

# EDUCATIONAL CHANGE AND NEXTSCHOOL: A REVIEW OF LITERATURE INFORMING INNOVATIVE APPROACHES TO TEACHING AND LEARNING

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## Abstract

*In this paper, we examine the current literature on whole-school-system change processes, and the ways in which research findings may be applied to schools in Quebec, Canada. Throughout the paper we use a current school change initiative, NEXTschool, to explore the possibilities and challenges that some of this literature presents, applied to a specific context. At the conclusion we offer a conceptual framework that underpins how we conceptualize the NEXTSchool initiative. The review focuses on three fields that have emerged as relevant to current change movements: 21st century educational change/reform, power dynamics, and design thinking as a systems-change process.*

**Keywords:** 21st century, design thinking, educational change, power dynamics, Québec, secondary school

## **Educational Change and NEXTSchool: A Review of Literature Informing Innovative Approaches to Teaching and Learning**

Education is at a pivotal moment. Worksheets, textbooks, desks in rows and the teacher lecturing from the front of the classroom are familiar examples of learning in high school. In today's fast-paced, knowledge-based, global economy, the currencies for success are critical thinking, creativity, and problem solving; none of these can be taught effectively through the aforementioned traditional approaches. Rapidly evolving conditions require schools to employ new ideas to meet the complex educational and societal challenges of the 21<sup>st</sup> century (Bellanca & Brandt, 2010; Burns, 2017; C21 Canada, 2012; Caldwell, 2007; Khalideen, 2015; McTighe & Seif, 2010; Trilling & Fadel, 2009). Students need an education that supports them in becoming independent and creative. At the same time, this education must continue strengthening the core skills students need. Research has begun to look at these issues in some depth, but the field of school change is very diverse and lacks nuance and cohesion, which at times makes the applicability of the research difficult to understand in specific contexts. In this paper we review the literature on school change and begin to apply it to an example of a current change process in Québec, called NEXTschools. This allows us to better synthesize the research on school change and explore its feasibility in practice.

### **Context**

This article has emerged as part of a research project funded by the Social Science and Humanities Research Council (SSHRC) partnership development fund. A research team of graduate students and professors in Québec are investigating an educational reform initiative in the province that aims for systems-level changes intended to improve student learning in high schools. We address the following question in this review: what does scholarship say about how education can bring substantive reform to fruition that addresses the challenges of an increasingly complex world? Often, educational reforms have survived as standalone innovations because of individual efforts and/or leadership rather than substantive change to an educational system. This review has strived to include research on reform efforts that have aimed higher to produce system-wide educational reforms as related to the context of the NEXTschool initiative.

### ***Educational reform efforts in Québec***

It is important to understand the complex reform culture that the NEXTschool initiative emerged from. Our inquiry into educational change revealed diverse perspectives on the last major educational reform introduced in Québec, Québec Education Program (QEP) (Gouvernement du Québec, 2004), and its subsequent implementation (Advisory Board on English Education, 2011; Canuel, 2014; Lenoir & Hasni, 2010; Potvin & Dionne, 2007; Smith & Foster, 1999; Wiener, 1999). The QEP reform began its roll-out around the year 2000 and continued for the next decade, but without a comprehensive implementation strategy or facilitation support from universities in the province (Potvin & Dionne, 2007). Funded by the Ministry of Education and Higher Education and the Ministry of Education, Leisure, and Sport

(MEES/MELS), the project, *New Approaches, New Solutions* (NANS) followed the reform as a means to support its successful implementation (V. Gold, personal communication, February 11, 2019). Another attempt at supporting the QEP reform was the Advisory Board on English Education (ABEE), a ministry committee of education stakeholders across Québec and chaired by an outsider—originally by Gretta Chambers, Chancellor Emerita, McGill University and more recently by Kate LeMaistre, a retired Associate Professor from McGill’s Faculty of Education (V. Gold, personal communication, February 11, 2019). Each year the ABEE chooses a theme that will be their focus of exploration, solicits many perspectives from a range of Québec stakeholders, and then compiles a report. ABEE came out of the Chamber’s Report (1992), a white paper on English language education commissioned by the MELS/MEES and directed by Gretta Chambers (V. Gold, personal communication, February 11, 2019). A final attempt by the ministry to support the QEP came in June of 2017 when Sebastian Proulx—then Minister of Education in Québec—launched the Policy on Educational Success with ambitious educational goals for the province to achieve. This policy will be upheld by the current Coalition Avenir Québec (CAQ) government. This document reflects the ministry’s recommendations and priority areas in supporting the QEP (A. Rosenberg, personal communication, February 11, 2019).

