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Building an Adaptive Culture where Collaborative Teaching Teams Leverage Data to Improve Student Achievement and Wellbeing

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Abstract

This Organizational Improvement Plan (OIP) seeks to open the black box of classroom teaching to data informed collaborative inquiry by teachers for teachers using formative feedback as the model for instructional improvement. Teacher collective efficacy is developed through ongoing professional learning in collaborative teaching teams that use multiple measures of data to limit bias and improve equity of outcomes for students. Such a process is iterative, and the OIP envisions the combined use of adaptive leadership and distributed leadership approaches to support Kotter's 8-step model for change implementation. The desired outcome is an adaptive and agile school culture where teachers are empowered to use data in collaborative teams. A distributed leadership team will develop a culture of collaborative inquiry and improve data literacy within teaching teams to create school level narratives of student achievement and growth. This OIP applies critical theory frameworks of empowerment and liberation to data generated in schools with the firm belief that teachers and students who generate data must be empowered to analyse and use such data for self-improvement. This shift from the evaluative use of data for school ranking to the use of data by collaborative teams of teacher leaders as formative feedback for self-improvement is an act of resistance to the colonial use of data in 21st century neoliberal accountability regimes. A successful implementation of this OIP seeks to return sense-making of knowledge back to teachers as professionals and students as partners in learning through data-informed, collaborative decision making.

Keywords: adaptive leadership, collaborative inquiry, critical theory, data-informed decision making, distributed leadership, Kotter 8-step change model

Executive Summary

In our schools, students who have never lived in a world without smartphones and social media share classrooms with teachers who started their careers with little more than chalkboards. As schools attempt to keep up with a rapid change sped up by technological advances, policies, procedures, and practices lag. This OIP seeks to weave together data literacy (Knight & DeMatthews, 2020) and collaborative inquiry (Donohoo, 2013) as ways for teachers to become adaptive (Heifetz et al., 2009) and for schools to be agile (Leslie, 2020) in a constantly changing world (Drysdale & Gurr, 2017; Johansen, 2012).

Chapter 1 introduces Old Glory Independent School (a pseudonym), a well-established traditional independent school in western Canada. After setting the organizational context using a PESTEL analysis, the leadership Problem of Practice (POP) that forms the basis of this OIP is introduced. The POP is analysed within a critical theory framework (Apple, 1995; Freire, 2018) in order to resist neoliberal accountability regimes that have used data as evaluative and surveillance tools limiting teacher empowerment (Biesta, 2015; Fullan, 2007). Instead, the leadership vision for change sees data informed decision making (Datnow & Park, 2014, 2018) as being led by teachers using iterative cycles of inquiry (Donohoo, 2013) using data as feedback for reflection and self-improvement in collaborative teams. Organizational change readiness is evaluated using multiple measures of data, and I conclude that the new school leadership team (SLT) is ready to implement this OIP meaningfully as part of the school's new strategic plan.

Chapter 2 explores leadership approaches and change frameworks to critically analyse the problem of practice within the local organizational context. Twin approaches of adaptive (Heifetz et al., 2009) and distributed leadership (Harris, 2013; Spillane, 2006) are used to allow school leaders to set the stage for teacher leaders to develop collective efficacy (Donohoo, 2017)

in a psychologically safe workplace (Edmondson, 2019). These leadership approaches align with the critical theory framework of empowering teachers as leaders within the school and giving them opportunities to use the data generated in classrooms for self-improvement. A current area of best practice within the school is used as a nucleus to seed the change envisioned in the OIP. Deming's continuous improvement model (2018) and Kotter's 8-step change plan (1995) are used as change implementation frameworks with an understanding that change is iterative, dynamic, and non-linear (see Figure 6). Three solutions to the POP are evaluated and synthesized to develop a recommended solution creating both a new leadership position overseeing the adaptive change as well as a new teacher-leadership structure to support distributed leadership within Old Glory Independent School. A critical analysis of decolonization is undertaken to reiterate that this solution uses post-colonial approaches (Andreotti, 2011). The leadership approaches, change model, and recommended solutions are also reviewed with an ethical lens to ensure that the use of data and collaboration promotes social justice (Safir & Dugan, 2021).

Chapter 3 describes the change implementation plan (CIP) that has technical aspects: aligning the school's databases to serve the needs of the school's stakeholders as well as adaptive aspects: building teacher capacity for data literacy (Datnow et al., 2021) and professional learning through collaborative inquiry (Donohoo, 2013). This OIP has multiple structural and process components that work in tandem to shift the school's culture from compliance to collective efficacy (Donohoo, 2017) and is summarized in Figure 8. In order to monitor and evaluate the success of the CIP, a variety of quantitative and qualitative data collection tools are recommended to model the data-informed decision-making process used within the OIP. Communicating the change process early, often and in varied ways to the different school

stakeholder communities is also described to help ensure the success and sustainability of the change plan.

I conclude by noting that this OIP can serve both an early instrumental goal and over multiple cycles across years an ultimate goal of liberation using post-colonial theory. I articulate an instrumental goal of developing an adaptive school culture (Heifetz et al., 2009) where teachers use data-informed interventions to improve student achievement (Datnow & Park, 2014, 2018). School success can be measured by improvements in enrollment, achievement outcomes, and student success. However, the ultimate aim of this OIP is to implement critical theory ideas of liberation (Freire, 2018) and empowerment to help teachers and students share their own narratives from their data (Safir & Dugan, 2021). In this case, success for the OIP is measured by how the school's local narratives of success replace neoliberal provincial accountability measures (Alberta, 2020a) and the narratives of the Fraser Reports (Cowley & Emes, 2021) within the school's stakeholder communities.

Acknowledgements

This OIP as well as the coursework in the last three years are not just the culmination of my efforts but also of the small village that helped nourish me during this time.

I would like to begin by thanking my family for supporting this journey. My parents upended their lives at my current age to move from India to Canada to give my brother and I chances that they could have not even dreamed of. Their hard work and persistence inspire me in my work. My partner and his family played key supporting roles as I started this EdD and in my move to a new school during the pandemic. I also am grateful to my partner for suffering the costs of my trying to complete an EdD and run a school during a pandemic. His early and ongoing support and encouragement helped launch me to this point in time.

My cohort of colleagues around the world have been a wonderful community of support and fun. We have shared many joys and sorrows, been activists, and friends to each other even if not all of us are graduating this year. It's been a blessing to have them as journey companions and peers to bounce ideas off as we all tried to keep our sanity and resilience through our diverse experiences of the pandemic, wars, and personal challenges in these three years.

Finally, I owe an immense debt of gratitude to the many instructors from Western University's EdD program for their high standards and high levels of support. Their warm demander stance has helped me engage with new ideas, shift my perspective, and grow intellectually, professionally, and personally.

Thank you to everyone whose hands, hearts, and minds have helped me get here.

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Acronyms

AP (Advanced Placement)

ATA (Alberta Teachers' Association)

BCTF (British Columbia Teachers Federation)

CAIS (Canadian Accredited Independent Schools)

CIP (Change Implementation Plan)

DIDM (Data-Informed Decision Making)

DLT (Distributed Leadership Team)

GDPR (General Data Protection Regulation)

IB (International Baccalaureate)

OE (Outdoor Education)

OIP (Organizational Improvement Plan)

OSSTF (Ontario Secondary School Teachers' Federation)

PDSA (Plan-Do-Study-Act)

PIPA (Personal Information Protection Act)

POP (Problem of Practice)

STEM (Science, Technology, Engineering, & Mathematics)

SLT (School Leadership Team)

Definitions

Adaptive Leadership: Developed by Heifetz et al. (2009), adaptive leadership focuses on the leader having a vision and awareness of future trends and creating conditions where followers are able to adapt and change to the challenges presented to the organization. Adaptive challenges require human and cultural shifts with an emphasis on iteration and learning from failure in a collaborative team.

Collaborative Inquiry: A school structure and process where teachers come together to ask questions, develop theories of action, determine action steps, and gather and analyze evidence to assess impact of their actions as part of a systemic examination of their educational practice in a professional learning community of peers (Donhoo, 2013).

Collective Efficacy: A shared belief among teachers that through collaboration their efforts can have meaningful and measurable impacts on student achievement over and above the educational impact of home and community (Donohoo, 2017).

Critical Theory: Drawn from the Frankfurt School, Critical Theory "provides the descriptive and normative bases for social inquiry aimed to decreasing domination and increasing freedom in all their forms" (Bohman, 2005). It can be used as a framework to seek liberation (Freire, 2018) from oppression in multiple forms (e.g., feminism, colonialism) (Andreotti, 2011), as well as for questioning leadership (Alvesson & Spicer, 2012).

Data Informed Decision Making: Research literature shows two distinct forms of data informed decision making. One is high stakes accountability driven data use, usually from standardized tests to identify problems and monitor compliance. The other is data use for

continuous improvement through improvements to student and organizational learning and

instructional improvement (Datnow & Park, 2018). The latter meaning is used in this OIP.

Distributed Leadership: Distributed leadership is a leadership practice that emphasizes the

study of interactions among members of an organization who may or may not have formal

leadership role to highlight that the work of leadership is done by many more than those with

leadership titles within an organization (Harris, 2009, 2013; Spillane, 2006).

Privatized Classroom: The idea that a teacher's classroom is their private domain and that they

are allowed to take a personalized stance on teaching and learning within their space without

discussion or dialogue among colleagues and resist questioning by school administrators

(Hembree, 2010).

Psychological Safety: A belief that a person asking for help or admitting a failure within a

workplace setting will not face formal or informal negative interpersonal consequences. Candour

is encouraged and employees are encouraged to "speak up, offer ideas, and ask questions without

fear of being punished or embarrassed" (Edmondson, 2019, p. 15).

Chapter 1: Introduction and Problem of Practice

This Organizational Improvement Plan (OIP) seeks to leverage data systems at an independent school to improve student well-being and achievement through collective teacher efficacy (Abayomi, 2020; Donohoo, 2017). In this chapter, a systems-based framework for understanding schools is introduced before discussing the school's organizational context. My leadership position and lens as a change agent within this organization is shared to help frame the Problem of Practice (POP). The vision for the change and an analysis of the change readiness of the organization are introduced to conclude this chapter.

Schools as Systems

Bernstein (2003) argues that schools reproduce knowledge through interaction among instructional systems (pedagogy), curricular systems (curriculum), and modes of evaluation. Embedding Bernstein's notion of evaluation within data systems given the growing influence of digital technologies (Wyatt-Smith et al., 2021), schools can be conceptualized as a system of systems (Figure 1) with students at the centre (see also Drysdale and Gurr, 2017). This OIP focuses on alignment and coherence (Fullan & Quinn, 2016) in the curriculum and instruction systems by leveraging the data-informed decision making (DIDM) (Datnow & Park, 2018) to improve student achievement and well-being at an independent Canadian school.

