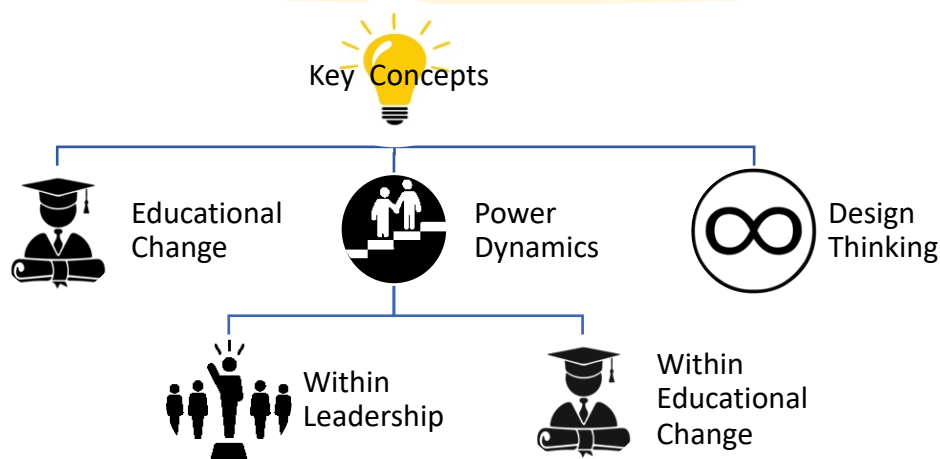NEXTschool Research Team

BACKGROUND INFORMATION

The **NEXTschool Initiative** is predicated on a belief that urgent changes to conventional high school experiences are required to meet the needs of next and future generations of students. Through a design process embedded within a systems approach to innovation in teaching and learning, the NEXTschool Initiative hopes to transform how English high school education looks, feels, and functions in Québec. Utilizing a context specific, trans-disciplinary approach clusters of students, teachers and other educational stakeholders explore real-world, relevant issues and facilitate the development of skills such as problem solving, communication, and collaboration (Wagner, 2008). The NEXTschool initiative is currently being piloted under the leadership of LEARN in partnership with researchers from McGill's Department of Integrated Studies in Education.

In a preliminary analysis of data collected from initial NEXTschool discussions and design sessions, the importance of three key concepts related to NEXTschool implementation have emerged:

(1) educational change or reform
(2) power dynamics that facilitate or obstruct change and are at play in leadership approaches; and
(3) design thinking as a means for facilitating educational change.

This review aims to explore the research related to these three concepts so as to support the NEXTschool initiative in its quest to bring to fruition a reform that will allow schools to meet the complex educational and societal challenges of our age.

Literature Review

Below is a summary of key findings and directions for future research as a result of a review of literature that focused on educational change, power dynamics, and design thinking as related to the NEXTschool initiative currently being piloted in several English high schools in Québec.

Educational Change

Our review of literature on educational change can be divided into: educational leadership; 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.

Educational Leadership

⇒ Collaborative and transparent leadership is more effective than top-down approaches at facilitating educational change (e.g. Hargreaves & Shirley, 2009).
⇒ The multifaceted change processes necessary for complex change rely on navigating uncertainty (e.g. IDEO, 2015), patiently taking time (e.g. Schnurer & Hahn, 2009), and incorporating reflection into action (e.g. Voogt et al., 2015).
⇒ Systems thinking includes considerations of how to engage authentically with the diverse perspectives of all those involved in change (e.g. Stroh, 2015).

Role of Technology

⇒ A critical adoption of digital technologies is necessary to responsibly rethink how and when to embrace and integrate these technologies into classrooms (e.g. Dede, 2010; Fong, Lo, & Ng, 2015)

Educational Change
- Educational Leadership
- Role of Technology
- Indigenous Perspectives
- Other Educational Models

Indigenous Perspectives

⇒ The importance of indigenous perspectives for working towards changing educational structures in Canada continues to be underestimated (Howell, 2017). 'New' trends in 21st century learning parallel many traditional philosophies inherent in holistic, indigenous ways of approaching education (e.g. Munroe et al., 2013).