The final version of the QEP, released in 2003, was a response to the changing needs of education in the 21<sup>st</sup> century and required a profound shift in Québec’s basic learning paradigms (Bouchard, 2014). In response to previous educational change movements in the province, the Ministry attempted to shift from the role of *change agent* to that of *facilitator of change* (MEQ, 1992, p. 14) and as such to move the locus of power to the schools themselves, encouraging local or ground-up change efforts (Freeland, 1999; Smith & Foster, 1999). Unfortunately, the public was not ready for this change, as it was presented, and the resulting perception amongst all levels of education was negative (Bouchard, 2014; Canuel, 2014). The QEP reform has endured, though, and sixteen years later, its success has been marred with struggles. Because of those past challenges, we have attempted to examine areas that presented themselves as possible roadblocks in previous reform efforts so as to avoid repeating them.

### ***NEXTschool***

Attempts to transform schooling to better respond to 21<sup>st</sup> century knowledge-based economies are often piecemeal or localized. NEXTschool, on the other hand, assumes that urgent and dramatic systems-level changes are required to meet the needs of the next and future generations of students. Through a design process that brings together multiple educational stakeholders with expert facilitators, the NEXTschool partnership works to transform the delivery of English-language high school education in Québec. The NEXTschool initiative has focused on building connections between educational partners – teachers, students, administrators, community members, policy makers, consultants, researchers, etc. – and facilitating workshops where these stakeholders come together to redesign conventional high school experiences. NEXTschool provides a concrete systems-level response to the changing

needs of high school students that supports our research into evidence-based, user-generated frameworks for facilitating greater student and teacher engagement and in turn greater school success.

Applying research/evidence-based approaches to concrete change efforts is complex and requires thoughtful application of study findings. As we move forward with this research, we demonstrate to other researchers and schools how one might take the diverse literature and understand it for their own contexts. This requires a well-grounded literature review, which will provide the foundation for the core conceptual framework underpinning the research project.

### **Literature Review**

For this literature review, we searched for articles published between 1990 and 2019 in databases including ERIC, Web of Science, the McGill library, and Google Scholar. Specifically, we sought to investigate what research could inform the path of the NEXTschool initiative towards educational change for the 21st century, considering its use of design thinking and the power dynamics involved in educational change. We limited our review to approximately 90 books and peer-reviewed articles that aim at giving context to our exploration of the NEXTschool initiative. We selected articles that addressed multi-stakeholder change processes, school reform in the public sector and anglophone system, and those that were reflective of how the initiative was introduced in the NEXTschool Research and Development report: “Student-Centered, Teacher-Driven, Globally Connected, Community Engagement” (LEARN, 2017, p. 5). In consideration of the design thinking model from the Stanford d.school (Doorley, Holcomb, Klebahn, Segovia, & Utley, 2018) that the NEXTschool design process is following, we focused on results that explore the potential of multi-stakeholder engagement and collaboration for organizational change. To that end, we further narrowed results to reflect the “inside” (Sleeger & Leithwood, 2010), ground-up reform approach taken by NEXTschool through design thinking, although we also included results that investigated the “outside” (Sleeger & Leithwood, 2010) or top-down approach that is more traditionally associated with educational reform. In the following sections, we delve more deeply into (a) educational change, (b) power dynamics, and (c) design thinking aiming to uncover some key concerns and ideas related to how education may be able to bring substantive reforms like the NEXTschool initiative to fruition.

### **Educational Change**

Looking first to educational change, the sources we uncovered focused on the significance of relationships between the diverse partners involved in reforming schools (Rubinstein & McCarthy, 2014; Stroh, 2015). This discussion was enmeshed in considerations of systems and the larger structures of people within organizations working towards educational change (Fullan, 1993; Fullan & Hargreaves, 2009). Articles touched on both the nuances of educational leadership (Bryk & Schneider, 2003; Fullan, 2011; Leithwood, Harris & Hopkins, 2008; Levitan, 2019; Lumby, 2013; Lumby & Foskett, 2011) and the importance of authentic collaboration between stakeholders (Goldstein & Butler, 2010; Hargreaves, Lieberman, Fullan,

& Hopkins, 2010). Technology surfaced as a central aspect of educational change for 21<sup>st</sup> century learning (Dede, 2010; Partnership for 21<sup>st</sup> Century Skills, 2014). Also significant was decolonizing Canadian educational spaces and reconciliation with First Peoples as vital considerations for conceptualizing educational change in Canada (Battiste, Bell, & Findlay, 2002; Howell, 2017; Levitan & Johnson, 2020; Munroe et al., 2013). The literature suggests that successful educational change relies on rolling out reform models contextually and attending to concerns about transferring educational models from one place to another (Farley-Ripple et al., 2018, Mukhopadhyay & Sriprakash, 2011; Potvin & Dionne, 2007).