Curriculum systems are provincially mandated in Canada. Schools may layer additional curricula like the International Baccalaureate (IB) or Advanced Placement (AP) to provide internationally recognized credentials. Teachers' choices of textbooks and e-resources flow from the curriculum system(s). The school's additional curriculum system(s) can also influence enrollment. Transnational programs like AP or IB can provide students preferential access to post-secondary options. The curriculum system is the most static of a school's systems as change

decisions must be made at the provincial or board level. This system can slow changes to the dynamic instructional systems of a school when teachers rely on outdated curriculum documents or if standardized assessments induce teachers to teach to the test.

The instructional system consists of teachers, the organization of departments, the pedagogical methods used to implement curriculum, as well as the level of collaboration and coherence among classes. Students are integral to the instructional system as they receive instruction and provide feedback in formal and informal ways directly or through their parents (Figure 1). In this OIP, the instructional system is the locus of change implementation as it is the most dynamic and human resource driven system in a school.

Figure 1

A Systems View of Learning (Bernstein, 2003)
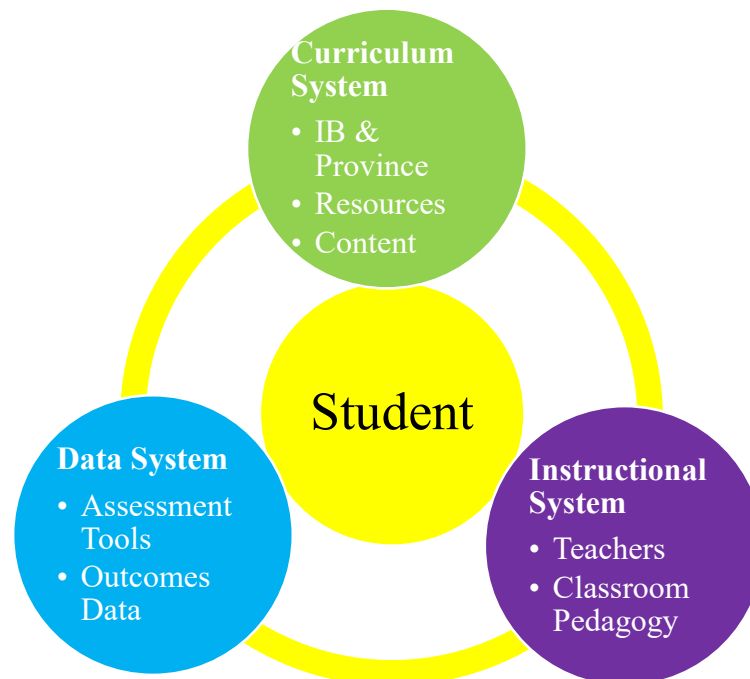
Note. The author created this figure using textual information from "*The structuring of pedagogic discourse*," by B. Bernstein, 2003, Routledge. Copyright 2003 by the Estate of Basil Bernstein.

Data systems at schools inform the instructional and curricular systems by linking internal assessment data from the instructional system with outcomes data of the curricular systems. The outcomes data are often generated by standardized tests in a neoliberal context of school accountability (Au, 2010; Wiliam, 2010) and impact students' movement from schools into post-secondary institutions (Childs et al., 2017). The data system's consumers are therefore students and teachers within the instructional system; school administrators, who oversee the system of systems; as well as external stakeholders like parents and school regulatory authorities. In addition, families can review publicly available data (Cowley & Emes, 2020) when making enrollment decisions. Data systems, if well-used in schools, are dynamic drivers for iterative changes to the curriculum and instructional systems (Datnow et al., 2007), but are often neglected as most school leaders, including those at Old Glory Independent School (a pseudonym) where I work, are functionally illiterate in data organization and analytics (Knight & DeMatthews, 2020; Wyatt-Smith et al., 2021). In the next section, the organizational context of the school is established as it also operates within a larger set of educational systems.

Organizational Context

Old Glory Independent School is a well-established, traditional, university-preparatory, independent school serving a mid-sized city and its suburbs in Western Canada. The school is licensed and regulated by the provincial ministry of education. It offers small class sizes and supports both the provincial curriculum as well as the International Baccalaureate (IB) program from grades kindergarten to 12. The school is a member of the Canadian Accredited Independent Schools (CAIS) association (Malic, 2017; Pacholik-Samson, 2020) and has a well-trained and motivated staff who care deeply about the school and its students.

Figure 2

Academic Leadership Structure at Old Glory Independent School
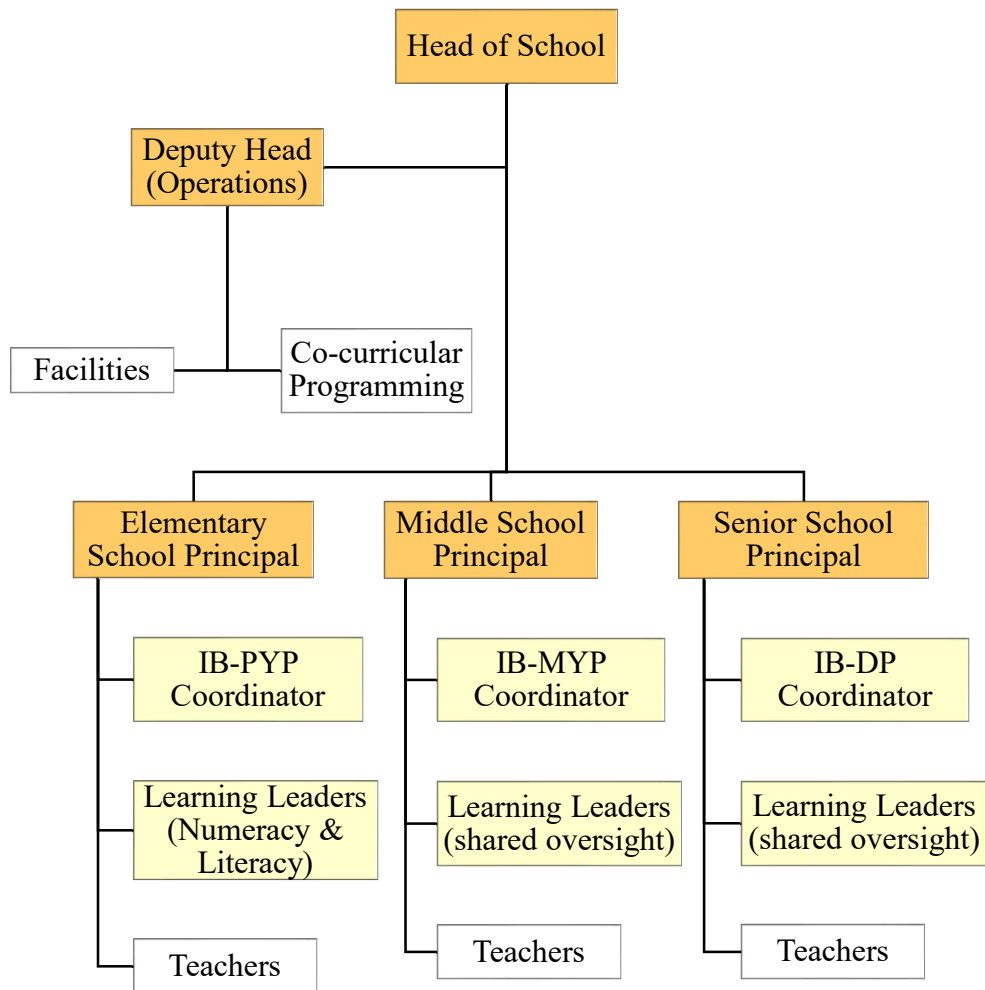
Note. School leadership team (SLT) roles and distributed leadership team (DLT) roles are denoted by orange and yellow shaded boxes, respectively.

  The school offers a variety of co-curricular activities (e.g., athletics, outdoor education trips, musical groups etc.) and student clubs to support its mission of producing well-balanced graduates. As a reputed and well-established local institution, it has a diverse student body made of international, immigrant, and settler families but the steep fees limit families from lower socio-economic backgrounds from joining the school. Unlike older schools in Ontario which

have larger endowments and offer significant scholarships, independent schools in Western Canada do not have similar levels of financial support for lower income families.

However, as a member of CAIS, the school's leadership structure parallels those of other independent schools in Canada. A Head of School oversees both ongoing and strategic planning aided by a Deputy Head of School (Figure 2). The school's three divisions operate both independently and coherently (Fullan & Quinn, 2016) with each other: Elementary (Grades K-6), Middle (Grades 7-9), and Senior (Grades 10-12). Each division is led by a principal aided by an IB coordinator. The K-6 team works primarily independently, but as the senior school principal, I work closely with the middle school principal as we share teachers and classroom resources across grades 7-12. Operational decisions are made by the school leadership team (SLT) consisting of the three principals, the Deputy Head, and Head of School.

A Board of Governors comprised of parents, alumni, and community members provides oversight. The Board is responsible for fundraising, stewardship, and long-range planning. It has recently approved a ten-year strategic plan for the school. This OIP is nested within the framework of the school's strategic plan to ensure that change implementation is supported by the school's leadership structure and context. Having described the leadership structure of the organization in this section, the next section delves deeper into the political, economic, social, technological, environmental, and legal (PESTEL) factors that apply to this OIP.

PESTEL Analysis

A PESTEL analysis allows a deeper understanding of the provincial, national and transnational systems that influence and shape the school system within which this OIP is situated. They frame the context, the possibilities and limitations of the change envisioned by the OIP within the school's strategic plan.

Political Context

Western Canada's educational sector is dominated by strong neoliberal accountability practices using standardized tests and surveys (Aitken et al., 2011; Alberta 2020a; Leslie, 2020). These policies originate in principles of shareholder value and activism from corporate culture (Taylor, 2001). BC and Alberta also favour parent choice, supporting a variety of public, religious, charter, and private schooling options through provincial funding (Bosetti et al., 2017; Ellis & Yoon, 2019). In addition, policy borrowing from Australia and the US (Lambert & Bouchamma, 2019) has led to implementation of teacher and school leader accountability standards (Rheaume et al., 2018) similar to Ontario's Leadership Framework (Leithwood, 2017) that show a continuing hegemony of neoliberal ideas (Apple, 1995, 2004; Biesta, 2015).

As the school receives government funding, its policies are yoked to provincial legislation. Not only is Old Glory's ability to set policy constrained by the province, but there is also support for accountability in the form of school rankings within the school's parent population. Many influential parents belong to the business elite class that led the neoliberal transformation of provincial education in the 1990s (Taylor, 2001).