Other Educational Models

⇒ The QEP emerged as a response to the changing needs of education in the 21st century and required a profound shift in Québec's basic learning paradigms (Bouchard, 2014).
⇒ Reform models cannot just be borrowed as they are, but must be translated flexibly for the new environment and community (e.g. Farley-Ripple et al., 2018).
⇒ Large-scale reforms should begin with clear evaluation criteria, jargon-free communication to parents and professional development courses for teachers.
⇒ Small "steering committees (max. 15 individuals)" with a variety of stakeholders should be given the mandate to truly lead change movements (Canuel, 2014).
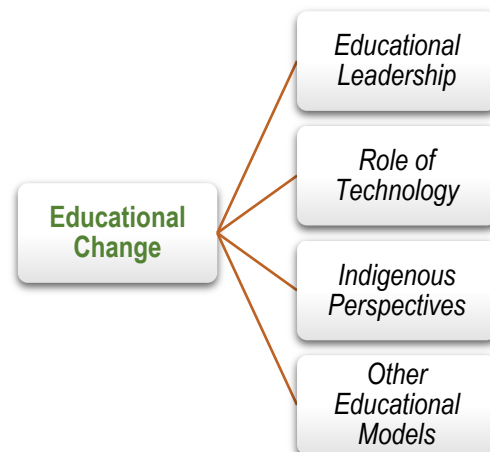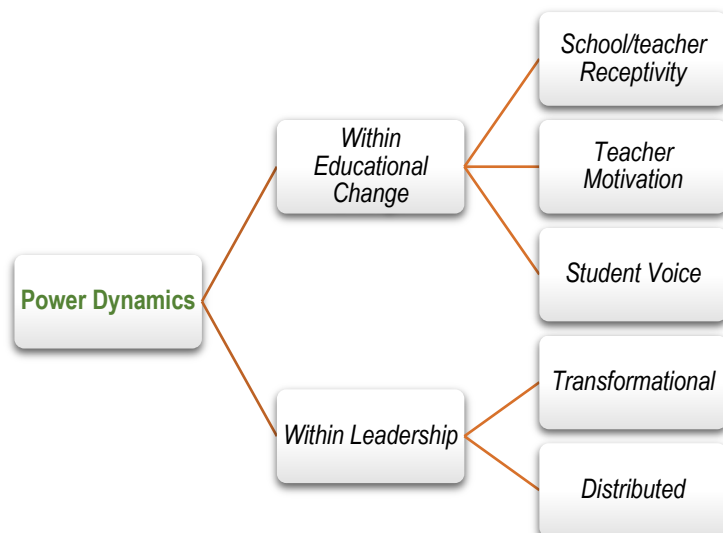
Power Dynamics:

The literature on power dynamics within educational change points to several interconnected determining factors: school/teacher receptivity, teacher motivation, and the incorporation of student voice.

School/teacher receptivity

⇒ Change threatens competence by inferring that teachers' current competence is not adequate. It almost always involves conflict and resistance (Evans, 1996).

⇒ Changes in practices, procedures, and routines often make teachers feel inadequate and insecure, especially if they have exercised pedagogical skills in a particular way for a long time (e.g. Hargreaves, 2005).

⇒ Age influences teachers' receptivity to change, ability to participate in change, can have a major influence on perceived power. Younger teachers' arguably weaker sense of ego can impede collaboration with others (e.g. Leithwood, 1992).

Teacher motivation

⇒ Change that occurs from *inside* focuses on the school's capacity to transform 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 (e.g. Robinson & Aronica, 2016).

⇒ Professional agency in change processes may also affect whether or not teachers feel as if they have the power to create or engage in change effectively (e.g. Vähäsantanen, 2015).

Power Dynamics → Within Educational Change → School/teacher Receptivity; Teacher Motivation; Student Voice.
Power Dynamics → Within Leadership → Transformational; Distributed.

Student voice

⇒ Perceived power and authority effect whether or not student voice is included in change processes. 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 to both sound, presence, and power of students in change processes (e.g. Tuck & Yang, 2013).

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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 (e.g Seashore, Louis et al., 2009).

