a mechanism to facilitate collaboration between students, educators, and parents in a shared learning experience. Teachers use digital technology to offer learning experiences where critical and creative thinking are exercised in assignments or activities. Students use digital technology as a mechanism or means to develop and express personal identity, and personal and social responsibility. Digital technology, however, is also seen as an educational area with both curricular content and skills unto itself, such as coding. For the purpose of this paper, digital technology will be viewed in the first sense as an educational mechanism.

Learning Management Systems and e-Portfolios: Educational Purpose

In an educational context, many people regard both learning management systems (LMS) and e-portfolios as digital technologies that perform as educational tools in benefitting student learning. They see LMS and e-portfolios as facilitating collaboration and the development of many learning competencies (Bradford, Prociello, Balkon, & Backus, 2007; Dawson, Heathcote, & Poole, 2010; Parker et al., 2012; Tezci & Dikici, 2006). Although there are different types of e-learning, this paper will focus on a blended learning environment where digital technologies are used to enhance and support the face-to-face classroom.

A LMS is an internet-based software that provides a digital framework to aid in organization, distribution and communication. It enables educational institutions to create and manage lessons, assignments, and educational materials (Ismail, 2017; Jamal & Shanaah, 2011) as well as provides “tools for evaluation, feedback and discussion” (Adams, 2010 in Dogoriti, Pange & Anderson, 2014, p. 255). Bradford, Porciello, Balkon, and Backus (2007) claim the

benefits of a LMS for students and teachers are: increased availability of teachers; skill building; tracking; and improved communication. Communication can be both asynchronous and synchronous (Dogoriti, Pange & Anderson, 2014). In the K-12 educational system, the LMS is touted as a more student-centered model for individualized learning needs because it increases engagement and students' collaboration through tools such as a chat, a forum, blogs, or social communities; provides pedagogical flexibility; grants access to data so a teacher can determine the student performance gaps and teaching process limitations; and allows parent involvement to monitor their child's attendance and grades as well as promotes more effective communication between the parent and teacher (Hetsevich, 2017). Some current examples of LMS prescribed for educational use are Blackboard, Edmodo, Moodle, and Schoology.

Portfolios hold many purposes: process, learning, assessment, product, employment, or showcasing. Barrett (2007) defines an educational portfolio as a collection of student work, that the learner has "reflected upon, selected, and presented to show growth and change over time" (p. 436). The advent of e-portfolios are not seen simply as a digital form of a written portfolio, but offer a broader application as a "process, product, and tool" (Bryant & Chittum, 2013) for student learning. E-Portfolios are championed as a mechanism to facilitate transformative learning through self-regulation, critical reflection, and collaboration (Jenson, 2011; Karlin, Ozogul, Miles & Heide, 2016; Meyer, Abrami, Wade, Aslan & Deault, 2010). Tezci and Dikici (2006) speak to the benefits of digital portfolios in developing student responsibility; promoting student and teacher collaboration of assessment criteria; and illustrating student successes. There is also a growing recognition of how parental involvement can also be transformed through digital technology to enhance their child's learning environment (McLeod & Vasinda, 2009; Olmstead, 2013; Sad, Konca, Ozer, & Acar, 2016). While LMS incorporate various aspects of

monitoring by the parent, e-portfolios offer collaborative opportunities for the parent to become a learning participant in their child's educational experience.

A current example of an e-portfolio is Freshgrade. Freshgrade is a "portfolio and assessment platform that makes learning visible" and "is designed to promote collaboration between teachers, students, and parents" at the K-12 level (Freshgrade, 2018). Freshgrade promotes the e-portfolio as an educational mechanism that can empower students by enabling them to take ownership of their work, prompt reflection, and share their inspirations; engage parents as partners in [their] child's education by "giving parents a window into the classroom"; and support teachers in meeting the unique needs of students by providing personalized feedback as well as offering space for teachers to reflect on their own growth as educators (Freshgrade, 2018).

Often LMS include e-portfolios as an aspect of the platform, such as Edmodo or Schoology. However, there are also Content Management Systems (CMS) that function much like an LMS. They too can offer e-portfolio platforms such as Scholantis used in the Richmond School District. On the other hand, there are platforms specifically purposed as educational e-portfolios such as Freshgrade currently used in the Delta School District. Regardless of the system or platform, e-portfolios function similarly in all contexts.

Surveillance Theories

I. Foucauldian Panopticism

Surveillance theory has become synonymous with Michel Foucault's panopticism and its metaphorical extension to power relations within society. Surveillance, in Foucauldian theory, "emerged as an instrument by which authoritative institutions shaped reality, whether for the

benefit of such institutions or the classes they served” (Pecora, 2002, p. 346) and functioned as a mechanism of social regulation and discipline. In *Discipline and Punish*, Foucault (1977/1995) bases his theory on Jeremy Bentham’s panoptic “all-seeing” prison architectural structure of the 18th century where the watcher and watched relationship is established to control behaviour. In this regard, the prison is structured with a central watchtower around which the inmates are placed in constant view of the tower guards. Crucial to this system is that the guards cannot be seen by the inmates. Therefore, the watched are constantly visible, whereas the watchers are invisible. At first it seems a hierarchical relation of power is at hand with the sovereign supervisor watching the inmates. This interpretation of external surveillance refers to the knowledge that “others” are always watching. However, due to the visible-invisible juxtaposition, it is not necessary for the guards to watch at all times. The inmates are being watched some of the time, but do not know at what moments, and therefore, must believe they are being watched at any given time. They begin to regulate their own behaviour accordingly, all of the time. Social relations become spatially and temporally influenced. Power operates through the management of space and time along with the dissemination of knowledge. This means that the inmates have no control over their own space or the time in which they are viewed. As a result, what they can control is their behaviour in relation to a constant consciousness of being surveilled. Thus, a process of internalization takes place in which the watched regulates their own behaviour cognizant of how it is being portrayed and received by an omniscient observer. Thus, the power resides in this “soul training” or disciplinary technique (Foucault, 1977/1995). This is done via what Foucault refers to as the disciplines.

To move from the panoptic prison metaphor to the societal realm, Foucault (1977/1995) argues disciplines are considered “a specific technology of power” (p. 194) that employs

techniques or effects to train individuals into complicit behaviour. This complicity of the people is secured through a process of “normalization”; thus, limiting contestation and solidifying control and political dominance. Foucault’s conception of the power/knowledge/space triad (Sigona, 2015) explains how the dominant power structure manages to retain their position and status quo by controlling much of the knowledge and discourse in society through disciplinary mechanisms. Who controls and dictates the space can determine what knowledge is set forth, and how it will be used. Thus, the knowledge is framed to justify the dominance of those in power and in return, the power is manifest in this space. This power dynamic produces a perceived “reality”, which becomes “normalized” and the often accepted “truth”. As a result, “normalization becomes one of the great instruments of power” (Foucault, 1977/1995, p. 184).

Normalization takes place through the disciplinary techniques of classifying, differentiating, hierarchizing, and homogenizing (Foucault, 1977/1995, p. 183). Degrees of normality are determined by differentiating individuals through the classification of characteristics valued as “normal,” and hierarchizing the levels and values of the classification to quantify the difference between individuals. It is our proximity to the “norm” that grants us status, privilege and affiliation in society. People conform because it benefits them and because non-conformity imparts social, political and economic marginalization. Through the process of conforming, a homogenous social body emerges. Foucault (1977/1995) argues “the power of normalization imposes homogeneity; but it individualizes by making it possible to measure gaps, to determine levels... and render the differences useful by fitting them to one another” (p. 184). Therefore, power is manifest through the disciplinary techniques of the “normalization” process. Those who are closer to the norm of the homogeneous society exercise more power. They become part of the dominant system.