Economic Context

The 2014 collapse in oil prices and the recent COVID-19 pandemic had detrimental impacts on western Canadian industrial output leading to significant layoffs in the energy sector (Hirsh, 2021). Historically, the school's revenue from tuition and fundraising has disproportionately depended on families whose revenues come from the oil and gas sector. The school's revenues also get a double hit from oil price collapses as government revenues also depend on royalties from the same sector. Reductions in provincial revenue can lead to decreases in educational grants to schools (see also Black, 2021). The economic pressures felt by this

industry will lead to inevitable belt-tightening and a need to diversify the school's income by potentially looking at revenue sources beyond the province in the form of boarding international students on campus or delivering the school's program remotely to students abroad.

Social Context

Greater immigration from Asia and Africa over the last three decades has increased the numbers of racialized children from upwardly mobile immigrant families at Old Glory. Families at Old Glory now expect better academic outcomes in the form of successful university placements and scholarships (Childs et al., 2017) and the Fraser report rankings (Cowley & Emes, 2020) matter more. The school's traditional emphasis on well-roundedness and physical fitness resonates less as families grapple with increased competition for post-secondary places.

Several public, charter, and private schools have emerged as new competitors within the local area or specialized to cater to niche educational markets (e.g., STEM, arts-based schools, faith-based schooling, etc.) created by these changing demographic needs. The increased competition and fracturing of the independent school market (see also Bosetti et al., 2017) has led to greater scrutiny of Old Glory's higher tuition, decreasing rankings, and value-proposition by prospective parents and the Board of Governors. The Board has communicated to the SLT an imperative to innovate and deliver greater value to families while reducing costs.

Technological Context

Old Glory has engaged with technology in waves and fads. It was an early adopter of a one-child, one-laptop program, rode the wave of SmartBoards in classrooms, and is perceived as being technologically current in western Canada. However, the large campus poses unique challenges with respect to internet connectivity speeds and bandwidth as well as the capital investments needed to maintain on-site technical infrastructure.

In recent years, the SLT's lack of oversight of data systems allowed individual departments to create technology solutions specific to their needs, leading to a proliferation of programs and data systems that are siloed from each other. Data movement across databases depends on human programmers leading to errors and delays (Figure 3), contributing to a school culture that devalues DIDM (cf. Brown et al., 2017; Datnow & Park, 2014). This problem is exacerbated by having an IT team that focuses primarily on hardware and networking and a separate educational technology leader who works with classroom teachers and provides input on academic software. Lack of leadership in coordinating the technological needs of the school is an ongoing challenge and can lead to change fatigue for some teachers (Orlando, 2014).

Figure 3

Human Assisted Data Flow in the School's Current Information System
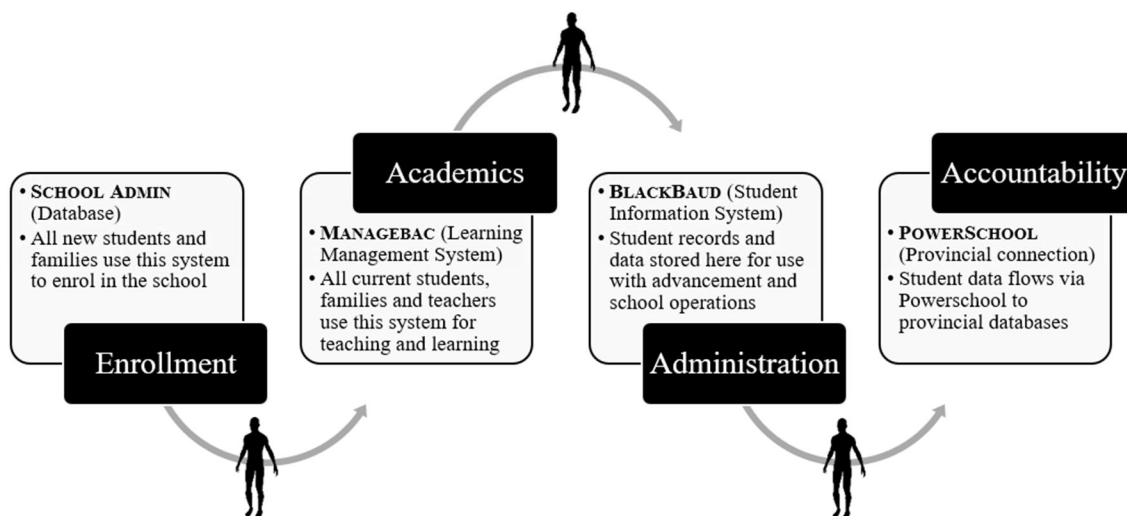
Note. This diagram prepared by the author illustrates the database ecosystem at Old Glory.

Environmental Context

The school's large campus poses environmental challenges in building and maintaining infrastructure like water and sewer lines that are usually the purview of municipalities. Single access points for electricity and internet create bottlenecks and limit the ability of the school to

grow. Despite the possibility for sustainable use projects (e.g., rainwater harvesting, solar panels, geothermal heating), the school continues to rely on traditional energy-intensive infrastructure, some of which were paid for by funds raised from families in the oil and gas sector.

While the environmental context is not a focus of this OIP, a move to sustainable use of the campus and green-energy investments may lead to synergies for the change plan outlined here. Alternatively, a focus on environmental sustainability in the organization's new strategic plan could draw attention away from this OIP.

Legal Context

Provincial education acts (Alberta, 2012; BC, 1996) govern the rights and responsibilities of schools, principals, and teachers in Canadian schools. The school's information policies and databases must be compliant with the provincial data privacy acts like PIPA (Alberta 2003; BC, 2003), as this OIP seeks to mobilize data collected within the school to improve student achievement. In addition, school leaders can leverage provincial teacher accountability standards (Alberta, 2020b; see also Leithwood, 2017) to engage teacher commitment. As the school staff is not unionized and part of the provincial teacher association, it lacks robust professional frameworks (Campbell, 2017; Campbell et al., 2017) found in other educational organizations.

The PESTEL analysis reveals an urgency for change (Kotter, 1996) given the growing threat to enrolment as well as a need to shift from complacency to commitment to change within the organization. This OIP seeks to use data literacy and teacher empowerment as the twin engines for change in this context as described in the following section.

Theoretical Frameworks

Despite the omnipresence and transformative impact of technology in our society, most users are unaware of the extent to which their data and metadata are being tracked and analysed

by companies and governments (Dumitrica & Wyatt, 2015), as exemplified by the lack of SLT oversight on the data systems of Old Glory described in the previous section. I have chosen critical theory (Gezgin, 2020; Winkle-Wagner et al., 2018) as a framework for this OIP because it challenges people to critically reflect on existing social structures and phenomena, to identify social inequities, and to work towards emancipation and equity through empowerment of individuals (in this case through data literacy).

Datasets are valuable resources that give insight into individual action and thought. As ownership of data in this century parallels the colonial plunder of resources in the last two centuries, a post-colonial framework of critical theory (Andreotti, 2011; Bhabha, 2004; Spivak & Morris, 2010) seems appropriate. Post-colonialism questions the movement of data from the periphery (school) to the centre (bureaucracy) and seeks to empower resource creators over resource extractors as an act of anti-imperialism (Winkle-Wagner et al., 2018). Post-colonialism within critical theory also makes visible how selected measures (e.g., standardized tests) elide differences in local context to serve the organizing needs of the centre (Apple, 1995; Au, 2010). Empowering educators and students to share alternate narratives of learning (see also Safir & Dugan, 2021) by strengthening feedback among systems within the school (Figure 1) challenges the dominant narrative of the Fraser report rankings (Cowley & Emes, 2020).

Since the OIP applies leadership approaches and change theories, critical theory also resists the sacralisation of leadership (Alvesson & Spicer, 2012; Alvesson & Sveningsson, 2003) and allows me to question the legitimacy of the established practice of applying corporate leadership approaches (Northouse, 2019) to educational settings particularly in the independent school context in Canada (Malic, 2017). In the next section, I develop my leadership position and lens for leading this OIP using the critical theory frameworks developed in this section.

Leadership Position and Lens

As schools experience continuous change due to external and internal pressures (Soini et al., 2016), leaders must be ready to implement change in the short, medium, and long term. The COVID-19 pandemic illustrates the unpredictable and relentless nature of change in schools. In this OIP, adaptive and distributed leadership approaches are interwoven to create structures and processes to lead schools in uncertain times (Johansen, 2012).

Figure 4

Adaptive Leadership Framework (Heifetz et al., 2009)
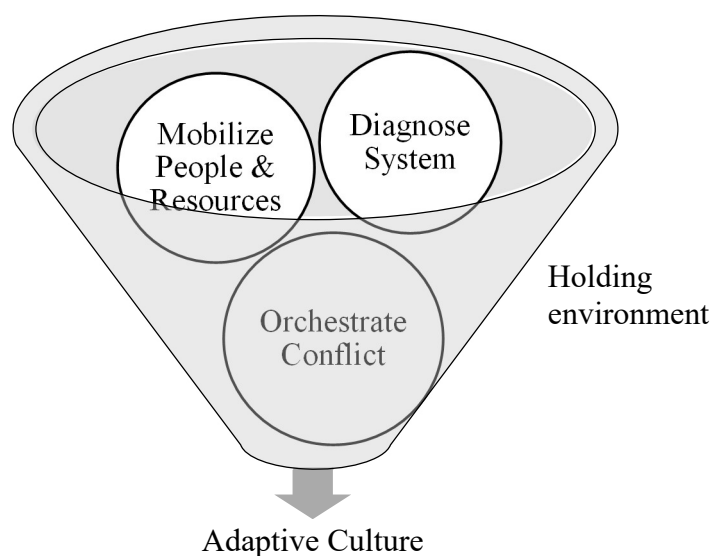
Note. This diagram prepared by the author adapts ideas from "*The practice of adaptive leadership: Tools and tactics for changing your organization and the world*," by R. Heifetz, A. Grashow, and M. Linsky, 2009, Harvard Business Review Press. Copyright 2009 by Cambridge Leadership Associates.

An adaptive leadership (Heifetz et al., 2009) approach allows leaders to navigate constant change (see also Drysdale & Gurr, 2017) in a framework where followers are empowered to diagnose problems, promote change readiness, and innovate within an agile organization. In this model, school leaders create the conditions for followers to do adaptive work. Such conditions

are referred to as the holding environment (Figure 4). The adaptive leadership approach is

congruent with change models (Burke, 2018; Cawsey et al., 2017; Kotter, 1995) as it supports

diagnosing change readiness, building change momentum, and ensuring sustainable change.

The new Head of School's approach integrates adaptive and distributive leadership

approaches as they are shifting the school's more traditional hierarchical model and reducing

power-distance (Hofstede, 2011). This OIP supports this transition by intentionally creating a

school-level distributed leadership team (DLT) of teacher leaders from every department as well

as the IB coordinators from each division. This DLT will lead teachers in the practice of

collaborative inquiry (Donohoo, 2013) to fuel the adaptive change, thus combining the two

leadership approaches to address the problem of practice.