Our review of literature on educational change has been divided into four subsections: educational leadership and systems thinking, or the relationships between various partners involved in a change process; the place of technology in reform; the significance of Indigenous perspectives to educational change processes and models; and the value of learning from other educational models paired with the importance of attending to the new context for rolling-out educational reforms.

### ***Educational Leadership and Systems Thinking***

Firstly, exploring educational leadership, we focused on the role leaders play within organizations. Research has suggested that top-down approaches to educational leadership – where administrators and policy makers assert centralized decisions that impact diverse educational stakeholders, usually without consulting them – are less effective at facilitating educational change than collaborative, transparent leadership that values teachers’ voices and treats organizations as learning systems (Bryk & Schneider, 2003; Hargreaves & Shirley, 2009; Rubinstein & McCarthy, 2014; Stroh, 2015).

Educational leadership is interwoven with questions about *systems thinking*, particularly the way educational leaders, among others, must come together to affect complex educational change (Fullan & Hargreaves, 2009; Hargreaves, Lieberman, Fullan, & Hopkins, 2010; Stroh, 2015). The multifaceted change processes necessary for complex change rely on navigating uncertainty (IDEO, 2015; Luka, 2014; Plattner, Meinel, & Leifer, 2014), patiently taking time (Schnurer & Hahn, 2009), and incorporating reflection in action (Fullan, 2011; Voogt et al., 2015). Systems thinking includes considerations of how to engage authentically with the diverse perspectives of all those involved in change (Fullan, 1993; Goldstein & Butler, 2010; Rubinstein & McCarthy, 2014; Stroh, 2015). NEXTschool attends to concerns of top-down and systems thinking approaches by employing design thinking, a highly collaborative problem-solving process, as its designated method of change.

### ***Role of Technology***

Digital technologies are described in literature on educational change as tools that support 21<sup>st</sup> century learning goals (Dede, 2010; Partnership for 21<sup>st</sup> Century Skills, 2014) and nurture autonomous learners (Benson & Voller, 2014; Drexler, 2010; Hafner & Miller, 2011). However, some educational scholars have begun to suggest that reliance on digital devices actually limits

student autonomy; students can become overdependent on digital tools (Baek & Ha, 2018) which causes their memory processes to adapt in ways that obstruct students' abilities to recall foundational pieces of knowledge or figure things out on their own without rushing to the internet (Agbo-Egwu, Abah, & Anyagh, 2018). Some scholars assert that to many students, the internet has become an addiction which they feel is crucial to learning and even survival (Fong, Lo, & Ng, 2015; Yamamoto, Ananou, & Sindlinger, 2013). A critical adoption of digital technologies is therefore necessary to responsibly rethink how and when to embrace and integrate these technologies into classrooms. Thus, in conceptualizing educational change in relation to NEXTschool, thoughtful consideration must be made as to how to use these technologies for learning.

### ***Indigenous Perspectives***

The importance of Indigenous perspectives for working towards changing educational structures in Canada continues to be underestimated (Howell, 2017). Provincial curricula in Québec have failed to heed the Truth and Reconciliation Commission's (TRC) call to action around education (Howell, 2017; Russell, 2018). As Howell (2017) argues, many educators feel like they lack the support, knowledge, and time to include Indigenous perspectives in their classes. They cite Québec's provincial curriculum's underdeveloped focus on Indigenous peoples and its primary focus on Québec's unique linguistic and cultural history as the reason for its poor incorporation. Without provincial support, alternative resources and partnerships, it is unlikely that changes will happen. Educational non-profits such as the educational organization behind NEXTschool, Leading English Education and Resource Network (LEARN), therefore can play an important role in realizing the TRC's recommendations (Howell, 2017) to address needs that are often beyond the capacity of usually overburdened, understaffed and under resourced schoolboards. This reflects the importance of resources and relationships for affecting educational change. Other Indigenous scholars have contributed to the conversation on education reform by pointing out that so-called 'new' trends in 21st century learning parallel many traditional philosophies inherent in holistic Indigenous ways of approaching education (Battiste et al., 2002; Munroe et al., 2013).