Disciplinary power is a system that functions through a network of unequal relations of power to turn people into the sort of tools and objects society needs to maintain the dominant structure. As Foucault (1980 in Jardine, 2010, p. 52) argues, “[i]ndividuals are the vehicles of power”, which enables the system to manifest power from within. Jardine (2010) explains “disciplinary societies not only formulate norms for the actions and abilities they want; they also enforce conformity to them” (p. 24). Hence, the success of disciplinary power is based on our complicity, consciously or not, to its maintenance. People become complicit to the dominant frame because it produces a reward for them or what they see as a benefit. However, in some instances this benefit can also lead to their subjugation.

Foucauldian panoptic surveillance has traditionally been interpreted as repressive and fatalistic. However, Foucault’s theory is not just a sovereign power over another, but worse in that it encompasses a societal mass of homogeneous docile bodies that impose control upon themselves and others through a comparative hierarchical categorization based on the process of normalization. Disciplinary power in this regard becomes an ‘integrated system’. Foucault (1977/1995) claims:

it is organized as a multiple, automatic and anonymous power; for although surveillance rests on individuals, its functioning is that of a network of relations from top to bottom, but also to a certain extent from bottom to top and laterally; this network ‘holds’ the whole together and traverses it in its entirety with effects of power that drive from one another: supervisors, perpetually supervised (p. 176-177).

It is this network, which is the apparatus as a whole that functions to produce power. This apparatus “enables the disciplinary power to be both absolutely indiscreet, since it is everywhere and always alert” and “absolutely ‘discreet’, for it functions permanently and largely in silence.

Discipline makes possible the operation of a relational power that sustains itself by its own mechanism” (Foucault, 1977/1995, p. 177). In this regard, the fatalistic outlook is solidified through the omniscient power of the disciplines.

II. Post-panoptic Theories

The advancement of digital technology has driven scholars to re-consider contemporary approaches to surveillance and has stimulated discourse in post-panoptic theories that claim to move away from a disciplined power to more nebulous forms of control. This has shifted the focus from institutions to networks. These surveillance theories are characterised as infrastructural versus structural. This means that there is no longer a defined territorial space, but rather the digital aspect leads to a rhizomatic and networked system that increases the distance from the watched as a physical person. Instead, people are surveilled via their digital representations (Deleuze, 1992; Galic et al, 2017; Haggerty & Ericson, 2000). Thus, control in a post-panoptic understanding takes place through the de-territorialized conceptualization of a person’s re-assembled digital information, not through a disciplinary society within a determined structural space.

Deleuze is often credited with introducing this new conceptualization of surveillance into surveillance studies. Although Deleuze worked with Foucault, he diverged from the panoptic paradigm regarding the concepts of a disciplinary society to a control society. Deleuze and Guattari (1987) introduced the concept of the assemblage as an “increase in the dimensions of a multiplicity that necessarily changes in nature as it expands its connections” (p. 8). They based this on the metaphor of the rhizome plant that grows and expands through an interconnected root system with surface offshoots. Deleuze and Guattari (1987) state “the rhizome connects any

point to any other point, and its traits are not necessarily linked to traits of the same nature” (p. 21); in this regard, “a rhizome has no beginning or end; it is always in the middle, between things, interbeing” (p. 25). Deleuze (1992) applied these ideas to articulate his conceptualization of the continuous network that operates in societies of control. Deleuze located new places of surveillance in a physically and technologically changed environment from an enclosed institutional realm to an open digital and consumer realm. For Deleuze (1992), individuals become less relevant as subjects of surveillance, it is no longer their physical bodies that are being disciplined, but the representation of their bodies as coded data that is being continuously monitored yet goes predominantly undetected. This digital information is dissembled and then re-assembled for many different marketing and research purposes into what is referred to as the “data-double” (Haggerty & Ericson, 2000, p. 611). Thus, in a Deleuzian society, power is not wielded via physical docile bodies, but instead through molded consumers or “dividuals” whose value lies in their data-double representation (Deleuze, 1992, p. 5). For Foucault, discipline was effective because of its visibility and the active participation of the human individual in a population; whereas, for Deleuze, surveillance acts through invisible, continuous networks and the often-unperceived codification of the “dividual” (Deleuze, 1992).

Other post-panopticon theorists also depart from the panopticon paradigm and build on Deleuze’s concept of a networked surveillance. This includes Ball (2006) and Haggerty (2006) who interpret Foucault’s theory as a static unidirectional relationship that disperses disciplinary power of the authoritarian observer over the observed. These theorists criticize Foucault’s panopticism on several fronts. First, they argue that Foucauldian panopticism is an outmoded model primarily focused on an 18th and 19th century industrial society in which the main purpose of surveillance was for “productive soul training” through the repression of the marginalized

underclass while the rest of the population remained unmonitored (Haggerty, 2006). In addition, the surveillance domain consisted of the contained physical space of institutions and the surveillance was practiced primarily by humans watching humans (Galic et al., 2017).

Haggerty and Ericson (2000) extended Deleuze and Guattari's (1987) "assemblage" conceptualization into the "surveillant assemblage," which shifts the focus to de-territorialized forms of social control where surveillance is primarily used to construct and monitor consumption patterns of a population drawn into the market economy. Galic et al. (2017) state the leading purpose of contemporary surveillance through monitoring is mostly directed at the human body to produce consumer profiles through the reconstruction of their behaviors and actions in the cyber world. This contemporary surveillance takes place in consecutive steps of de-territorialisation and then re-assembly of the "data double" (Haggerty & Ericson, 2000). Haggerty and Ericson (2000) see contemporary surveillance as emergent, unstable and lacking discernible boundaries or accountable governmental departments, so that it cannot be criticised by focusing on a single, confined institution, like the school. Thus, the distinguishing features of post-panoptic surveillance are its expanding "uses for purposes of control, governance, security, profit and entertainment" (Galic et al., 2017, p. 21).

In addition, Haggerty and Ericson (2000) argue since surveillance has become rhizomatic, it has an equalizing effect on hierarchies of surveillance. This means contemporary surveillance also includes scrutiny of the powerful by the public and institutions. Steve Mann (2004 in Galic et al., 2017) refers to this bottom-up surveillance of the many watching the few as *sousveillance*. Similarly, the idea of *synopticism*, introduced by Mathiesen (1997 in Haggerty & Ericson, 2000), refers to a criss-crossing gaze where no major groups stand above or outside of the surveillant assemblage.

Post-panoptic surveillance theory does recognize negative implications of contemporary surveillance. First, due to the collection of personal information and re-assembly of the data-double through de-territorialized technological databases, surveillance often has no visible “observer” and can even operate in secrecy (Galic et al., 2017). Therefore, an awareness of the “watcher” is no longer necessary for surveillance goals to be met (Haggerty, 2006). In the cyber world people are instead “seduced into the market economy” by being provided perks or bonuses to “willingly” share their personal information (Galic et al., 2017, p. 22). They are often unaware of how their personal information is being re-assembled; where or how it is being distributed to different corporations or organizations; or even for what purpose their information is serving, such as demographic targeting for market research and advertising, or profiling for security measures.