As adaptive change requires buy-in from followers, distributed leadership (Harris, 2009;

Harris & DeFlaminis, 2016; Spillane, 2006) allows teaching teams to build capacity within

school structures for leadership and allows for the change leadership work to be owned by many,

even those without formal leadership roles or positions. In addition, distributive leadership helps

flatten hierarchical structures (cf. Figure 2) allowing for more power to rest with teachers in

alignment with critical theory's ultimate goal of emancipation.

Positionality and Agency

The two leadership approaches described earlier originate, like other leadership

approaches in education, from Western capitalism (Northouse, 2019). Conceptualizations of

school leaders in Canadian schools are primarily white, male, able-bodied, heterosexual, as well

as often elite and Christian (Liu, 2017) echoing the make up of leaders in corporate boardrooms.

I am a brown-skinned, openly gay, agnostic South Asian immigrant school leader in an

overwhelmingly white, traditional CAIS school (Malic, 2017; Pacholik-Samson, 2020). While

queer theory (Courtney, 2014) is not explicitly used in this OIP, multiple researchers have conceptualized leadership as performativity (Alvesson & Spicer, 2012; Gond et al., 2016; Liu, 2017) aligning themselves with Bhabha's postcolonial ideas of identity as being produced through performance in antagonistic or affiliative contexts (2004). Critically interrogating my presence as a destabilizing "ambivalent" (Bhabha, 2004, p. 45) influence can help me not only leverage avenues for change but also understand resistance to change within the school system.

A principal has the positional power to engage in instructional leadership and make change through legal (Alberta, 2012; 2020c) and policy routes as well as through collaborative meaning-making with teaching teams (Donohoo, 2013). As a senior school principal, I have latitude in shaping the pedagogical and assessment practices (see Figure 1) within my division but also influence other division principals through our collaborative work to develop a coherent set of systems from K-12, thus modeling Donohoo's collaborative inquiry approach (2013) for teachers in this OIP. As a collective, the principals' agency at Old Glory is shaped and limited by the Head of School and the direction set for the school through the Board of Governors.

Lens & Role

A critical theory informed lens demystifies the current sacralisation of leadership (Alvesson & Sveningsson, 2003) tasks as separate from management tasks (Soini et al., 2016). I would like to flatten school hierarchies using Nordic models of equity and consensus building (Sahlberg, 2010; Tolo et al., 2019) to develop collective efficacy (Donohoo, 2017) among teaching teams. Shared meaning making requires a workplace that promotes psychological safety (Edmondson, 2019), vulnerability (Brown, 2018), and creative conflict (Heffernan, 2012) to promote diverse voices first among teachers, then among students in classrooms. Such diversity and empowerment are important to equity focused school improvement (Safir & Dugan, 2021).

In-between spaces are important for deconstructing polarizing differences like colonizer/colonized (Bhabha, 2004), and there is similar value to negotiating and reconstructing the space between leader/manager, principal/teacher, and teacher/student. Rather than seeing these as fixed either/or identities in an adversarial relationship defined by power distance (Hofstede, 2011), Crippen (2012) argues that dynamic relationships of reaching out and understanding each other allows for movement along a continuum of leader-follower. Such movement enhances motivation, morality, ethics, and democratic leadership in her view, and in this OIP aligns with my interpretation of decolonizing leadership (cf. Tuck & Yang, 2012).

Deconstructing the leader as a "sage on the stage" (King, 1993, p. 30), modeling learning from failure (Edmondson, 2008), and decentring the leader as change agent by co-creating collaborative change through distributed leadership are necessary strategies to help adults in schools give up their power as traditional teachers and create conditions for collaborative inquiry (Donohoo, 2013) with students as partners and co-creators (see also Safir & Dugan, 2021).

A critical approach also slows the change process, allowing teachers to embrace the cultural change of a flattened hierarchy in the move from private practice to collective teacher efficacy (Donohoo, 2017; see also Abayomi, 2020). Consensus building to develop coherence takes time (Fullan & Quinn, 2016), but as Kershner and McQuillan (2016) conclude from their case-studies, such investment is imperative for sustainability of change in school cultures. Based on the organizational context, theoretical framework, and leadership lens described here, the next section describes the leadership problem of practice that is the focus of this OIP.

Leadership Problem of Practice

As schools use research-informed practices to improve student learning through feedback (Black and Wiliam, 2009), dynamic tensions emerge between teacher-centered, traditional,

privatized classrooms (Hembree, 2010) and collective efficacy (Donohoo, 2017) through collaborative inquiry (Donohoo, 2013) using classroom-based data. Similar tensions exist for school leaders who are challenged by the disconnect between school-based rich assessment data and external standardized test-based benchmark data (Klinger & Rogers, 2011; Wiliam 2010).

Educators and students are in a double bind: decrying the tests as overly simplistic and imprecise measures of achievement (Aitken et al., 2011), while having to bear the impact of the results in the form of school rankings and post-secondary choice. While some educators have argued against quantitative data and large-scale assessments (Au, 2010), others teach to the test (Gillborn et al., 2018; McNeil, 2000) to ensure success for their students. Neo-liberal cost-cutting measures have shifted large-scale assessments to computer-based marking using more fact and recall-based multiple-choice questions (Wyatt-Smith et al., 2021), thus amplifying the disconnect between teachers whose teaching practices prioritize external quantitative exam results and teachers who value qualitative information gathered from student discourse in constructivist, inquiry-based teaching in classrooms (Safir & Dugan, 2021).

Leaders and educators do not have the data-literacy training (Knight & DeMatthews, 2020; Mense & Crain-Dorough, 2017) to critically examine the data generated within their schools and to challenge interpretations of the results of large-scale testing from central bureaucracies. As a problem of practice, data illiteracy limits the ability of teachers and administrators to mobilize the knowledge created within the school and to meaningfully articulate a school-based narrative for growth and improvement. A lack of data literacy and mobilization skills reduces collective efficacy (Donohoo, 2017) among educators and hinders coherence (Fullan & Quinn, 2016) to support student achievement and well-being.

Framing the Problem of Practice

The leadership problem of practice emerges as an unintended consequence (Safir, 2017) of a solution to a previous problem (Soini et al., 2016). In the 2010s, the school's leadership team engaged with stakeholder communities for a capital campaign to build new school buildings that promoted student discourse. This fundraising effort consumed school leaders' focus, and a key teacher leadership role of an empowered and engaging Head of Academics was neglected. This administrative role in the independent school context supports teacher professional development, coaching, and collaboration across all three systems (Figure 1). This lack of attention to developing shared understanding and collective efficacy (Donohoo, 2017) of curriculum, instruction, and assessment has loosened coupling between envisioned and enacted practices (Schulte, 2018). When I arrived as a new administrator, the school had a dominant culture of privatized classrooms and autonomy without accountability among teaching staff even as a new building with student-centered design came into operation for younger students in grades K-6.

Provincial legislation mandates that teachers meet annually with the principal to share their professional growth plan (Fenwick, 2001). In my meetings, many grade 7- 12 teachers self-identified as being stagnant in their practice on Duck's five-stage change curve (Cawsey et al., 2017). They reported anchoring their pedagogical and assessment practice in the classroom to traditional lecturing and testing in response to perceived pressure from administration and parents to produce high scores on standardized provincial and IB diploma exams at the end of grade 12. Collaboration when it occurred was perfunctory as described by Burnside (2021).

Fullan (2007) has noted that in misguided accountability regimes, it is difficult to deprivatize classrooms. Helping teachers understand that dynamic, student-centered learning in classrooms can encourage deep learning (Fullan et al., 2018) without lowering standardized test

results requires establishing a sense of urgency (Kotter, 1995) for change. Heifetz refers to the same phenomenon as a need to "ripen the issue" in adaptive leadership (2009, pp. 126-127).

The Case for Change

Using Nadler and Tushman's (1980) congruence model and the earlier PESTEL analysis, the status quo of teaching and learning represents a threat to the organization. The school is resting on its past glory and not innovating in a competitive local context. In addition to teacher talk, other streams of data described below demonstrate a need for change at Old Glory.

Historical Overview

When Old Glory was first established, it had a near monopoly as a private school. In the last three decades, with financial support from successive provincial governments, a variety of competitors have emerged (Bosetti et al., 2017). The three most effective competitors to Old Glory consistently rank higher in the Fraser Institute rankings (Figure 5). These publicly available school rankings are created from provincial data collected annually as part of school accountability for taxpayer dollars (Taylor, 2001).

While the school's performance exceeds the provincial average rating of 6.0 (Cowley & Emes, 2020), prospective parents with choice and a desire for higher academic results for university admissions are asking tough questions during admissions interviews. In my own experience with prospective parents, the power has shifted away from the school selecting students to the student and family determining which school they want to go to (see also Bosetti et al., 2017). In response, school leadership and enrollment teams are creating alternative narratives for prospective families using the school's unique campus, its outdoor education programs, and a focus on well-being to attract and retain students. However, such enrollment

tactics tend to diminish the academic nature of the school, further contributing to lower results as parents are promised programs that take students away from classrooms.

Figure 5

Historical Comparison Data from Fraser Reports
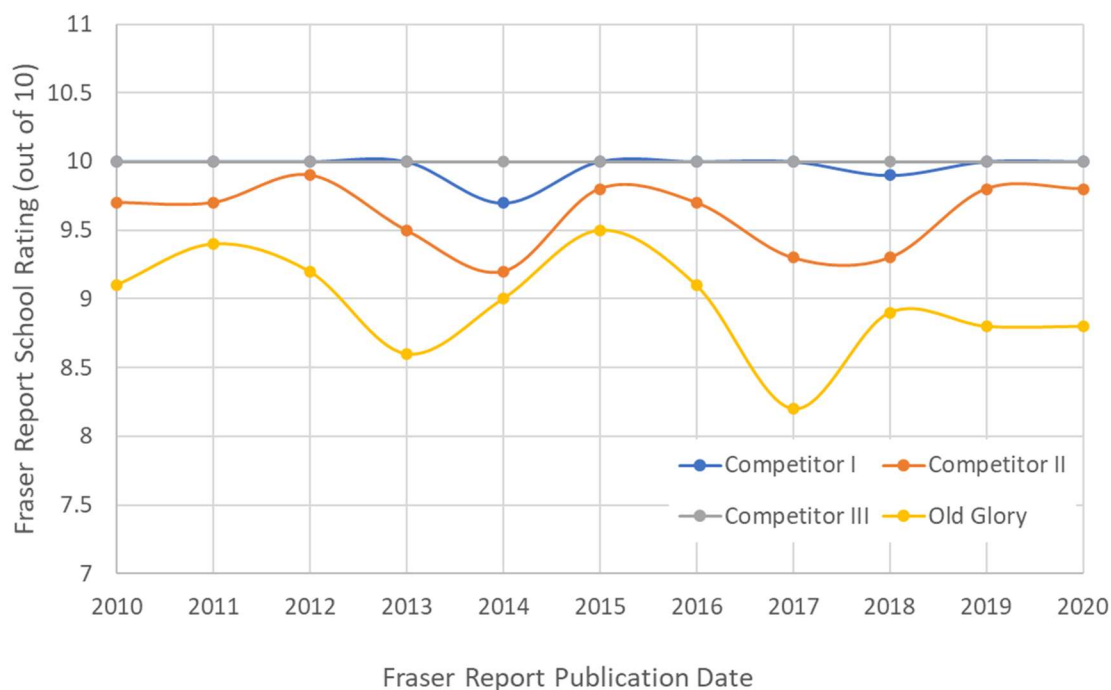
 Note. The author has collected and plotted comparative data from multiple annual reports available from *School Report Cards Research Archives*, by the Fraser Institute, n.d. (https://www.fraserinstitute.org/studies/school-report-cards/archive). Copyright 2022 by the Fraser Institute.