### ***Other Educational Models***

One significant caution associated with educational change relates to the idiosyncratic complexity of each educational system and how this must be attended to—in all its nuanced subtleties—in order to roll-out a context-specific reform (Fullan, 2011; Smith & O'Day, 1990). When transferring reform models from one place to another, the ideas cannot just be borrowed and imposed as they are, but must be translated flexibly for the new context and community; in other words, reform efforts must be contextualized (Farley-Ripple et al., 2018; Mukhopadhyay & Sriprakash, 2011). As a predominantly French-speaking province in a majority English-speaking country, Québec has an especially unique cultural and linguistic character. Therefore, as exemplified in the previous section's discussion around Québec's failure to meaningfully include

Indigenous perspectives in provincial curriculum, reform in this province faces distinct conditions and challenges (Lenoir & Hasni, 2010; Potvin & Dionne, 2007; Wiener, 1999).

## **Power Dynamics**

Our discussion on power dynamics is separated into two sections, one looks at how power dynamics relate to educational change and another considers the role of power dynamics when considering educational leadership.

### ***Power Dynamics within Educational Change***

Literature on power dynamics and educational change points to several interconnected determining factors that could inform the implementation of the NEXTschool initiative: school and teacher receptivity to change (Evans, 1996), teacher motivation (Hargreaves, 2005; Waugh & Punch, 1987), and the role of student voice in change processes (Levitan, 2018; Mitra, 2003; Tuck & Yang, 2013). Of further significance were articles that explored systems change (Fullan, 1993) and how globalization and comparative education have power or influence over local models (Hickling-Hudson & Klees, 2012; Zajda & Rust, 2009). Given the complexity of power dynamics, we chose to strike a balance between local concerns (i.e. teacher and student voice) and global issues (i.e. globalization) to ensure that our examination of power dynamics was robust.

**School/Teacher Receptivity.** When considering change movements in school settings, one must reflect on the underlying power dynamics present in all change processes. Evans (1996) suggested that educational change causes tension in power dynamics in three significant ways. First and foremost, “change almost always causes ambivalence and resistance” because humans are naturally “pattern-seeking” (p. 2). Thus, teacher receptivity to change is a vital consideration, particularly in light of the firmly rooted structures like subject offerings of the mandated curriculum, daily timetabling, age groupings, and the September to June school calendar embedded in schooling. Secondly, change threatens competence by inferring that teachers’ current competence is not adequate. Change requires teachers to “abandon something they know how to do and adopt something they don’t know how to do” (p. 2). Alterations in practices, procedures, and routines often make teachers feel inadequate and insecure, especially if they have exercised pedagogical skills in a certain way for a long time and even more if teacher performance has been judged as exemplary (Evans, 1996; Hargreaves, 2005). Finally, change almost always involves conflict. If change is seen as being imposed by administrators, creating winners and losers, or reawakening so-called old-wounds of past reform experiences, then it is unlikely to move forwards in a positive manner and conflicts may arise (Evans, 1996; Fullan, 1993; Hargreaves, 2005).

Years of experience is another important factor that influences teachers’ receptivity to change and ability to participate in change. Consider early career teachers who take up appointments in schools where the adult culture is centered around a demographically and politically dominant group of experienced colleagues. In such a context, early career teachers can

become isolated, unsupported and prone to concentrate on survival in and compliance with the existing culture (Johnson et al., 2004), thereby making it difficult to engage in change processes. Furthermore, early career teachers' developing sense of their professional identity can create challenges in their ability to collaborate with others around them, lest their sense of self is weakened or invaded (Fuller, 1969; Leithwood, 1992a; Levitan & Carr-Chelman, 2018). Exacerbating the chance of teacher receptivity is the cultural myth that teachers are rugged individuals, born into their roles or self-made, and therefore with no concern for "the social relationships and the context of school structure" (Britzman, 1991, p. 232).

**Teacher Motivation.** Factors related to power dynamics also affect teachers' motivations when engaging in change (Hargreaves, 2005; Waugh & Punch, 1987). Change that occurs from *inside* focuses on the capacity of schools to transform themselves into supportive environments for change while change from the *outside* concerns the implementation of externally developed reform designs into schools (Sleeger & Leithwood, 2010). This differentiation plays an integral role in many teachers' openness to change (Robinson & Aronica, 2016; Senge, 2006). The involved teachers' emotional geographies (Hargreaves & Shirley, 2009), consisting of the spatial and experiential patterns of closeness and/or distance in human interactions and relationships, also have impact on teacher willingness to engage in change processes. Professional agency in change processes may also affect teachers' motivation to create or engage in change effectively (Vähäsantanen, 2015). In this instance, professional agency refers to the notion that teachers are professionals who have the power to act, to affect matters, to make decisions and choices, and to take stances in relation to their work and professional identities (Vähäsantanen, 2015).