Nevertheless, as many post-panoptic theorists point out (Ball, 2006; Haggerty & Ericson 2000), surveillance can no longer be cast solely in a negative light. Haggerty (2006) claims surveillance as “networked control” can offer counter-power by leveling the hierarchical structure or offering possibilities of resistance through its de-territorialisation. Since the uses of surveillance are emergent and morphing, it is hard to claim surveillance serves a single purpose such as social control. For example, post-panoptic theory locates Marx’s concept of value surplus in the cyber world through the growing trade in corporate sale of “surplus of data information” (Haggerty & Ericson, 2000, p. 616). The public is becoming aware that profits can be made from their data-doubles. If compensation is paid for their personal information, this can then lead to a further commodification of the self (Haggerty & Ericson, 2000).

Haggerty and Ericson (2000) also argue, that with the rise of digital technology, surveillance has a “voyeuristic entertainment value” (p. 616), such as through venues like

Youtube. There are a number of theorists and a growing mass of the public who claim that surveillance can be enjoyable through both the watching of others and oneself as well as the experience of exposing oneself to others. It is argued that through this conceptualization of surveillance, it can play a role in identity formation (Galic et al., 2017).

III. Participatory Surveillance

Participatory surveillance theories combine the monitoring of physical and digital spaces. This hybrid of panopticon and post-panopticon surveillance systems emerges with government and corporation surveillance, but also significant is the development of self-surveillance and other complex forms of “watching and being watched” such as through social media or with the consumer conceptualization of voluntary information and data sharing (Galic et al., 2017). Due to the emergence of digital technologies, especially social media, surveillance has taken on a different type of conceptualization of power relations in society. The roles of the watcher and the watched interact in a different manner.

Participatory surveillance is often divided into three kinds: voluntary panopticon, lateral surveillance, and self-surveillance (Humphreys, 2011). Voluntary or participatory panopticon (Whittaker 1999 in Humphreys 2011) refers to the participants’ willingness to give away or share information and consensually participate in “being watched” in exchange for tangible benefits of convenience and social connectivity. Lateral surveillance (Andrejevic 2006 in Humphreys, 2011) involves peer-to-peer monitoring with the watched often unaware of the surveillance and what Albrechtslund (2008) interprets as “mak[ing] us spies in a disciplinary society” (p. 7). According to Meyrowitz (2007 in Humphreys, 2011), self-surveillance enables users to view their own activities and patterns of behaviour they may not have been aware of otherwise.

Social media exemplifies a participatory surveillance framework of collective watching through mutually agreed relations. On social media people undertake both roles of voluntarily being watched and watching others. David Lyon (2006) argues that all kinds of new technologies promote the presence of “watching and being watched” and therefore, “we cannot evade some interaction with the Panopticon” (p. 4). Galic et al. (2017) contend that if surveillance is now focused on pleasure, entertainment and marketing “to be watched is even becoming an asset and a social norm” (p. 27). This can be extended to all social media platforms such as Facebook, Instagram or Snapchat today. David Lyon’s (2006) “panopticommodity” (p. 18) and Whitaker’s (1999 in Humphreys, 2011) voluntary or “participatory” panopticon (p. 577), can conceptualize these ideas of watching and being watched as a form of social discipline into a contemporary manifestation of what is essentially the principle of Foucauldian panopticism.

In a broader sense, new digital technologies promote the logic of “many looking at many” with a conscious and purposed visibility of the users intended. A defining feature of participatory surveillance is that it diverts from the negative concepts of surveillance.

Albrechtslund (2008) was the first to coin the term “participatory surveillance” which brings together the ideas of “user empowerment and the building of subjectivity” along with “the understanding of online social networking as a sharing practice instead of an information trade” in a context of mutuality (p. 7). Therefore, users are actively involved in surveillance in the role of watchers, but they also participate voluntarily and consciously in the role of being watched.

Albrechtslund (2008) highlights the empowering aspects of participatory surveillance:

Characteristic of online social networking is the sharing of activities, preferences, beliefs, etc. to socialize. I argue that this practice of self-surveillance cannot be adequately described within the framework of a hierarchical understanding of surveillance. Rather,

online social networking seems to introduce a participatory approach to surveillance, which can empower – and not necessarily violate – the user.

Participating by sharing, engages the users “where the idea of being seen and ‘followed’ is a precondition rather than a setback” (Galic et al., 2017, p. 30) and can have mutual social benefits (Humphreys, 2011). Self-surveillance as a concept adds the value that “it allows for the user-centered perspective on surveillance, rather than a top-down or institutional analysis” (Galic et al., 2017, p. 30). In some ways this visibility can be a tool of power in both a personal context as well as in the marketing context because it can be used as a way, according to Dholakia & Zwick (2001), “to reclaim some control over the externalization of information” (p. 13).

However, a counter-argument to the empowering view of participatory and self-surveillance unfolds in two key areas. First, participatory self-tracking surveillance can seem empowering through an illusion of self-control, yet in the background the user’s information is also being recorded either without their consent or without the user’s extended control over what happens to their information (Galic et al., 2017). Self-surveillance can also be seen as a way for governments or institutions to push back responsibilities onto individuals (Cohen 2016 in Galic et al., 2017). This push-back point of view re-introduces the Panopticon where we internalize the rational methods of digital surveillance technologies that promote participatory and self-surveillance as good in a self-induced process of self-disciplining social actions.

Danah Boyd (2011) enters this debate with her delineation of situational power and structural power in a surveillance framework. She argues people can hold situational power over others at any given time through their interaction dynamic of watching and being watched. This power over others is not through authority per se, but instead takes place within participatory situations. Boyd (2011) makes the point in reference to social media that “just because they

[people] like being watched does not mean that they inherently want people that they know to hold power over them” (p. 506). Boyd (2011) argues that people can assert agency over their social situation by controlling the content or information available on social media. In essence, people exercise agency by controlling the knowledge others gain about them.

Participatory surveillance brings to the forefront questions of power, discipline, and control in a context where digital technologies function as an intermediary of these dynamics: who watches whom in which settings, for what reasons, and with what implications?

Student Learning: Agency and Control

From a traditional Foucauldian surveillance stance, the school as an institution has offered little in the way of student agency – the capacity for the individual to take action within the social structure of the school. Students are observed by teachers and administrators in the halls, classrooms and on the playground. They are also regulated through a process of “normalization” by peers, parents, educators, and even themselves as they are categorized and homogenized into docile bodies.

However, students today are expected to be educated in a way that develops and provides opportunities for them to exercise more personal agency in their learning process that will be transferable to lifelong learning. This concept of agency is not simply meant as a synonym for student independence, but it is meant as a means for students to develop the capacity to take action. The Core Competency “I” statements articulate this focus: “I can take ownership of my goals, learning, and behaviour; I act on what is best” (BC Ministry of Education, “Personal awareness and responsibility competency profiles”, 2017). BC’s New Curriculum is centered around personalized learning, which allows students “to take more control of their learning”; to

have “more of a say in what and how they learn” (BC Ministry of Education, “Curriculum Overview”, 2017); and to “act on opportunities for self-growth” (BC Ministry of Education, “Personal awareness and responsibility competency profiles”, 2017). In 21st century education, digital technologies are accepted as educational mechanisms to enhance personalized learning and support this student empowerment.

In this section I will argue that LMS and e-portfolios function as control mechanisms to influence societal normalization through the auspices of participatory surveillance and self-surveillance, while considering that they can sometimes seemingly function as collaborative educational tools to promote agency. The four areas that will be explored in this regard include: (I) Transformative Learning; (II) Voice and Choice: Selection of Artefacts and Choice of Viewers; (III) Identity Formation; and (IV) Collaboration, Communication and Control.