This OIP seeks to use data to improve instruction using collaborative inquiry (Donohoo, 2013) and feedback (Hattie & Timperley, 2007) to reverse the pulls on academic achievement at Old Glory. However, academic excellence does not have to come at the cost of well-being. This OIP seeks to leverage a DIDM approach (Datnow et al., 2021) to provide differentiated and

responsive learning opportunities for diverse groups of students, thus improving both student achievement and wellbeing in the classroom (see also Safir & Dugan, 2021).

Social Justice Context

The use of student data raises important concerns around data privacy and ownership (Hartong, 2016; Haythornthwaite, 2017; Wang 2017) and surveillance (Wyatt-Smith et al., 2021). The school has contracted a non-profit, third-party vendor to analyse and present data visualizations because of their compliance with European GDPR frameworks of data protection as well as their track record of working ethically with student data at other schools. Beyond instrumental concerns about privacy, this OIP also critically examines the use of data in schools and encourages data use by data creators as an intentional act of resistance (Gezgin, 2020) against data colonization and fetishization of quantitative data in the current neoliberal climate.

Kumar (2006) analyzes the relationship between western scholars and informants from a post-colonial lens and argues that a scholar who extracts information from their informants must also contribute to the education of their informants. In this OIP, central bureaucracies at the provincial or transnational levels (IBO, 2015) parallel the scholar in Kumar's article, extracting data from schools and evaluating schools based on the extracted information creating a form of data colonialism. In a post-colonial context, schools as informants gain the tools to educate themselves about their data through their school leaders (see also Knight & DeMatthews, 2020).

To this end, the OIP frames the collaborative use of school data by the SLT in the form of a "holding environment" (Figure 4). In this OIP, the data literacy work will be organized, shaped, and led by classroom teachers (Datnow et al., 2021; Heffernan, 2012) to mitigate oppressive uses of data as evaluative or surveillance tools (Dumitrica & Wyatt, 2015; Wyatt-Smith et al., 2021). Instead, inquiry occurs in collaborative teacher spaces to benefit teachers and students using a

variety of data streams so that quantitative data is not privileged over other forms of data (Donohoo, 2013; Safir & Dugan, 2021).

Articulating emancipatory ideas of leadership in an elite private school context may seem oxymoronic. However, leveraging the power of an elite institution to question how central bureaucracies (Apple, 2004) use standardized tests and data to control educational practices and procedures in all schools (see also Knight & DeMatthews, 2020; Rosenthal, 2016) is a Hegelian attempt at promoting social justice (Shields, 2010; Winkle-Wagner et al., 2018) and aligns with Habermas's notion of emancipation as action rooted in critical theory (Freire, 2018; Liu, 2017).

The idea of using data to create heterodox local narratives that subvert the central orthodox narrative can be enticing. However, post-colonial thinkers like Bhabha (2004) and Spivak have noted limitations in trying to subvert the central narrative. The school leader as a colonized entity is still speaking in the language of the colonizer (Rizvi et al., 2006). In this context, the local school leader represents the subaltern from Spivak's famous essay title (Spivak & Morris, 2010). If the local school leader were to reframe and use data to tell meaningful stories relevant to the local context, would the central office listen?

Spivak's rephrased question suggests that school leaders who make visible how data are used and create alternate school-based data narratives may not necessarily displace the dominant neo-liberal narrative. However, in my view, such counter-discourse problematizes the dominant narrative the way my existence as a brown, queer, immigrant leader problematizes whiteness, heteronormativity, and elitism in Canadian school leadership (Courtney, 2014; Liu, 2017).

Ethical Considerations

The dominant narrative of using data as an evaluative tool by central bureaucracies to measure school performance aligns with an ethic of justice. This OIP promotes ethics of care and

critique (Wood & Hilton, 2012) as alternative ethical frameworks for schools. This shift from an ethic of justice to one of care and critique aligns well with both critical theory and decolonizing perspectives (Safir & Dugan, 2021). Langlois and Lapointe (2007) have shown a similar evolution among school leaders as they gain leadership experience in Canada.

In addition to problematizing dominant narratives, two ethical considerations shape this OIP. The first is ethics around data use. While informed consent is standard in research studies, schools, boards, and trans-national educational bodies routinely collect and analyse student data and metadata without consent from parents or adult-aged children. They rely instead on the legally defined role of teachers as "in loco parentis" (Loss, 2014). In a critical theory informed change plan, transparency with students and parents on how their data are being used is necessary to build equitable and empowered partnerships (Freire, 2018; Gezgin, 2018).

The second ethical consideration is the use of leadership as a force for shaping change and follower actions. Harris & DeFlaminis (2016) caution leaders against using distributed leadership to oppress teachers by burdening them with the work of leadership while preventing access to positional power. Liu offers an alternate model of ethical leadership informed by critical theory as well as complexity theory (Mason 2008; see also Honig, 2006) that can be "a force to subvert unequal structures of power" (2017, p. 345).

Having analysed the frames around the problem of practice, the next section describes questions that emerge from the leadership problem of practice.

Guiding Questions Emerging from the Problem of Practice

Modeling DIDM processes and the design of collaborative inquiry questions (Donohoo, 2013) the following four questions guide the OIP:

1. How can making data dynamically accessible help develop data literacy and collaborative inquiry among teachers to improve curriculum and instruction?

2. How can school leaders create a school culture where teachers continually engage critically with multiple forms of data (e.g., quantitative, and qualitative) to strengthen instructional systems (see Figure 1)?

3. What systems are needed to reward collaborative and open inquiry (Donohoo, 2013) such that failures are openly discussed and valued in critical conversations (Heffernan, 2012) among teachers to develop a sense of collective efficacy (Donohoo, 2017)?

4. How can the ongoing use of data and collaborative inquiry (Datnow & Park, 2018) create an agile school (López-Alcarria et al., 2019) that is responsive to both external and internal changes in an adaptive (Heifetz et al., 2009) and sustainable way?

These questions will be used to help shape the change implementation plan and guide the change-agent's leadership practice.

Leadership Focused Vision for Change

In order to create an agile and responsive school using the guiding questions in the previous section, a learning environment among adults is key to build an adaptive culture (Heifetz et al., 2009). Edmondson (2008) describes how developing psychological safety can be combined with accountability to help employees move into the learning zone. Figure 6 illustrates how high levels of psychological safety and high accountability can create a "warm demander" (Safir & Dugan, 2021, pp. 199-205) culture that has high expectations for performance but also high levels of support for inquiry and failure.

An environment with high psychological safety but low expectations and accountability creates a culture of comfort. Lower levels of both psychological safety and accountability create

apathetic conditions for workers according to Edmondson (2019), while high accountability environments with low psychological safety create anxiety and are to be avoided in this OIP. This OIP seeks to place teacher leaders in the learning zone where "the focus is on collaboration and learning in the service of high-performance outcomes" (Edmondson, 2008, p. 64).

Figure 6

Psychological Safety and Accountability to Promote a Learning Culture (Edmondson, 2008)
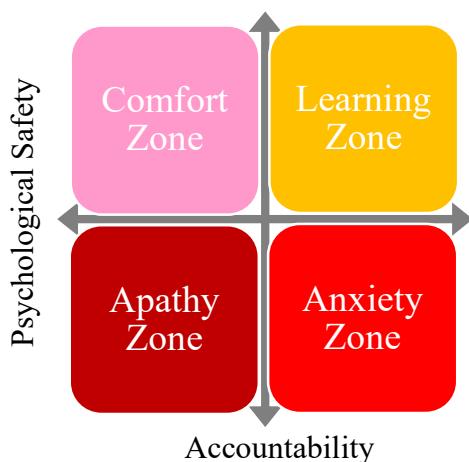
Note. This figure created by the author has been adapted from "The competitive imperative of learning," by A. Edmondson, 2008, *Harvard Business Review*, p. 64 (https://hbr.org/2008/07/the-competitive-imperative-of-learning). Copyright 2008 by Harvard Business Publishing.

Edmondson's work (2008, 2019) aligns with fixing the maladaptive culture of teacher accountability that Fullan (2007) describes as necessary to create the conditions where teachers feel ready to deprivatize their classrooms (Hembree, 2010). As administrators, we must model such collaboration and critical conversations (Heffernan, 2012) to help teachers buy into new accountability structures in the school that reward open dialogue and critique (Fullan, 2007). Such dialogue can begin to change teacher beliefs around collective efficacy (Donohoo, 2017) and shift the conversation from blaming students to collaboratively talking about teaching and learning in the classroom (Hembree, 2010). This is not easy work. Burnside (2021) shares some

of the challenges in moving to critical collaboration in teacher communities beyond working on their own problems of practice.

Data literacy training and use of multiple measures of data to support collaborative conversations can consolidate a culture of collaborative inquiry (Donohoo, 2013) where teachers, and administrators work together to improve student achievement using differentiated instruction informed by data (Brown et al., 2017; Datnow et al., 2021; Mense & Crain-Dorough, 2017). Donohoo (2017) notes that developing collective efficacy has the greatest impact on student learning outcomes as evidenced by Hattie's effect size studies. To support such empowered collaboration, in addition to flattening power hierarchies, educators will need support in leading and listening to critical conversations (Heffernan, 2012). Old Glory, like other schools, prioritizes being nice in teacher talk over critical feedback (Burnside 2021; MacDonald, 2011).

Developing a culture where teachers talk openly about their practice and receive feedback is not easy (Fullan, 2007), but the benefits of deprivatization (Hembree, 2010) are key to the success of this OIP. Such collective efficacy within a critical theory informed framework for dynamic and ongoing learning from feedback can help create and sustain an agile school culture (Leslie, 2020; López-Alcarria et al., 2019) that is adaptive (Heifetz et al., 2009) and responsive to a constantly changing world (Drysdale & Gurr, 2017; Soini et al., 2016).