**Incorporation of Student Voice.** Scholars studying the power dynamics in educational systems stress the value of student engagement and student voice during educational change (Brasof, 2015; Christensen, 2004; Fielding, 2004; Levitan, 2018; Mansfield, 2014; Mitra, 2003; Mitra, 2007; Robinson & Taylor, 2007; Tuck & Yang, 2013). Perceived power and authority affect whether or not student voice is included in change processes. Indeed, including student voice, defined as having presence, power, and agency within democratic contexts, often calls for a cultural shift that opens up spaces and minds not only to the sound, but also to the presence and power of students in change processes (Mitra, 2003; Tuck & Yang, 2013). As our research moves forward, student voice has been increasingly recognized as a key point of engagement for the school community. At the outset of the NEXTschool initiative, focus has been on the role of the teacher and institution; robust student voice had not been engaged which introduces a potential roadblock into the successful implementation of the NEXTschool initiative.

### **Power Dynamics within Educational Leadership**

In terms of power dynamics in relation to leadership, our inquiry points to transformational and distributed leadership as the most popular approaches used in educational reform movements (Bennett et al., 2003; Gunter, 2001; Leithwood, 1992b; Lumby, 2013; MacBeath et al., 2004; NCSL, 2011; OECD, 2011; Seashore Louis et al., 2009; Yu, Leithwood, & Jantzi, 2002). Transformational leadership was offered as a viable alternative to distributed



leadership (Gunter, 2001; Leithwood, 1992; Yu, Leithwood, & Jantzi, 2002) but power must be carefully conceptualized so as to engage in change in critical, ethical, democratic, and empowering ways (Blackmore, 2006; Calabrese, 2002; Duffy, 2005; Gallagher, 2003; hooks, 2009; Luke, 2018; Lumby, 2013; Maxcy, 1991; Sergiovanni, 2000; Simpson, 2008). In terms of distributed leadership, scholars discussed the ways in which power was embedded in systems (Fullan, 1997; Hargreaves, 2007), structures (Foucault, 1974), and communities (Arendt, 1970). Furthermore, scholars problematized the ways in which power was theorized and thus distributed (Gronn, 2008; Hall et al., 2011; Hatcher, 2005) as well as the tendency of distributed leadership to maintain the equilibrium of power as opposed to effectively reallocating it, as promised (Lumby, 2013). Considering the NEXTschool initiative's commitment to using a teacher-driven leadership approach to educational change, understanding how power is effectively or ineffectively distributed is important.

Much has been written about power dynamics in the context of leadership and school change (e.g. Busher, 2006; Calabrese, 2002; Duffy, 2005; Gunter, 2001; Harris & Spillane, 2008; hooks, 2009; Luke, 2018; Lumby, 2013; Lumby & Foskett, 2011; Yu, Leithwood, & Jantzi, 2002). Leadership serves as a “catalyst for unleashing the potential capacities that already exist” (Leithwood, Harris & Hopkins, 2008, p. 29) in schools. The school leader therefore has power to make changes in structures, processes, and artefacts that can impact positively on how students think about themselves and their future (Lumby & Foskett, 2011, p. 456). As such, choosing the right approach for leadership can irrevocably effect whether educational change moves forward (Leithwood, Harris & Hopkins, 2008; Lumby, 2013; Lumby & Foskett, 2011).

**Distributed Leadership.** A popular chosen approach to leadership, distributed leadership has emerged as offering “an enticing suggestion of including more [perspectives] in leadership, and even sometimes including staff members equally” (Lumby, 2013, p. 581). It is presented as potentially “replacing previous forms of leadership that are critiqued negatively in relation to their ethics and or efficacy, such as heroic, charismatic, collegial, top-down and transactional” (Lumby, 2013, p. 583). MacBeath et al. (2004, p. 13) asserted that “it creates opportunity for all members of an organization to assume leadership” and “it does not necessarily give any particular individual or categories of persons the privilege of providing more leadership than others”. Bennett et al. (2003, p. 162) agreed that “there are no limits built into the concept” in terms of who might be included. Seashore Louis et al. (2009, p.157) concluded that distributed leadership has become “a mantra for reshaping leadership practice” and that official agencies are encouraging schools to adopt such practices (NCSL, 2011; OECD, 2011; Woods et al., 2004). Distributed leadership is also viewed as central to system reconfiguration and organizational redesign which necessitates lateral, flatter decision-making processes (Hargreaves, 2007). However, resulting issues around distribution of power are largely ignored or referred to in passing; a kind of “inclusivity lite” (Lumby, 2013, p. 581). Indeed, in ignoring issues of race and gender while making claims of openness, distributed leadership could be viewed as a new manifestation of colour and gender blindness that serves the purposes of the privileged (Blackmore, 2006; Gallagher, 2003; Simpson, 2008). Lumby (2013) cautioned that distributed

leadership creates a “mirage [of] an apolitical workplace” (p. 582) and becomes “an example of the ever-new ways that emerge to maintain the status quo of power” (p. 582).