I. Transformative Learning

Student agency is essential for the transformative learning process, which is exercised through self-regulated learning, self-observation and critical self-reflection. Transformative learning refers to a person developing and internalizing new understandings of points of view to consider their beliefs and experiences, which overtime opens them to a process of effecting change (Mezirow, 1997). Digital technologies such as LMS and e-portfolios are pedagogically purposed to empower this student learning process by “making learning visible” (Johnsen, 2012, p. 139). This “visibility” implies a collaborative learning environment where students are not the object, but active subjects who share and analyze their ideas and work with teachers, peers, and parents. There has also been a shift in pedagogy from product or summative learning and assessment, to more personalized and process or formative learning and assessment which is

afforded by digital portfolios. Hence, digital portfolio research has been done with the pervasive assumption that the e-portfolio is a positive knowledge tool for transformative learning through development in self-regulation, critical thinking via deep reflection, and creative thinking stimulated by collaboration (De Bruin, van der Schaff, Oosterbaan, & Prins, 2012; Karlin et al., 2016; Meyer et al., 2010).

Self-regulated learning: Digital portfolios promote metacognitive self-regulated learning through the awareness, knowledge and control of cognition during the three processes of planning, monitoring and regulating (Meyer et al., 2010). This cyclical process is intended to improve student awareness and stimulate personalized learning through each subsequent cycle. According to Zimmerman (2000, 1989 in Meyer et al., 2010), there are three phases of self-regulated learning. The first phase is forethought, which encompasses determining the task, setting the goal and strategic planning. With each new cycle, this phase revises the task and goal while initiating a new plan for further progress.

The second phase is performance, which necessitates self-control and self-observation. Self-observation functions as self-surveillance, which influences behaviour. Meyrowitz (2007 in Humphreys, 2011) defines self-surveillance as “the ways in which people record themselves (or invite others to do so) for potential replaying in other times and places” (p. 577). The ability to record or document one’s work or behaviour has what Humphreys (2011) refers to as “power over the lived experience” (p. 578). Therefore, power is implicit and functions in this context by allowing the user/student to “see” things about their behaviours they may not have previously perceived and thus, can change their understanding of their own behaviour and tendencies (Humphreys, 2011). From a social constructivist view, this leads to transformative learning

through the student's knowledge construction based on their experience of self-observation and deep reflection (Abrami, Wade, Pillay, Aslan, Bures, & Bentley, 2009; Barrett, 2007; Olmstead, 2013). In this regard, self-surveillance is purposed for student empowerment and functions in a positive manner that "allows for the user-centered perspective on surveillance, rather than a top-down or institutional analysis" (Galic et al., 2017, p. 30). The self-observation aspect of digital portfolios is what gives them characteristics of personalized learning through a formative process.

The final phase is self-reflection, which involves self-judgement and self-reaction by the student reflecting on their own work; sharing their work; and receiving feedback from teachers, peers and parents. The student becomes aware of their own learning process and reflects on this authentic experience to form their learner identity and then focuses on setting new learning goals with a plan of how to attain them as the process cycles back to phase one.

Critical self-reflection: Critical self-reflection is the crux of social constructivist learning theories, and therefore, its authenticity is of significant importance. Most studies on e-portfolios and LMS indicate that critical reflection takes place through their use and is core to the personalized learning process they stand for. As a result, digital portfolios are seen as a "process, product, and tool" (Bryant & Chittum, 2013) for student learning and are championed as a mechanism to showcase this learning through self-regulation and critical reflection (Karlin et al., 2016; Jenson, 2011; Johnsen, 2012; Meyer et al., 2010; Tzenci & Dikici, 2006).

However, if the reflections are not authentic, it undermines transformative learning. This was revealed in De Bruin, van der Schaaf, Oosterbaan, and Prins' (2012) study, which found "a relatively small amount of (deep) reflection in portfolios" (p. 429) and "concluded that

transformative learning hardly took place in portfolio reflection, whereas this is assumed to be the result of the deeper kind of reflection” (p. 428).

Jill D. Jenson (2011) addresses a similar concern through her delineation of self-regulation and critical reflection as separate processes. Self-regulation is defined as “helping students realize what a task demands and how they best learn so they develop the ability to monitor their own behaviors, adjusting as needed to reach their goals”, whereas “critical reflection refers to a deeper level of learning, which allows students to apply learning to practice and integrating experiences into a coherent whole to see education as an ongoing learning process” (Jenson, 2011, p. 58). Therefore, Jenson (2011) contends critical reflection does not automatically develop out of self-regulated learning. There needs to be intentional pedagogical teaching to enhance the students’ depth of reflection. Jenson’s (2011) cautionary point regarding critical reflection is echoed in other studies that indicate the reflection process and resulting product may be limited or not always authentic (Abrami et al., 2009; De Bruin et al., 2012; Jensen, 2010; Parker et al., 2012; Scott, 2005; Yancey, 2011). These studies offer several reasons to question the authenticity of student self-reflection. One key finding in Parker et al.’s (2012) study was that the students felt the e-portfolio process was too time consuming, and as a result, some of the e-portfolios were hastily completed defeating the purpose of the e-portfolio to facilitate deep reflection.

In Abrami et al.’s (2009) study, an analysis of student portfolios found limited evidence of student work and presence of self-regulated learning such as self-reflection. The researchers correlate this to the teachers’ unfamiliarity with self-regulation pedagogy and challenges they faced in teaching self-regulation learning strategies through e-portfolios. Abrami et al. (2009)

admit “[i]t is clear we need to go further in providing pedagogical training and support to teachers and their students” (p. 6).

Another reason why reflections may not be authentic can be offered by taking a digital surveillance lens to consider the hierarchy of spaces and control in the K-12 context. Scott (2005) contends that when reflections are networked through many layers from the classroom to the school district, student agency decreases as this hierarchy increases. Consequently, Scott (2005) offers a warning: “[t]hose who assign and assess reflective writing should be mindful of the dispositions toward authority that this practice might foster in time” (p. 27). This points to the composition of digital portfolios falling into the structural power camp of institutional control, whether it be prescribed topics and/or criteria the teacher assigns for the reflections, or whether the student’s reflections and subsequent identity formation is influenced by the various “watchers” of the networked hierarchy. In a similar vein, Yancey (2011) states teacher pedagogy and the type of portfolio matter in eliciting critical reflection. She (2011) argues authentic reflection occurs more at the higher education level, whereas “some portfolio practices may lend themselves to a Foucauldian exercise of discipline, but thus far those seem principally K-12 models located in multiple levels of bureaucracy” (p. 730). Yancey (2011) agrees with Jensen (2010) and Scott (2005) that “eportfolios will exert only as much change as the institutions permit” (p. 732). This refers to teachers or schools providing students with opportunities to exercise agency in the e-portfolios. If students are unable to exercise agency during their own learning process, they will not be empowered to reflect authentically, and without this critical self-reflection, students will lack the knowledge and influence to make personalized changes essential for transformative learning to take place.