Old Glory is navigating away from its current culture of complacency using a strategic planning process (internal context) to develop organizational change readiness. At the same time, the school, like others, is being forced by COVID-19 (external context) to innovate using technology. These external and internal contexts (Armenakis & Harris, 2009) leveraged appropriately, can help create urgency for change towards the envisioned state. Rather than envisioning change as a linear process, this OIP uses process cycles to see change as iterative and

ongoing. Figure 7 demonstrates examples of four-stage change process cycles that are drawn from multiple researchers (Bell, 2014; Donohoo, 2013; Evans et al., 2012; Safir & Dugan, 2021).

Four-Stage Change Process

This OIP leverages a four-stage change process cycle as it aligns well with Kotter's 8-stage change model (1995). A cyclical change process is dynamic, and in volatile and uncertain times (Johansen, 2012), more adaptive and agile. Donohoo (2013) summarizes collaborative inquiry as a cyclical process where a professional team of teachers focus on a meaningful inquiry question to frame a problem that hinders student achievement. They collect a variety of evidence from the classroom to understand the problem. The datasets are analysed collaboratively and teachers reflect in teams to understand what solutions work and which ones are limited in scope. This analysis not only fuels a new cycle of inquiry but also leads to celebration and documenting of growth to empower and build leadership capacity within the inquiry team (Panel A, Figure 7).

Such an iterative process aligns well with Deming's idea of continual improvement (2018) discussed in depth in chapter 2, and introduced by Shewhart & Deming (1939) as the PDSA cycle (Panel B, Figure 7). Plan-Do-Study-Act steps encourage the team to plan a course of action, implement it, use data informed approaches to review the cost/benefits of the action and to improve it in the next cycle (Evans et al., 2012). While this model orginates from corporate culture, some aspects are aligned with Donohoo's collaborative inquiry cycle (2013) as demonstrated by the shared colours across panels in Figure 7.

Bell (2014) uses the medicine wheel from Anishinaabe traditions as a model for teaching and learning that is reflective, connected, and humanist (Panel C, Figure 7). Safir and Dugan's work on equity and social justice (2021) to shift data use from surveillance and evaluative to empowering and formative draws from such Indigenous decolonizing methodologies.

Figure 7

Four Stage Process Cycles for Improvement

A

B

C

D
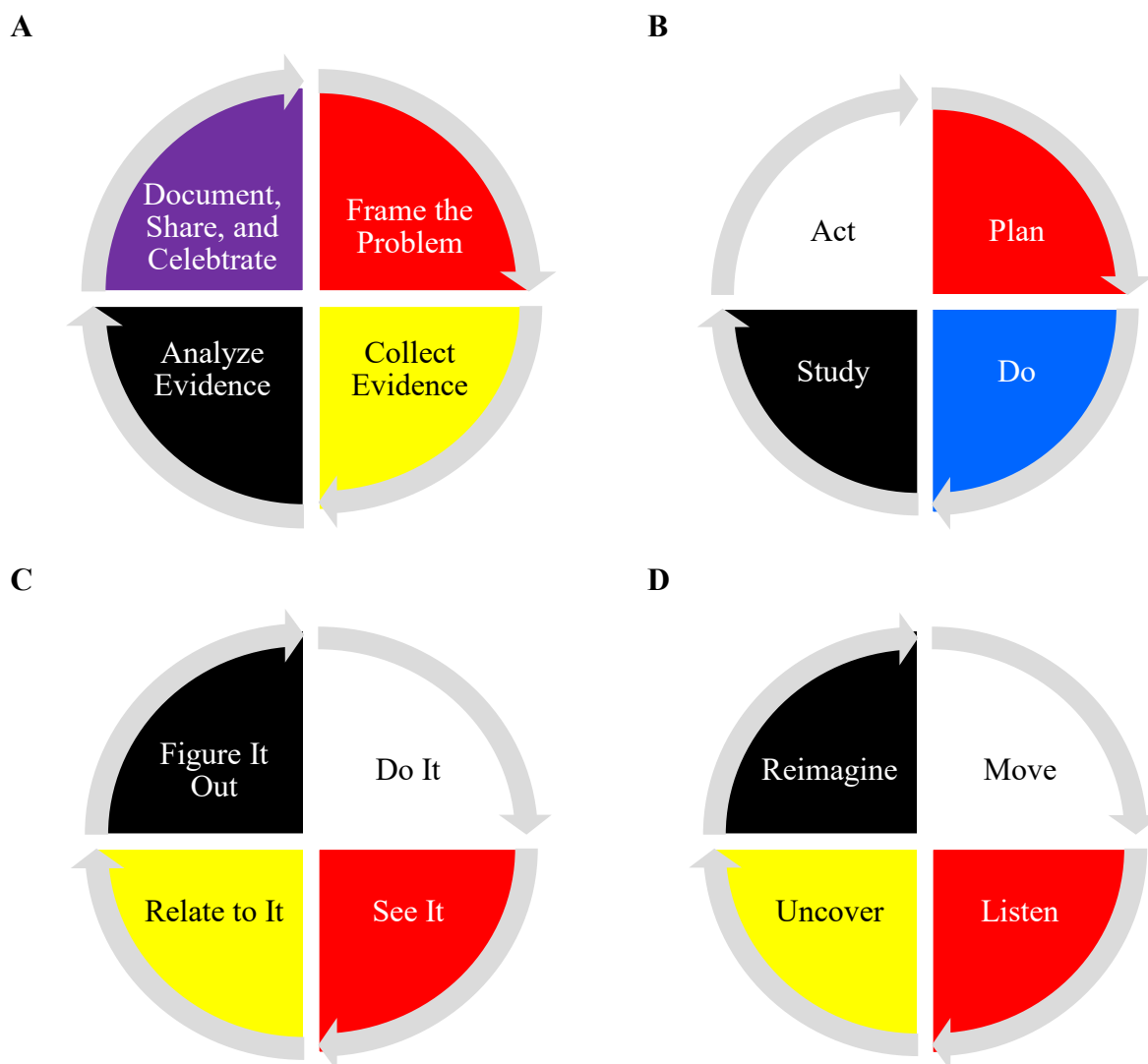
Note. The author has reconstructed and used colour to link elements of four stage process cycles for improvement from the following sources. Panel A: adapted from "*Collaborative inquiry for educators: A facilitator's guide to school improvement*," by J. Donohoo, 2013, p. 5, Corwin. Copyright 2013 by Corwin. Panel B: Plan-Do-Study-Act cycle adapted from "Theoretical frameworks to guide school improvement," by L. Evans, B. Thornton, and J. Usinger, 2012, *NASSP Bulletin, 96*(2), p. 159 (https://doi.org/10.1177/0192636512444714). Copyright 2012 by SAGE Publications. Panel C: Applying medicine wheel knowledge to teaching adapted from

"*Teaching by the medicine wheel: An Anishinaabe framework for Indigenous education*," by N. Bell, 2014, EdCan Network (https://www.edcan.ca/articles/teaching-by-the-medicine-wheel/). Non-exclusive Creative Commons attribution non-commercial no derivative licence. Panel D: Equity transformation cycle is adapted from "*Street data: A next-generation model for equity, pedagogy, and school transformation*," by S. Safir and J. Dugan, 2021, p. 74, Corwin-learningfoward. Copyright 2021 by Corwin.

Note the colours alignment with the medicine wheel (Bell, 2014) in Safir & Dugan's equity transformation cycle (2012). Tuck & Yang (2012) critique such decolonizing work as "an empty signifier to be filled by any track towards liberation" (p. 7), clarifying that in their view, decolonizing work must repatriate land to Indigenous people and recognize the differences in how land and relations to land operate within Indigenous and non-Indigenous societies.

Thus, panels C and D in Figure 7 are informed by post-colonial frameworks missing from panels A and B, which have an instrumental focus of organizational improvement without necessarily taking into account empowerment and liberation of human beings.This distinction is important to the critical theory framework for the OIP presented here.

Organizational Aspiration

The corporate practices influencing education described in the previous section are reflected in Old Glory's decision to contract a management consulting company that supports many Canadian independent schools and non-profits with the strategic planning process, to develop a ten-year strategic plan for the school. The year-long consultative process surveyed staff, students, parents, alumni, and board members as well used in-person and online focus groups with stakeholder group representatives to understand the current state of the organization and the local PESTEL contexts. These conversations identified opportunity gaps where the

school could create value for future students and parents not only to meet their needs but also to ensure the school's long-term sustainability as a competitive and selective educational institution.

The school, through its strategic plan, hopes to spring from its traditional roots as an outdoor-focused, academic school into a transnational enterprise that attracts students and faculty from around the world through cutting-edge programs, facilities, and leveraging the IB program (Steiner-Khamsi & Dugonjic-Rodwin, 2018). These include offering an online school to students who are unable to attend the campus and offering summer programs for local students. Plans include creating a boarding/conferencing facility to allow for international students and educators to use the campus during the summer when regular school operations cease, as well as serving as a knowledge mobilization hub not only for students but also for educators through partnerships with local universities and transnational organizations.

While this aspiration to become the market leader in western Canada may seem ambitious, the underlying drive to diversify income sources and offer an international education (Dugonjic-Rodwin, 2021) within a provincial framework is the school's attempt to meet the needs of a diversifying demographic in Canada and what its knowledge economy may require of high school graduates (Dharmaratne et al., n.d.; RBC, 2018). However, the strategic plan also reflects a delicate balancing act for a school that owes its current success to a resource-driven oil and gas sector that is dwindling both in wealth and reputation. In the next section, the school's readiness for change is discussed through renewed leadership and a new strategic plan.

Organizational Change Readiness

The current Head of School, from one of the competitor schools in Figure 5, brings with them a deep knowledge of the provincial system and an influential network. They have identified gaps in school achievement and refocused the school leadership team on improving academic

excellence within the school by engaging with teachers, parents, and crucially, students. Old Glory collects data annually to account for taxpayer dollars given to the school as well as to inform school improvement plans (Alberta, 2020a). In addition, the school undergoes accreditation review with CAIS (2021) and the IBO (2015) to ensure that the school is meeting standards set by each organization. Instead of using such provincial, national (CAIS) and transnational (IB) data sets as evaluative, school leaders, teachers, and the board can use them as formative feedback (Black and Wiliam, 2009) on the current state of the organization and use the feedback to monitor for change (Markiewicz & Patrick, 2016; Neumann et al., 2018).