To really wrest apart the mechanisms and effects of power and inequality, attention must be drawn towards the inadequate theorization of power in relation to distributed leadership (Gronn, 2008; Hall et al., 2011; Hatcher, 2005). Schools are “fields of power” (Halford and Leonard, 2001, p. 26), “never politically neutral” (Deetz, 2000, p. 144), reflecting the “power laden nature of all human association” (Deetz, 2000, p. 145). What is not fully acknowledged or theorized is the relationship between power and inequalities, and the degree of tension that may lie submerged beneath the dominant normative narrative. Teachers “operate within complex structures of power that create and constrain their opportunities to lead” (Lumby, 2013, p. 584). Indeed, Foucault (1974) suggested that power is deeply embedded in how reality is constructed and in people’s acceptance of or resistance to ‘truth’ and of the structures of society. Arendt (1970) also agreed that power is not enacted by or given to individuals. Power is “never the property of an individual; it belongs to a group and remains in existence only so long as the group keeps together” (p. 44). Thus, by distributing leadership tasks without acknowledging the structural inequalities present, distributed leadership effectively “enrol[s] staff willingly into a regime of control, while appearing to loosen the bonds” (Lumby, 2013, p. 589). Thus, understanding the structural constraints of power distribution is integral to unleashing effective teacher leadership in educational change.

For approaches to power in educational contexts, school leaders are challenged to dynamically balance the commitments of diverse individuals in critical, ethical, democratic, and empowering ways (Calabrese, 2002; Duffy, 2005; hooks, 2009; Luke, 2018; Lumby, 2013; Maxcy, 1991; Sergiovanni, 2000). More specifically, leadership for educational change must navigate: the resistance to change and change-related stress (Calabrese, 2002; Lumby, 2013); the context of school districts (Duffy, 2005; Leithwood, Harris & Hopkins, 2008); negotiating diverse social, racial, and gendered subjectivities (hooks, 2009; Lumby 2013); critical and multiliteracies (Luke, 2018); self and social empowerment (Maxcy, 1991); and the standards and assessment practices (Sergiovanni, 2000). The chief concern is then how leadership is distributed, by whom and with what effect (Harris, 2008).

**Transformational Leadership.** Transformational leadership is one of the most popular approaches for western leaders (Gunter, 2001). Transformational leadership has become an important touchstone for scholars attempting to articulate the second-order changes that support meaningful educational change (Gunter, 2001; Leithwood, 1992; Yu, Leithwood, & Jantzi, 2002). Building on the notion of instructional leadership popular in the 80’s and 90’s and providing an alternative to transactional leadership that segments power between different stakeholders, transformational leadership goes beyond surface changes to consider how facilitating a collaborative culture that transforms pedagogy and curriculum can be an effective and sustainable way to improve a school (Leithwood, 1992b).

As Leithwood (1992) explained, transformational leadership acknowledges the complex systems inherent in educational institutions and advocates for a collaborative facilitation and

decision-making process that builds towards a shared vision and improves communication amongst all stakeholders. Transformational leadership can mediate factors such as school culture, structure, or environment, and teachers' commitment to change (Yu, Leithwood, & Jantzi, 2002). It can be utilized to set shared directions and expectations collaboratively with a school staff, contribute to staff development, and build relationships amongst them and between staff and the school community (Yu, Leithwood, & Jantzi, 2002). The collaborative nature and distributed authority inherent in transformational leadership reflects systems thinking (Stroh, 2015) and may be a compatible model for the NEXTschool initiative. That same shared control is inherent in design thinking (Liedtka, Azer, & Salzman, 2017). Design thinking has provided a structural approach for the exploration and implementation of NEXTschool.

### **Design Thinking**

Design thinking was the most specific field that we investigated in relation to NEXTschool. We first looked at design thinking as an approach to educational reform then narrowed the review to successes and limitations in the application of design thinking within the field of education. Finally, we explored the works of design thinking authorities and influencers relevant to NEXTschool (Designing a School System, n.d.; IDEO, 2015; Liedtka et al., 2017). The sources we included in our literature review were selected for the purpose of considering the role of design thinking for educational contexts and concerns (Gallagher & Thordarson, 2018; Koh, Chai, & Wong, 2015).