Kyle Jensen (2010) takes his concern with self-reflections one step further by questioning the “function the process of self-reflection serves as an extension of student empowerment” (p. 128). He (2010) states the self-reflective component operates as a liberating mechanism to provide students with an opportunity for self-awareness by exploring their growth in an act of “taking ownership” of their work (p. 129). However, it is in this act of “taking ownership” that the student becomes an agent for their future success and thus, the student has now “become a vehicle of his or her own discipline” (Jensen, 2010, p. 129). Jensen (2010) cautions that the self-reflection process of the portfolio assignment becomes “complicit[y] in extending the depth and reach of disciplinary systems through the individualization of the disciplinary process” (p. 129). Thus, it is not the authenticity of the reflections which is of concern, but the Foucauldian disciplinary process couched in the rhetoric of student empowerment.

In summary, students exercise agency in the process of transformative learning by gaining knowledge of their own learning experiences from self-observation and critical reflection. Critical reflection enables the student to take action by strategizing and planning changes needed for personal growth. However, self-regulated learning does not automatically lead to critical reflection, which is necessary to develop the capacity for transformative learning. Students may not be able to produce authentic critical reflections because they lack the skills or “know how” due to poor teaching or counter-productive teacher pedagogy, or they are controlled by time limitations or bureaucratic hierarchies of a K-12 system. On the other hand, the student’s act of agency in “taking ownership” in the process of transformative learning can itself be interpreted as a disciplinary technique.

II. Voice and Choice: Selection of Artefacts and Choice of Viewers

In digital portfolios students are provided the opportunity to exercise agency in their selection of artefacts (written work, recorded audio or video, pictures, photographs) and choice of viewers. McLeod and Vasinda (2009) refer to this as “provid[ing] students with both voice and choice” (p. 30). More specifically the e-portfolio is assumed to offer students the opportunity to exercise agency-based, learner-centered principles: students own their portfolios and information within; and students are responsible for and manage this data by selecting the items to share and choosing who will see which items (Barrett, 2007; De Bruin et al., 2012; Jenson, 2011; McLeod & Vasinda, 2009; and Parker et al., 2012). Student voice and choice can be exercised during both the formative process of initially selecting artefacts to upload, editing and re-submitting work, as well as during the stage of choosing final artefacts for a “showcase” or summative e-portfolio. The selection process is also expected to lend to critical and creative thought as students contemplate what artefacts they want to share, how they want to share them, and with whom they want to share their work. Jenson (2011) states:

the objectives of taking ownership of the portfolio and using it responsibly begin to be realized by simply using the tool... ePortfolio allows no other person access to the digital text and images a student chooses to upload unless the student intentionally and thoughtfully grants that access. Students understand the portfolio is theirs alone and learn to appreciate the importance of being selective, both in terms of what to share and with whom (p. 49-50).

This certainly speaks to a participatory surveillance consideration where students actively choose what they want to post and who is going to see it. This is empowering and in this regard the control seems to be in the hands of the student.

Control of selection and choice: It is open to debate, however, whether students actually have control over the selection of their artefacts, and who has access to view their work. In McLeod and Vasinda's (2009) study of elementary students, choice was a significant factor in student agency as one student remarked, "I enjoy that it [portfolio] is like mine. It's not anybody else's. It's mine and I can put almost anything I want on it" (p. 35). McLeod and Vasinda's (2009) study did not only reveal that students had choice in selecting their own artefacts to post on the digital portfolio, but also in preparing their answers in advance of their peer-to-peer reflection interviews. The students had the choice to re-record these audio-taped interview reflections until they were satisfied. Thus, the power to choose can be exercised both during the process stage and the product stage. In addition, K-12 students often exercise control over which peers can have access to their work and in certain circumstances the student can also grant access to adults such as other educators, potential employers, or post-secondary admissions officers.

Scott (2005) and Yancey (2011) indicate that students at the post-secondary level have more control over the composing process of the e-portfolio – selecting and assembling of the texts or artefacts. This also includes control over the uploading of artefacts as well as more determination in making the e-portfolios available to others for viewing and evaluation. Selection of the artefacts, particularly in the elementary K-7 grades, can be left in the hands of the teacher who decides what artefacts are posted, sometimes without the consent or even the knowledge of the students. In this situation there is limited agency exercised by the student. In addition, it is often the school, teacher, and even the parent, who determines the access parameters for digital portfolios. This does not mean that the digital portfolios are always kept "in-classroom" or even within a school district. In some cases, the portfolios may be posted on

the internet. These decisions are mostly controlled by the hierarchical network of district, school, and classroom policies (see Richmond School District, 2017, and “100 District Philosophy”, 2017).

What is more, in 2017, the BCTF raised a concern regarding the control of student data by program providers such as MyEducation BC and Freshgrade. The BCTF recommendation stated, “all data created by a student should be recognized as belonging to the student and not to the provider of the program, nor should it be used for any commercial purpose nor linked to other education, government, or commercial databases” (Baccus, 2017). The BCTF called for explicit district, school and classroom policies for student-data protection along with more accessibility for parents and students to privacy impact assessments. This relates to the idea of a post-panoptic networked assemblage regarding the concern of student data being controlled by corporations or organizations who can disseminate or use the student data for commercial purposes. On the other hand, it also highlights the influence of the educational bureaucratic hierarchy in the K-12 system that determines the access parameters to student data.

Influence on student choice and voice: It is important to consider if students do have control over artefact selection and a voice in who sees their work, how the students’ decisions are influenced and why the students’ decisions are made. From a participatory surveillance perspective, students exercise agency by voluntarily and purposefully choosing artefacts to display as well as whom they grant viewing access to. Thus, participatory surveillance empowers the user and their understanding of the digital portfolio as a sharing practice (Albrechtslund, 2008). Students consciously take on the role of being watched by sharing their work, often to gain notoriety. In Karlin et al.’s (2016) study, the middle school students using Wix wanted to

share their work with peers and teachers in other classes. One student stated, “I really liked the e-portfolio because it was an easy way to organize my work and it looked great” (Karlin et al., 2016, p. 376). In McLeod and Vasinda’s (2009) study a common theme emerged from the students voicing the significance of having their work displayed to the world since it was posted on the internet. These students were gaining extrinsic motivation for their work through social exposure. In other situations, the students know exactly who the watchers will be: specific peers, teachers, parents, administrators or even certain public organizations. The watchers are not necessarily invisible and the roles of the watcher and the watched interact in a different manner. Much like social media, digital portfolios can change the institutional and social power relations.

However, a subsequent question emerges: is voluntary participation and the willingness to share one’s work and be observed a form of societal de-sensitization of privacy to invoke compliance? Karlin et al.’s (2016) study of grades 9 – 11 using Google Sites included a summative showcase presentation of the student portfolios, which was met with limited engagement and students who voiced an unwillingness to participate. All students in the end, however, did present at the showcase and the feedback from stakeholders and students was overall positive (Karlin et al., 2016). Nevertheless, it is unclear as to why the students were initially unwilling to participate: whether it was in regard to a conflict of control over the student’s e-portfolio information, or the anxiety of having to participate in a formal presentation. The findings in De Bruin et al.’s (2012) study also revealed “students were somewhat worried about the task of the portfolio reflection” (p. 427). This led the researchers to question if the students were focused more on ego-oriented goals, which are classified as performance goals, versus task-oriented goals that focus on mastery goals (Kaplan & Maehr, 1999 in De Bruin et al., 2012). This brings the concepts of intrinsic versus extrinsic motivation for participatory

surveillance to the forefront and highlights the question of how this motivation influences student choices and their resulting digital identity construction.