Every three years, the school also completes a climate survey sampling students, parents, employees, and alumni to understand how the school is performing relative to other Canadian and American independent schools. This survey is administered by Lookout Management (n.d.) and results are shared with the school stakeholders for review and action. The last such climate survey was completed in 2019 under the current Head of School, and the data from this survey figured prominently in the strategic plan stakeholder discussions. In qualitative comments, students reported feeling not seen or acknowledged as diverse individuals. Instead, they reported that teachers saw them as elements who must conform to the school's expectations (e.g., wearing proper uniforms) and support the school's brand (e.g., compliant behaviour).

Unlike the previous administration, which viewed students as passive recipients of adult knowledge critiqued by Freire as "the banking concept" (2018, p. 72), the new Head has taken the time to listen to student voice through these surveys and created additional structures to empower student voice. Examples include the creation of a new grade 7-12 Student Council as well as a Head's Council where student feedback is shared directly with the SLT. This has allowed the school leader to leverage student voice to shift the context, appeal to teachers'

emotional and cognitive readiness for change (Leithwood & Strauss, 2008), and to develop trust within key stakeholder communities (Oterkiil & Ertesvåg, 2014; Zayim & Kondakci, 2015).

The data from the current student surveys also aligns with enrollment data over the last decade that showed a decline in the number of applicants when the school's previous leadership team was focused on campus renewal through new buildings. The school's enrollment team had little discretion when admitting students, and students with significant learning needs and socio-emotional needs were enrolled without systematic improvements to the school's instructional system. In conversations, teachers reported feeling pressured to deliver higher results while also feeling anxious that they did not have specialized training or professional learning to support the needs of students with individualized education plans.

Using multiple measures of data collected from annual surveys, accreditation processes, and the recent climate survey, as well as through individual conversations with each staff member the Head of School convinced the Board of Governors to initiate a strategic plan consulting process. Despite an unexpected COVID-19 pandemic, the Head of school persevered with in-person and virtual consultations to listen to students, teachers, non-teaching employees, parents, alumni, and board members. School leaders were involved throughout the survey and consultation process to listen, ask questions, and reflect on areas of strengths and opportunities.

Following a year-long consultation process, the school's leadership team and board developed a new strategic plan in 2021. This ten-year long-term plan for school renewal focuses on four broad areas: (a) Deep Learning, (b) Belonging, (c) Long Term Sustainability, and (d) A Globally Connected Community School. The two goal pillars of deep learning and belonging focusing on the classroom and learning experience for students and teachers within the instructional system are well-aligned with this OIP's focus on DIDM and collaborative inquiry.

Developing the strategic plan created a sense of urgency for change (Kotter, 1996) and prepared teachers for the change process as a renewed and empowered distributed leadership team (DLT) was created within the school.

Chapter 1 Conclusion

This chapter describes the context as well as local, national, and transnational influences on a school in western Canada to frame this OIP. A traditional, university-prep school, a context which served the school well in its past, Old Glory is now in a wet-clay moment, ready for a paradigm-shifting change under teacher leadership in Lewin's unfreeze-change-freeze model (Northouse, 2019). However, unlike Lewin's model which sees change as punctuating periods of equilibria, the pace and ferocity of change from outside and within schools because of technology, demographic shifts, and the rapidly evolving needs of education does not appear to be slowing anytime soon.

In constantly changing environments (Drysdale & Gurr, 2017), schools need to remain more pliable and agile (Leslie, 2020) within the wet-clay model rather than being fired into a new fixed shape. Thus, iterative cycles of change are discussed as a leadership vision for change using models from corporate and Indigenous perspectives (Figure 7) to create an adaptive culture within the school (Heifetz et al., 2009). It is important to note that constant externally enforced change is stressful for human beings (Bernerth et al., 2011; Orlando, 2014) as it can remove the locus of control that shapes human agency. This OIP therefore emphasizes the practice of distributed leadership (Harris, 2013; Spillane, 2006) to empower employees to do the adaptive work and move along the leadership-followership continuum (Crippen, 2012).

This OIP proposes a DIDM process (Datnow & Park, 2014) rather than a specific outcome as a way for schools to maintain agility. By giving teachers the ability to become

adaptive (Heifetz et al., 2009) and empowered to respond to the dynamic needs of their stakeholder communities in a fast-paced, uncertain world (Johansen, 2012), the OIP seeks to maintain a psychologically safe (Edmondson, 2019) environment for those working within it.

In the next chapter, leadership approaches to change are discussed in greater depth and change frameworks used to explore solutions that address the problem of practice. Through a critical organizational analysis, a nucleus of best practice is identified within the organization as a seed for developing and implementing the OIP meaningfully. Three different solutions for the problem of practice are analysed and a recommended solution offered to support the equity and social justice arc influenced by critical theory.

Chapter 2: Planning & Development

In this chapter, the leadership approaches and change frameworks used to plan for and develop the change implementation plan (CIP) as part of the OIP to address the problem of practice (POP) are described. A critical analysis of the organization is undertaken to determine congruence between the selected leadership approaches, change frameworks, and the organizational context. A model for how to implement DIDM (Datnow & Park, 2014) in the instructional systems of the school (Figure 1) is explored along with alternative solutions to demonstrate an awareness of the diverse ways of approaching change planning and development within the local school context. This chapter ends with an analysis of the social justice and ethical challenges facing school leaders as change agents when mobilizing data (Wyatt Smith et al., 2021) and when deploying metaphors like decolonizing (Tuck & Yang, 2012) without a full awareness of their powers and limitations.

Almost every school leverages technology in teaching, and terms like TPACK and SAMR (Falloon, 2020) are part of the shared language of educational technology across schools. However, school leaders continue to be unaware of the ways and depths to which data gathered by software programs in schools can be (mis)used (Wyatt-Smith et al., 2021). The provision of "free" software to schools and school systems by large and small technology companies (Roberts-Mahoney et al., 2016) has made it easy for both school information technology administrators as well as teachers to create accounts for students and quickly mobilize new technologies in the classroom. Such rapid technology implementation has also alienated other teachers who struggle to adapt to constantly changing technology (Orlando, 2014).

Schools now have unwieldy ecosystems of software programs and services that confound not only student achievement but also parent support for student learning. In addition, a lack of

coherence and leadership can lead to privatized classrooms (Fullan, 2007; Hembree, 2010) extending into the online domains as idiosyncratic software programs proliferate with little or no school accountability (Chisholm, 2020). This lack of congruence between data systems and instructional systems (Figure 1) reduces the efficacy of teaching and learning. Wyatt-Smith et al. (2021, p. 101) use the metaphor of "somnambulism" to showcase educators sleepwalking through this data landscape. Improving data literacy (Knight & DeMatthews, 2020) and aligning teacher efforts across classrooms within a coherent framework requires focused leadership effort to awaken the sleepers to the threats and opportunities within this dataspace.

Leadership Approaches to Change

At Old Glory, the leadership focus for this OIP is on improving the instructional system of the school. As this is the most dynamic system involving teachers' professional practice, Heifetz et al. (2009) would regard this as an adaptive problem, even though it has technical components in terms of improvement to school databases (Figure 3). The bulk of this OIP is focused on helping teachers reflect on and critically evaluate their own classroom practices and shift from privatized, teacher-centered classrooms to student directed learning spaces through collaborative inquiry (Donohoo, 2013) using DIDM processes (Datnow et al., 2007, 2021).

Distributed leadership (Spillane, 2006) recognizes teacher leaders as key partners for school leaders in mobilizing change and works in concert with the tenets of adaptive leadership, where the work is given back to followers under the guidance of the school leaders (Heifetz et al., 2009). In this OIP, adaptive leadership and distributed leadership approaches are used together to leverage teachers' capacity for enacting change within the school while also recognizing that leadership is being enacted by teachers when making changes to their practice.

Adaptive Change and Leadership

Heifetz et al. (2009) developed the adaptive leadership model as a dynamic and responsive leadership approach to help followers take responsibility for learning and responding to the constantly changing environment facing organizations. Bennis & Nanus (1985) first describe the complexity and uncertainty associated with external challenges that are now known by the term VUCA: volatility, uncertainty, complexity, and ambiguity (Johansen, 2012).

In the adaptive approach to leadership for disequilibrium (or constant change), the leader is asked to get away from the "dance floor" which represents managerial tasks and get "on the balcony" (Heifetz et al., 2009, p.7) to get a wider view of the challenges facing the organization. This perspective is meant to help the leader observe the external (and internal) conditions to diagnose both the problems facing the organization as well as develop a vision for the solution.

However, the actual work of solving crises or preparing the organization for change is not to be done by the leader (Beerel, 2021; Whitaker, 2014). Instead, the leader mobilizes the resources within the organization and creates a holding environment where the employees of the organization are empowered to produce solutions that align with and support the leader's vision from the balcony (Heifetz et al., 2009). This work is hard as it challenges the status quo, employee ego and sense of self (Beerel, 2021), and can lead to resistance. Thus, the leader must regulate the conflict and maintain pressure within the holding environment (Heifetz, 2009, pp. 155-164) to ensure learning and growth within employees is occurring towards the tasks of meeting the goals of the adaptive challenge(s).

In the context of this OIP, the adaptive challenges faced by Old Glory include the following as adapted from Beerel (2021, pp. 221-222):

- A gap between practiced values and the changing reality of private education in the local context.

- Competing commitments of reducing costs, while increasing school rankings.

- Uncovering and toppling sacred cows relating to a self-reinforcing perception that the teachers are still teaching well but the quality of students has declined.

- Recognizing the resistance to changing teacher culture from one of privilege and privatized teaching (Fullan, 2007) to a collaborative learning stance by addressing institutionalized incompetence.

- Revising the mission and vision of the organization to clarify the values of the organization.

Heffernan (2012) explains that conflict can be productive and lead to better solutions when accomplished within a collaborative team. Heifetz et al. (2009) also advocate for the leader orchestrating conflict within the holding environment to develop an adaptive culture. The hallmarks of adaptive culture parallel the scientific mindset (Shewhart & Deming, 1939), where challenges do not have clear definition and require new learning, thus employees are encouraged to question, take risks, and work in collaboration to seek answers. Such a culture requires a high degree of trust and vulnerability (Brown, 2018) as well as psychological safety to create a learning culture (Edmondson, 2008) where past solutions are discarded as the context changes.

It is important to note that while there is significant research literature on aspects of adaptive culture, this approach does distinguish leadership as being visionary and management as being less than leadership in value, a distinction that can be critiqued with critical theory (Alvesson & Sveningsson, 2003). If indeed the work is being done by employees to create adaptive solutions, the real work for organizational success comes from managing the outcomes

in the holding environment and not from setting the vision alone. Why then is the leader valorized and not the followers doing the work?

In addition, Soini et al. (2016) describe the multitude of challenges with different timelines that school leaders must contend with (e.g., student discipline, improving instructional coherence) that are both "chaotic and non-linear," and which require "a distributed and shared orientation to leadership" (p. 460). Thus, while adaptive leadership is an approach that is most responsive to VUCA challenges, in this OIP, it is combined with distributed leadership practices to support successful implementation and sustainability of the change initiatives.