A review of the literature revealed that as a relatively generic process, design thinking is difficult to define (Brown, 2009; Koh, Chai, Benjamin, & Hong, 2015a; Koh, Chai, & Wong, 2015b; Köppen & Meinel, 2015). It is commonly referred to as user/human-centered (Brown, 2009, de Guerre, Séguin, Pace, & Burke, 2013; Kolko, 2010; Köppen & Meinel, 2015; Luka, 2014; Meinel & Leifer, 2013) or a collaborative process or mindset (Anderson, 2012; Bransford et al., 2010; Brown, 2009; Koh et al., 2015b; de Guerre et al., 2013; Meinel & Leifer, 2013; Scheer, Noweski, & Meinel 2012; Voogt et al., 2015; de Guerre et al., 2013; Kangas, Seitamaa-Hakkarainen, & Hakkarainen, 2013; Scheer et al., 2012). Although varying semantically, the design process typically involves cyclical stages of empathy building, brainstorming/ideation, iterative prototyping, and testing innovative solutions for real world problems (Anderson, 2012; Brown, 2009; de Guerre et al., 2013; Gallagher & Thordarson, 2018; Koh et al., 2015b ; Luka, 2014; Kangas et al., 2013; Kouprie & Visser, 2009; Scheer et al., 2012; Voogt et al., 2015).

In the field of education, design thinking has been frequently cited in relation to fostering 21<sup>st</sup> century skills (Anderson, 2012; Koh et al., 2015a; Koh et al., 2015b, Luka, 2014; Scheer et al., 2012) such as problem solving (Anderson, 2012; Luka, 2014; Kangas et al., 2013; M. Saggat et al. 2015; Scheer et al., 2012), creativity (de Guerre et al., 2013; Köppen & Meinel, 2015; Koh et al., 2015b) and communication (Meinel & Leifer, 2013; Scheer et al., 2012). The educational goals of the Organization for Economic Cooperation and Development (OECD) were also frequently cited as achievable through design thinking (Luka, 2014; Scheer et al., 2012). Many examples of design thinking supported the pedagogical development of pre-service and

practicing teachers (Koh et al., 2015b, Koh et al., 2015a; Scheer et al., 2012; Voogt et al., 2015). Design thinking was also documented as an effective process for knowledge construction in general classroom use (i.e. Anderson, 2012; de Guerre et al., 2013; Kangas et al., 2013; Köppen & Meinel, 2015; Luka, 2014; Scheer et al., 2012; Voogt et al., 2015) as well as curricular sustainability (Voogt et al., 2015).

Conversely, design thinking in education has also been subject to criticism (Koh et al., 2015b). The nebulous nature of the process has been documented to deviate from lesson objectives that are generally tied to curricula and standardized testing (Koh et al., 2015b; Scheer et al., 2012). Although the process of design thinking is characterized as intuitive (Koh et al., 2015b), it is also described as time consuming and requiring scaffolding, modeling, and practice (Kangas et al., 2013, Koh et al., 2015a, Koh et al., 2015b; Luka, 2014; Scheer et al., 2012; Voogt et al., 2015). Gaps in the research include a lack of scholarship on how design thinking skills could be taught in the field of education (Anderson, 2012). More research is needed on the integration of design thinking into teacher education programs (Koh et al., 2015b; Scheer et al., 2012) and professional development (Voogt et al., 2015).

Two leaders in the field of design thinking, IDEO and the Stanford d. School, are particularly relevant for the NEXTSchool initiative. Neither organization has explicitly defined the design thinking process, however, there are many similarities in the fundamental steps that they propose. Shared concepts include embracing ambiguity, collaboration, brainstorming, rapid prototyping, building empathy, and testing and refining solutions (IDEO, n.d.; Stanford d. School, n.d.). Of this list, empathy building, collaboration, and iterative prototyping are identified as critically important and are practices that are commonly seen in educational initiatives that employ design thinking whether intentionally (Koh et al., 2015a) or inadvertently (Voogt et al., 2015).