According to Haggerty and Ericson's (2000) post-panoptic theory, the Marxian concept of value surplus in the cyber world can lead to the commodification of self. This concept can be transferred to the commodification of students' skills and abilities displayed in digital systems, especially regarding e-portfolios where a student's performance can be classified as a value commodity for marks, entry into a post-secondary institution and possibly later on as a part of an employment application. In this sense, students are being driven by external forces. Jenson (2011) claims: "Much research on student motivation (Svinicki, 2004; Lowman, 1990; Milton, Pollio, & Eison, 1986) indicates students are too often motivated by grades or performance rather than learning" (p. 50).

I would argue that students are product versus process driven. Hence, the education system can be seen as a micro-system preparing students to become a commodified and extrinsically motivated population. From a participatory panoptic perspective, people are exercising agency by choosing to participate in this system for personal gain. On the other hand, a Foucauldian perspective may be a more fitting argument suggesting people are not exercising agency, but instead simply being homogenized into a "normalized" commodity and disciplined into accepting and even promoting this type of commodified behaviour. To add to this understanding, it is not just the commodified reward that breeds normalization, but also the conditioning of student performance and the showcase aspect of digital portfolios. The students' considerations of how they represent themselves and how their work will be viewed and interpreted by others, has the additional extrinsic reward of social acceptance and praise.

Haggerty and Ericson (2000) refer to this as a “voyeuristic entertainment value” (p. 616) such as currently experienced in the present culture of Youtube, Instagram and Snapchat. Digital portfolios can fit into this category exemplified by a child, in pursuit of social rewards, wanting to share their work with their peers or parents. While positive participatory surveillance theorists would argue this voluntary exhibitionist tendency manifests from student agency, I think it reveals a Foucauldian internalization of the self-surveillance process in a participatory cloak. The student’s participation is based on their own self-observation and concerns with how their identity will be represented and viewed by others. If it is favorably viewed, it will reap social and ego boosting rewards. This influences identity formation and the type of value placed on it.

Overall, students can be empowered when they have control over the selection of their artefacts and choice in who can view their work. This control, however, is limited at the K-12 level due to the teacher’s pedagogical approach to the selection process, and the district and school policies regarding access parameters to digital work. In addition, it becomes apparent that even if students are empowered in the selection process of artefacts and viewers, their decisions are primarily influenced by extrinsic motivation. While this pursuit of perceived social rewards may be framed as exercising agency through “voluntary” participation, it more clearly represents an internalized disciplinary method of “normalization”.

III. Identity Formation

Personal and social identity formation is one of the core competencies in BC’s New Curriculum. Students are expected to be empowered and to exercise agency through the process of identity construction. Ravet (2008 in Meyer et al., 2010) points out that digital portfolios

“represent one’s digital identity of the 21st century” (p. 84). This raises a pertinent inquiry regarding agency and the authenticity of student identity formation via digital portfolios.

Watty and McKay (2015) argue that “Eportfolios allow for considerations of identity and representation that move beyond the ‘self’ created in social media forums” (p. 200) to the academic, and that e-portfolios are useful in “prompting students to explore questions surrounding digital identity and the nuances of crafting an identity for a particular audience” (p. 200). The conceptualization of surveillance used to promote self-awareness, through self-observation and external observation, by exposing and presenting oneself through one’s work can play a role in identity formation. This visible digital identity created by the student can be a tool of empowerment, in both personal and commodity contexts, “to reclaim some control over this externalization of information” (Dholakia and Zwick, 2001, p. 13).

On the contrary, this empowerment of identity formation - from a Foucauldian panoptic perspective - is a façade. Although McLeod and Vasinda (2009) stated in their study that the students were satisfied with publically posting their work on the internet, this finding also demonstrates that the students were concerned with how they were representing themselves and how they would be perceived by others. One student said, “it [student work] is something that you need to do good [*sic*] because it will be shown to the whole world and the whole world will see it when you get done” (McLeod & Vasinda, 2009, p.35). This indicates the “visibility” of the digital portfolios functioning as a societal normalization factor. The student’s comment articulately illustrates the student’s reflection and actions are not purposed for their own personalized learning, but instead the student is motivated to do a “good” job because the student is concerned with how their digital identity will be perceived by “the whole world”.

Foucauldian panoptic theory focuses on the student's purpose behind creating their digital identity: Is the student forming their identity through an individualized lens by gaining knowledge from their authentic learning experiences? Or is the student creating their identity with the knowledge, consciously or not, that their work will be viewed by others and thus, motivating the student to manifest an image that will be positively perceived by others? Is this a process of personalized identity formation or structural normalization? If the student is concerned about their visibility to the point they internalize the methods of participatory and self-surveillance in a self-induced process of self-disciplining social actions, such as creating a certain digital identity for a specific audience, then the student has become a disciplined docile body. "Discipline 'makes' individuals", Foucault (1977/1995) writes, "it is the specific technique of a power that regards individuals both as objects and as instruments of its exercise" (p.170). Therefore, in relation to digital technologies, the student's internalization of the audience's "gaze" becomes an inward surveillance. Consequently, the student becomes the overseer of their own behaviours, which is then placed in relation to the development of their character, self-assessment and identity formation.

LMS and e-portfolios also allow teachers and parents to become complicit in the collaborative and commodified surveillant process of "identity construction". The digital learning community functions as an "integrated system". Foucault (1977/1995) claims that disciplinary power is not an entity but "an 'integrated' system, linked from the inside... to the aims of the mechanism in which it [is] practiced" and functions "as a network of relations" (p. 176). Parents and teachers, by their own participation in the digital learning environment, are teaching students to practice the same docility. It is through these complex social relations that the people become the mode of power in the dominant structure. Thus, disciplinary power is a

relational network which works due to the buy-in mentality, and these are the values we educate our children and youth to adopt in our public education system.

Disciplinary power is embodied in the relationship between the educational process which establishes the student's identity and the student's identity which shapes the educational process. The public education system is a micro-model of society manifest in Foucault's conception of the power/knowledge/space triad (Sigona, 2015). To put this into context, the public education system provides the schooling process, such as promoting constructivist knowledge for transformative learning via digital surveillance technologies, in which the learner's identity is formed. Yet, it is this identity as a collaborative and critically self-reflective learner that holds the power to shape the education process of a participatory surveillant system. In this manner, the learner identity becomes valued as a core aspect of the educational pedagogy, which justifies its occupation of space both in schooling and in society at large. This is exemplified by the prescribed curriculum that houses the societal values of the core competencies as a form of "normalization" for "individualized" or personalized learning. The education system is used to legitimize the political and social space, and the knowledge disseminated within this space.

To summarize, students are expected to exercise agency through digital surveillance, which promotes self-awareness and allows the students to claim control over their digital information. This control is supposed to empower the student in the process of constructing their digital identity. However, the "visible" nature of the digital portfolios influences the authenticity of the student's identity formation as the student internalizes the audience's "gaze" and modifies their behaviour and subsequent identity construction accordingly. The power dynamic of the power/knowledge/space concept produces a "normalized" perception that values personalized

learning and the resulting participatory surveillant process it engenders for identity construction. Thus, the formation of the student's identity is central to disciplinary power, which functions as an integrated system due to the buy-in of all the digital learning community members.

IV. Collaboration, Communication, and Control

Digital portfolios and LMS are collaborative in nature and intentionally structured to render student learning visible for an audience, whether it be the student, teacher, peers, parents, administration or other stakeholders. The collaborative component is core to transformative learning through the feedback cycle. Some e-portfolios are purposed for collaboration with formative frameworks or to showcase student work with summative assessment. The distinction between e-portfolios use as learning systems versus their use as assessment systems can put these competing purposes of the e-portfolio into conflict (Barrett, 2007). This also has an impact on the roles of the teacher and student, and speaks to the functions of collaboration, communication, and control.