Transformational
⇒ One of the most popular leadership approaches for western leaders (e.g. Gunter, 2001).
⇒ Considers how the facilitation of a collaborative culture that transforms pedagogy and curriculum can be an effective and sustainable way to improve a school (Leithwood, 1992).
⇒ 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 (Leithwood, 1992).
⇒ Reflects systems thinking (Stroh, 2015) and may be a compatible model for the similarly shared control inherent to design thinking (Liedtka, Azer, & Salzman, 2017).

Distributed
⇒ Is viewed as central to system reconfiguration and organizational redesign which necessitates lateral, flatter decision-making processes (e.g. Hargreaves, 2007)
⇒ "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" (MacBeath et al., 2004, p. 13)
⇒ Creates a "mirage [of] an apolitical workplace" (Lumby, 2013, p. 582) and becomes "an example of the ever-new ways that emerge to maintain the status quo of power" (Lumby, 2013, p. 582).
⇒ The relationship between power and inequalities, and the degree of tension that may lie beneath the dominant normative narrative is not fully acknowledged or theorized. Teachers "operate within complex structures of power that create and constrain their opportunities to lead" (Lumby, 2013, p. 584).
⇒ The chief concern is then how leadership is distributed, by whom and with what effect (Harris, 2008).

Design Thinking

Design thinking, as a central component of the NEXTschool change process, serves to weave critical features of both educational change and power dynamics together.

Defined
⇒ Is commonly referred to as a user/human-centered (e.g. Brown, 2009) or collaborative process or mindset (e.g. Scheer, Noweski, & Meinel 2012).
⇒ Typically involves cyclical stages of empathy building, brainstorming/ideation, iterative prototyping, and testing innovative solutions to real world problems (e.g. Gallagher & Thordarson, 2018).

Within education and NEXTschool

⇒ Frequently cited in relation to fostering 21st century skills (e.g. Anderson, 2012).

⇒ As a potential process by which to achieve the educational goals of the Organisation for Economic Cooperation and Development (OECD) (e.g. Scheer et al., 2012).

⇒ As supporting the pedagogical development of pre-service and practicing teachers (e.g. Koh et al., 2015a, Koh et al., 2015b).

⇒ As an effective process for knowledge construction in general classroom use (e.g. Kangas et al., 2013) as well as curricular sustainability (e.g. Voogt et al., 2015).

⇒ Conversely, it has been documented to deviate from lesson objectives that are generally tied to curricula and standardized testing (e.g. Scheer et al., 2012).

⇒ Although intuitive as a process (e.g. Koh et al., 2015b), design thinking is time consuming and requires scaffolding, modelling, and practice (e.g. Luka, 2014).

⇒ Scholars seem to agree that design thinking is purportedly ideal for enacting innovative educational and systems change (e.g. Voogt et al., 2015).

Conclusion and Research Directions

As further research and reform happens in Québec and beyond, a systematic understanding of the intersections between these emerging fields will support effective and sustainable educational change. This literature review revealed several gaps in the knowledge available and potential areas for future research:

1. the consideration and incorporation of indigenous perspectives on education and reform (Howell, 2017; Munroe et al., 2013)
2. the development and incorporation of digital technologies into educational spaces in ways that are productive and meaningful
3. attention to how educational change operates and is understood in Québec (Lenoir & Hasni, 2010; Potvin & Dionne, 2007)
4. the observation of the multitude of interconnected ways that power and authority foster and hinder change movements in school settings at all levels of influence - considering NEXTschool's systems approach (Fullan, 2009)
5. the role of student voice in design thinking, power dynamics, and educational change
6. the lack of resources for professional development/teacher education related to design thinking in formal education or otherwise (Anderson, 2012; Koh et al., 2015b; Scheer et al., 2012; Voogt et al., 2015)
7. the role of design thinking in supporting context specific educational concerns (Farley-Ripple et al., 2018, Mukhopadhyay & Sriprakash, 2011; Potvin & Dionne, 2007)
8. whether employing design thinking has the potential to enable resolutions for educational concerns (i.e. the meaningful integration of technology or indigenous approaches to learning)
9. whether design thinking helps stakeholders overcome the uncertainty necessary for complex educational change to occur (IDEO, 2015; Luka, 2014; Plattner, Meinel, & Leifer, 2014).

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