### **Conclusion and Research Directions**

After a reviewing scholarship on educational change, power dynamics, and design thinking, we found several gaps in the research surrounding these topics, which require further investigation. For example, in educational change literature, only recently has Western scholarship begun to take seriously Indigenous perspectives on education and reform, which is now an area of growing but still underdeveloped literature (Howell, 2017; Munroe et al., 2013). Focusing more on Indigenous ways of considering both education and change will be essential to reforming and decolonizing schools in Canada. As well, the role and value of technology is a vast field within the literature on education and educational change (Benson & Voller, 2014; Dede, 2010; Drexler, 2010; Hafner & Miller, 2011). However, as the development and incorporation of technology into educational spaces continues and changes, more nuanced and critical investigations are required to ensure that digital technologies are utilized in intentional and directed ways that are productive and meaningful. Lastly, considering the unique separation of French and English schooling in Québec's education system, more research is required into how this separation impacts education in this province (Lenoir & Hasni, 2010; Potvin & Dionne,

2007). For the NEXTschool initiative, research that looks specifically into these topics—indigeneity, technology, and Québec’s unique educational character—can support flexible, holistic, and relevant reforms. However, critical approaches to these research areas are conspicuously underdeveloped in educational literature and important to investigate in further research.

Looking at power dynamics and educational change, much research has been devoted to specific aspects of power in educational change including but not limited to: teacher receptivity (Evans, 1996); teacher motivation (Hargreaves, 2005; Waugh & Punch, 1987); the source of change (Sleegeer & Leithwood, 2010); the emotional geographies (Hargreaves & Shirley, 2009), age (Johnson et al., 2004), and agency of the teachers involved (Vähäsantanen, 2015); the usage of evidence (Biesta, 2007); the inclusion of student voice (Mitra, 2003; Tuck & Yang, 2013); the texts/world views included/excluded in the process (Hickling-Hudson & Klees, 2012; Hargreaves & Shirley, 2009; Zajda & Rust, 2009), and the approach to change used (Fullan, 1993; Senge, 2006). Using a systems approach (Fullan, 2009), similar to that of the NEXTschool initiative, it may be possible to observe a multitude of interconnected ways that power and authority foster and hinder change movements in school settings. These observations will make an important contribution to educational change scholarship.

Power dynamics are also embedded in the leadership practices used in educational reform movements. Currently, transformational and distributed leadership are the most widely lauded in Western contexts (Bennett et al., 2003; Gunter, 2001; Leithwood, 1992b; Lumby, 2013; MacBeath et al., 2004; NCSL, 2011; OECD, 2011 Seashore Louis et al., 2009; Yu, Leithwood, & Jantzi, 2002). In order to fully harness power using these leadership approaches, one must understand the ways in which power is embedded in systems (Fullan, 1997; Hargreaves, 2007), structures (Foucault, 1974), and communities (Arendt, 1970). Regardless of the leadership approach, school leaders can consider these theories of power in order to engage in critical, ethical, democratic, and empowering change efforts (Blackmore, 2006; Calabrese, 2002; Duffy, 2005; Gallagher, 2003; hooks, 2009; Luke, 2018; Lumby, 2013; Maxcy, 1991; Sergiovanni, 2000; Simpson, 2008). By utilizing a systems (Fullan, 1997; Hargreaves, 2007) and inclusive approach (LEARN, 2017) to educational change, the NEXTschool initiative should yield a comprehensive understanding of the power structures influencing both educational change itself and the leadership involved.

Design thinking, which is a central component of the NEXTschool reform design process, serves to weave critical features of both educational change and power dynamics together. The organizing focus on the NEXTschool initiative oriented our review to uncover several major gaps that have emerged in these intersections that warrant further investigation. More research is required to understand whether design thinking attends to supporting contextual concerns (Farley-Ripple et al., 2018, Mukhopadhyay & Sriprakash, 2011; Potvin & Dionne, 2007) and whether it engenders *inside* transformation (Sleegeer & Leithwood, 2010) when design thinking stakeholders collaborate on equal footing (Brown, 2009; Gallagher & Thordarson, 2018). Another area that has yet to be explored in depth is whether employing design thinking

has the potential to enable resolutions for educational concerns. These include how to incorporate the meaningful integration of technology or Indigenous approaches in learning. As mentioned, scholars frequently identify a lack of professional development or teacher education related to design thinking, whether in formal education or otherwise (Anderson, 2012; Koh et al., 2015b; Scheer et al., 2012; Voogt et al., 2015). It is thus critical to explore and develop resources that support educators in this area. The collaborative and user-centered nature of design thinking (Brown, 2009) supports the significance of human relationships in enacting educational change (Rubinstein & McCarthy, 2014; Stroh, 2015). Often associated with navigating ambiguity (Brown, 2009; Gallagher & Thordarson, 2018), it is essential to understand whether design thinking empowers educators (and other stakeholders) with skills to overcome the uncertainty necessary for complex change to occur (IDEO, 2015; Luka, 2014; Plattner, Meinel, & Leifer, 2014). As further research and reform happens in Québec and beyond, a systems-oriented understanding of the intersections between these emerging categories has the potential to support effective and sustainable educational change.

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