Student and teacher; peer-to-peer: Teacher feedback on student work is not new; however, a forum that allows teacher observation and offers feedback, irrespective of a structured classroom space and time, is new with the advent of digital portfolios and LMS. Through digital portfolios the teacher has the ability to watch the student during their process of creating and editing. In turn, the student has the opportunity to post questions to the teacher as well as to peers. In an ideal collaborative environment, the student receives feedback, but can also offer it to peers. In addition, the collaborative environment is creative as the peer-to-peer discussions along with the teacher input can reap multiple perspectives, and it offers the student

different views from which to interpret and approach their work. It also presents students with the space to inquire further about another person's comments on their work.

Both theoretical and empirical evidence supports the value of collaboration in transformative learning, and students speak to the benefits of sharing their work and receiving both peer and teacher feedback (Karlin et al., 2016; Meyer et al., 2010; McLeod & Vasinda, 2009; Parker et al., 2012; Tezci & Dikici, 2006). Tezci and Dikici (2006) note from their study, that the collaborative process and cooperative environment in which the digital assessment criteria was created seemed to improve student knowledge leading to increased creative thinking in drawing and writing performance. This addresses some of Barrett's (2007) pedagogical concerns about the digital portfolio process and assessment divide. Collaboration is often a highlight for the students - they are quite willing to share their work with peers and enjoy receiving as well as offering feedback. In Parker et al.'s (2012) study of post-secondary students, the students had control over uploading their artefacts as well as making them available to others for viewing and evaluation. One student stated, "I thrived on the constant feedback I received from my university supervisor, and this system would probably benefit from more portfolio reviewers" (p. 104). Students at the K-12 and post-secondary level do seem to buy into participatory surveillance due the benefits of extrinsic motivation from collaborative feedback. The educational positives of LMS and e-portfolios lie in the communication and assessment frameworks for the teacher and student as well as peer-to-peer relationships.

Karlin et al. (2016) also examined the advantages and limitations of using e-portfolios in K-12 classrooms and found the positive view of the collaborative nature of the e-portfolios as a recurring theme. Digital portfolios and LMS, such as Schoology or Wix, gave the students the opportunity to organize, reflect on, and share their work with peers and teachers. The teachers

and students agreed they were better able to self-assess and reflect upon their own work when they had the ability to share their work and keep a digital record of feedback from peers (Karlin et al., 2016). Jamal and Shanaah (2011) also found that students felt they learned from other students' feedback and comments on LMS, and that this feedback, especially from the teacher, motivated them. In addition, students found the visibility of other students' assignments was helpful in supporting their own learning. Nevertheless, some students in their study did not want the teacher involved in the peer-to-peer discussions because they saw the LMS or digital portfolio as controlled by the school and they felt they lacked privacy (Jamal & Shanaah, 2011).

Peer-to-peer collaboration can be considered a type of lateral surveillance. One interpretation is this type of surveillance breaks from a hierarchical interpretation of the Foucauldian panopticon. However, Albrechtslund (2008) points out that Andrejevic's view of lateral surveillance is more based on peer-to-peer monitoring and thus Albrechtslund places peer surveillance as "spying" where the watched is unaware of the surveillance. In contrast, peer-to-peer collaboration is often considered participatory surveillance with the participants as both the watched and the watchers. This resembles more of social media surveillance forum in which students seem to enjoy and be quite comfortable with the mutual surveillance. On the other hand, there are also times when the students do not collaborate or even communicate without the teacher initiating it (Jamal & Shanaah, 2011). Therefore, it is necessary to question if the participatory aspect of the peer-to-peer collaboration is "voluntary" in a participatory panoptic sense or if it is actually dictated by an "authoritarian" figure. LMS are mostly seen as control mechanisms from a teacher directed and initiated framework (Dogoriti, Pange & Anderson, 2014; Jamal & Shanaah, 2011), signalling a return to what Haggerty and Ericson (2000) would refer to as a hierarchical Foucauldian panoptic perspective.

Learning community: student, teacher, and parent: In the ideal learning community, collaboration places the student at the center of the learning process, but it also enables the teacher and parents to participate in meaningful ways. The evolution of traditional portfolios to more advanced digital portfolios and learning management platforms parallels their pedagogical evolution from summative showcases to process-oriented learning environments. This shift at the K-12 level encourages parents to participate beyond monitoring and engage in the actual process of their child's learning. The student is supported through the engagement and feedback from teachers, parents, peers and their own self-observation. Through this process the student's "learning is made visible" so they can exercise agency through authentic deep reflection leading to transformative learning.

In a collaborative learning environment, "agency" for the teacher means pedagogical and professional agency to enhance personalized student learning and professional growth, not agency for authoritarian control. The digital portfolio can offer the teacher an insight into each of their students and as a result, they will be able to offer each student more individualized support. McLeod and Vasinda's (2009) research indicated teachers felt the students' selection of artefacts and their reflections offered "each teacher insights into the child as a learner" (p. 36), which in turn, according to Tezci and Dikici (2006), provides the "teacher the opportunity to evaluate the development and success of the students" (p. 46). In addition, this insight also offers the teacher an opportunity to reflect on their own methods. Hetsevich (2017) corroborates this view by claiming that "with all this data available, a teacher can not only improve students' performance by finding the gaps in their knowledge but find shortcomings in the teaching process to

maximize the teaching effectiveness”. Jenson (2011) and Yancey (2011) contend that pedagogical approach is core to eliciting deep reflection from students.

Parental engagement is also considered essential in a K-12 learning community. Digital portfolios and LMS offer parents a “window into the classroom” (Freshgrade, 2018). This window provides parents with more agency to be involved in their child’s education beyond being a distant voyeur. Instead, the parent can gain insight into their child’s individual learning needs and offer feedback and support as necessary, both to their child, but also to the teacher. Some parents from McLeod and Vasinda’s (2009) study stated the benefits of the e-portfolio process was the documenting of their child’s progress along with the reflective nature of the tool. Parents noted how they enjoyed being included in the life of the classroom and connected more deeply through their access to the digital portfolios which “gave them a glimpse, or window, into their child’s classroom” (McLeod & Vasinda, 2009, p. 36). Digital portfolios and LMS expand the institutional learning environment and extend it into the home (Olmstead, 2013). If the intent of 21st century education is for the development of lifelong learning and transferable skills, then students should be able to extend their learning environment outside of institutional walls.

In this context the digital portfolios and LMS function as collaborative mechanisms through a networked assemblage that promotes agency primarily for the student, but also collaterally for the teacher and parents. Surveillance does not need to be understood only as a controlling and threatening power, but instead the disciplinary and hierarchical power is dispersed throughout the digital network. Haggerty (2006) points out that surveillance as networked control can offer counter-power by leveling the hierarchical structure or offering possibilities of resistance through its de-territorialisation. Mann (2004, in Galic et al., 2017) contends that one form of resistance to Foucauldian panoptic surveillance is “to ‘watch back’ at

those who watch us” (p. 31). The concepts of *sousveillance* and *synopticism*, evident in digital portfolios, are what Haggerty and Ericson (2000) claim begin an equalizing of surveillance, which highlights a “criss-crossing of the gaze such that no major population groups stand irrefutably above or outside of the surveillant assemblage” (p. 618). Galic et al. (2017) refer to surveillance in this context as *infrastructural* versus *structural*; thus, the structured classroom learning space has instead become a networked digital space with more stakeholders participating in the learning community. The post-panoptic surveillance theory opens the door for participatory surveillance focused on the “voluntary” sharing of information whether that is student work or artefacts, peer, parent, or teacher feedback, or teacher assessment.

Complex integrated system of control: Foucauldian panopticon surveillance is not just about a hierarchical power; it is about the discipline of the docile body, a complex integrated system. Thus, through a Foucauldian perspective it becomes clear that the collaborative learning environment, facilitated through digital portfolios and LMS, does not empower student agency nor engage teachers and parents to participate towards this end.

First, there is the concern regarding the authority of the teacher and their pedagogical approach to digital technologies and collaborative learning (Abrami et al., 2009; Jamal & Shanaah, 2011; Jenson, 2011; Yancey, 2011). The success of the LMS and e-portfolio as a pedagogical tool for student agency seems to depend heavily on the teacher and their pedagogical approach: to either empower students by offering opportunities for choice and voice, or to control and monitor student actions and work within the digital environment. While Haggerty and Ericson (2000) put forth the idea of the cyber world being de-territorialized, and thus, outside of the realms of an institutional power, digital technologies for educational

purposes actually embody an expanded territory for institutional power. Traditionally homework goes home, and group work takes place after school hours, thus a significant part of schooling is beyond the teacher's view and knowledge. However, now both the space, LMS and digital portfolio, and time, through data tracking, of the student's learning environment can be accessed from anywhere at anytime (Jamal & Shanaah, 2011; Meyer et al., 2010). In addition, one needs to question the teacher's control of the selection, feedback, and resulting student reflections that form the student's identity as well as to whom the teacher grants access to view student work.

I think, however, that it is too convenient and even irresponsible to hinge student agency or lack thereof, on teacher pedagogy and an omnipresent authoritarian control. This leaves a lot of onus and power in the hands of the teacher and what seems a hierarchical and sovereign system. With digital surveillance technologies, it is not just the teacher observing the students, the teacher is also being observed. Therefore, not only should the teacher's control be questioned, but so should the reasons behind their controlling actions. Is the teacher acting of their own accord, thus exercising agency for control, or is the teacher more concerned with how the parents and the administration will perceive the "learning" taking place in their classroom? Or is the teacher responding to an internalized discipline attempting to maintain a "normalized" professional identity like that of other teachers and the expectations of society at large? In LMS and e-portfolios there can be a number of participants surveilling including students, teachers, parents, administration, and other stakeholders.

Parental engagement must also be questioned from the control perspective. From the limited research available on parental involvement in education via digital technologies, two themes emerge: communication and control (McLeod & Vasinda, 2009; Olmstead, 2013; Sad, Konca, Ozer, & Acar, 2016). Sad et al. (2016) revealed that parents widely use digital

technology to communicate with teachers, the schools and other parents. Parents also stated digital technology enabled them to supervise their child's academic, social or personal well-being at school without time and place limitation. These themes of monitoring and controlling the activities of children, especially from a far, reveals parental involvement remains at the panoptic level. Thus, digital technologies offer parents little opportunity to be more than passive monitors, instead of collaborative members of the learning community. For parents to be authentically engaged, they would need access as participants to offer "useful" feedback in the digital collaborative forum. It appears that a possible shift in the function of digital surveillance as a negative panoptic control to a more positive collaborative mechanism is yet to be actualized. The reasons for this limited engagement could lie in the pedagogical approach to including parents, or it could be that parents are more concerned with monitoring as a means to control their child's learning and perceived "success" as well as how their own parenting skills are being viewed.

Taking these control issues into consideration, it seems that in the space of digital portfolios and LMS there is limited collaboration being exercised; instead, overall, these digital mechanisms foster a complex web of hierarchical, lateral, and even bottom-up control being exercised. This can be seen as parents, students, and even administration watching the teacher's educational methods and actions. It can also be seen as the teacher and administration watching the parent's contributions and instigating a pushback on the responsibility of parents for their child's learning. In this convoluted system, it is difficult for students to tease out legitimate feedback from which they can create authentic critical reflections. Therefore, it seems student reflections and subsequent identity formation is being conditioned through a disciplined panoptic control to reflect what the teacher, parents, peers and even the student themselves expect as a

“normalized” identity and homogenized learning experience. In this regard, the post-panoptic criss-cross leveling “gaze” can also be interpreted as an integrated mode of disciplined control. Foucault (1977/1995) states: “Discipline makes possible the operation of a relational power that sustains itself by its own mechanism” (p. 177). It is this relational network which is the apparatus as a whole functioning to produce power of the disciplined society.

In summary, both positive and negative themes emerge in this section regarding collaboration and control. The collaborative learning environment empowers the student to gain knowledge from different stakeholders’ perspectives, and it facilitates the teacher in supporting personalized learning. Digital technologies also move student learning beyond the school walls to invite parental engagement. Nevertheless, control is pervasive in the digitally integrated system. This can be understood through Danah Boyd’s (2011) conceptualization of situational power, which refers to people holding power over others through their interaction dynamic. In regard to digital technologies, teachers can hold situational power through their pedagogical approach and digital omnipresence; parents can hold situational power by monitoring their children and teachers to hold them accountable to the learning goals; and students can hold situational power through their educational performance, or lack thereof, which reflects on both their teachers and parents. Situational power induces complicity which gives way to structural power as a disciplinary mechanism. E-portfolios and LMS may seem a de-territorialized space, but digital technologies really just offer a new form of “digital” institutional space that extends its territory and membership. In the digital collaborative learning environment, teachers and parents become complicit participants, who are in turn, surveilled and controlled by the system themselves.

Conclusion

The purpose of this paper was to analyze, through a digital surveillance lens, the function of LMS and e-portfolios as collaborative educational tools or control mechanisms for student learning. Core to surveillance theories is the underlying negative connotation of the traditional panoptic Foucauldian stance. However, surveillance theories have begun to shift to more positive perceptions of digital technologies due to a diffused view of panoptic control through participatory surveillance and self-surveillance. The concepts of agency and control help to tease out the nuances of panoptic to participatory surveillance, and to understand the nature and consequences of our technology driven society for student learning. LMS and e-portfolios are presented by educational stakeholders and many researchers as positive and unproblematic digital technologies, which have some positive qualities that benefit students, teachers and parents.

I argue in this paper, however, that many of the negative implications of digital portfolios as surveillance technologies, such as the exercise of situational power as a form of negative control, have been overlooked because of the underlying assumption that digital portfolios benefit the process of transformative learning. Students can exercise agency in some situations posed by digital portfolios such as selecting their artefacts, choosing who can access their e-portfolio, and engaging or not engaging in collaborative work. Nevertheless, agency exercised in digital learning communities is really an illusionary power, and it can function similarly to situational power as a means to elicit buy-in to the broader structural power. K-12 public education is a system purposed for preparing students to become docile bodies in broader societal spaces such as social media or online consumer venues. This also works in reverse with students being more willing to share on an e-portfolio or LMS because they are already

conditioned to share on social media or perform as digital consumers. Through the illusion of agency, the broader scope of structural power transcends and molds not only the students, but also the teachers and parents into an integrated system of participatory surveillant docile bodies. Learning management systems and e-portfolios are digital surveillance technologies purposed as control mechanisms to create a complicit populace in a “normalized” frame and circumvent agency through the auspices of participatory surveillance and self-surveillance. LMS and e-portfolios are a targeted educational space of societal control.

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