Distributed Leadership and Sustainability

Distributed leadership (Spillane, 2006) brings together principals and teacher leaders, whether in formal or informal roles, for school improvement. In cases where the school leader goes it alone and does not develop a guiding coalition of school leaders (Kershner & McQuillan, 2016), the changes effected by the principal are either perfunctory or short-lived.

Alma Harris (2009, 2013, 2016) and Spillane (2006) reconceptualize distributed leadership as a practice, critiquing a single leader's influence in shaping organizational change (Northouse, 2019). Instead, distributed leadership emphasizes social interaction as critical to leadership practice (Harris, 2013). Joint, reciprocal interactions among leaders, followers, and the local context—which Spillane (2006) identifies as the situation and includes tools and routines within this third aspect—lead to the emergent practice of distributed leadership.

While there continues to be a role for school leaders in distributed leadership, this approach recognizes that a leader cannot solely influence change in schools, particularly given Soini et al.'s (2016) identification of the constant stream of pressures on school leaders. The alignment between distributed leadership and adaptive leadership are significant, given that

adaptive leadership requires the adaptive work to be done by followers in a holding environment created and monitored by the leader. Similarly, distributed leadership reinforces the idea that the work of leadership in schools is done by teachers who may or may not hold formal authority, but that their practice, when shaped by the school leader, can lead to institutional improvement and culture changes that can outlast the school leader's tenure (Kershner & McQuillan, 2016).

As this OIP seeks to change the school culture from one of privatized instruction (Hembree, 2010) to a collaborative inquiry model (Donohoo, 2013) where teachers are empowered to question and critique practice in teams using data (Datnow et al., 2021), the combined approaches of distributed and adaptive leadership honour the work of both school leaders and teachers as a professional community of learner-leaders in schools.

Harris & DeFlaminis (2016), however, do caution that distributed leadership can be misused and become a tool of oppression when school leaders download leadership tasks on teachers, without empowering them with time or resources. In such cases, teachers take on the burden of change agency without power and can be burned out by the task of school improvement. As this OIP uses post-colonial theory (Andreotti, 2011) within the context of critical theory for empowerment, the CIP needs to demonstrate a flow of power from school leaders to teacher leaders to avoid oppressive uses of distributed leadership.

Framework for Leading the Change Progress

Given the concerns around the relentless nature of change (Drysdale & Gurr, 2017) and the uncertainty faced by school leaders in navigating change in a neoliberal climate of increased use of data for surveillance and change monitoring, Evans et al. (2012) summarize several key frameworks for change implementation in schools. Keeping in mind a systems approach as well

as the leadership approaches outlined thus far in this OIP, a model of continuous improvement that leverages teacher professional knowledge appears well-suited for the OIP.

In the 1980s, American companies felt threatened by cheaper, high-quality imports from Asia, and the consequent shift of manufacturing to countries like Japan, Korea, and now China. Deming's framework for continuous improvement came into prominence at this time, though the lessons within this model continue to resonate (2018). Deming developed this framework, ironically, based on his work with Japanese corporations in the 1950s as part of an effort to help rebuild manufacturing capacity in post-WWII Japan (Evans et al., 2012).

As the model of continuous improvement owes its prominence to times of crises (post-war Japan, 1980s America), it has value for schools facing uncertain times in the present. In particular, the Shewhart and Deming (1939) cycle of Plan, Do, Study, Act (Figure 7) allows for iterative improvement using data in school contexts (Tichnor-Wagner et al., 2017). Interestingly, Deming's own work describes the cycle as "a helix" of improvement with design, make, sell, and test success as the four steps (2018, pp. 153-155). While the words to describe the Deming cycle may have changed, the continuous improvement model requires social interactions and feedback using data to inform change, and therefore aligns well with this OIP.

Deming outlines fourteen points for "management" (2018, pp. 21-22) of the continuous improvement cycle that can be applied to schools. These key ideas for corporate improvement have been reinterpreted for this OIP as they apply to Old Glory school as below:

1. Create constancy of purpose on school improvement with a focus on instructional improvement to remain competitive in the marketplace.

2. Adopt a philosophy of adaptive thinking (Heifetz et al., 2009) and use data critically to inform learning decisions, thus creating a culture that is responsive to continuous change.

3. Cease dependence on inspection to achieve quality, instead develop processes (e.g., collaborative inquiry) for teachers to hold themselves to professional standards.

4. Review the system as a whole and build loyalty and trust towards long term goal, rather than rewarding piecemeal efforts.

5. Create a culture of continuous improvement in teaching and learning through collaborative reflection (Donohoo, 2013) and benchmarking.

6. Institute training on the job through ongoing professional learning instead of drive-by professional development (Fullan, 2007).

7. Develop leadership among teachers (Harris, 2013; Spillane 2006).

8. Drive out fear so everyone can work for school improvement (Edmondson, 2019).

9. Break down silos among departments and divisions to ensure continuous service and support for students across classes and years.

10. Eliminate targets and slogans that focus on specific external targets like the Fraser Reports (Cowley & Emes, 2020) to avoid adversarial relationships between teachers and administrators/parents.

11. Shift from a culture of compliance to a culture of commitment through teacher leadership.

12. Create opportunities for teachers to demonstrate pride in their work and share their success within and outside the school.

13. Institute a program of education for teachers within the school and to share self-improvement stories with the school community (Fullan 2007; Hembree, 2010).

14. Include everyone in transforming the school for coherence (Fullan & Quinn, 2016).

Deming's key points for continuous improvement make it clear that critical thinking and reflection rather than blind compliance to quotas and targets are key to developing an effective

PDSA cycle. His call that employees must be educated in a fear-free environment and be included in the transformation process (Evans et al., 2012), makes this change framework compatible with adaptive (Heifetz et al., 2009) and distributed (Harris, 2013; Spillane 2006) leadership approaches that emphasize psychological safety in the workplace (Edmondson, 2019).

Points 3, 10 and 13 align with the use of critical theory to question current neo-liberal uses of data as a tool for school surveillance and accountability. In this OIP, Deming's continuous improvement model is used to support DIDM (Datnow & Park, 2014) using collaborative inquiry (Datnow & Park, 2018; Donohoo, 2013) by teams of teachers. Data literacy to awaken the somnambulists sleep walking through the data landscape (Wyatt-Smith et al., 2021) aligns well with Deming's view of employee empowerment. Fostering professional learning (Fullan, 2007) and empowering teachers to use data to counteract third-party organizations like the Fraser Institute using data for surveillance or compliance is not only congruent with Deming's vision but also with critical theory (Freire, 2018).

In this section, Deming's work developed for corporations has been analyzed within a critical theory framework similar to the alignment of four-part process cycles in Figure 7. In the next section, a blended change model is proposed by merging Deming's work with that of Kotter.

Continuous Improvement and Kotter's 8-Step Change Path

This OIP aims to create a school culture of data literacy that empowers teachers to leverage data for student learning and growth. Kotter's 8-step change path (1995) can be aligned with Deming's continuous improvement model if Kotter's approach is viewed as an iterative cycle. In a VUCA world, change is a constant (Appelbaum et al., 2012; Drysdale & Gurr, 2017) and thus, Kotter's approach cannot be seen as a one-time fix for organizations.

Table 1

Aligning Kotter's 8-step Change (1995) with Deming's Continuous Improvement Model (2018)

Kotter's 8-Steps	Deming's 14-point Continuous Improvement	Action (Stakeholders)
Establish a sense of urgency		Share data on school rankings drop relative to competitors (Teachers, DLT)
Create a guiding coalition	Institute training, develop leadership, break down silos	DLT created from team of learning leaders and IB coordinators
Develop a vision and strategy	Adopt a new philosophy, create constancy of purpose	Data-informed collaborative inquiry model for teachers based on the work of Brown et al. (2017); Datnow & Park (2014, 2018) and Donohoo (2013). (DLT)
Communicate the change vision	Institute program of education and opportunities to share self-improvement with community	As part of the new strategic plan, introduce changes at start of academic year, and communicate repeatedly (Cawsey et al., 2017; Lewis, 2019) through weekly meetings, professional development. (Teachers, DLT, SLT).
Empower broad-based action	Drive out fear, break down barriers	DLT members to work with teacher teams on data-informed collaborative inquiry through time release and resource support. (Teachers, DLT).
Generate short-term wins	Create opportunities to demonstrate pride in work.	DLT members enrolled in instructional leadership course (HGSE, 2021). APIs increase reliability of data systems and improve teacher experience with assessment data. (Teachers, DLT).
Consolidate gains to produce more change	Put everyone to work to accomplish transformation & build loyalty towards a long-term goal	Review timetable to build time for teacher teams and grade-level teamwork with data for future years. (DLT)
Anchor the new approaches in the old culture	Eliminate targets & compliance by shifting to a culture of commitment & continuous improvement	Create professional learning framework that frames teacher work within DIDM model for teacher growth and evaluation (DLT, SLT).

Kotter is more explicit about change communication than Deming, whose focus is more on self-improvement and training to empower employees. Both, however, support empowerment and broad-based coalitions that are aligned with the concepts of psychological safety (Edmondson, 2019), adaptive leadership (Heifetz et al., 2009), and distributed leadership (Harris,

2013; Spillane, 2006). Generating short term wins is a key step to get buy-in from stakeholders and consolidate long term gains in Kotter's change plan, and Deming codes this more as opportunities for teachers to show pride in their transformative work in the context of Old Glory.

Both note the importance of institutionalizing the change by embedding the new processes within the culture for long-term sustainability. At Old Glory, this OIP seeks to make the shift to an adaptive culture permanent by using asset-based strategies of building on an area of strength within the organization as described in the next section.

Critical Organizational Analysis

Schools have increasing access to data for analysis and self-improvement in the neoliberal context as accountability has shifted from provincial bureaucracies and government bodies to local boards and individual schools (Biesta, 2015; Wiliam, 2010). Independent schools in Canada, which operate as non-profits, not only have to report on their performance to provincial governments that fund them but also to their boards of governors, to the Canada Revenue Agency to maintain their non-profit and/or charitable status, as well as to individual donors and stakeholder groups like parents and alumni. In addition, if the institution is accredited with a regional, national, or transnational body, then it is also inspected and must produce reports for such accreditations on a regular cycle (CAIS, 2021).

Collectively, these reports allow for a nuanced and layered view of the achievements and opportunity gaps within the organization. Such an organizational analysis allows a change agent to determine not just where change initiatives are likely to produce significant improvement but also the readiness for change within the organization to establish that sense of urgency and develop the guiding coalition in Kotter's model (Appelbaum et al., 2012).

Duelling Curriculum Needs

Old Glory offers two curricula to its students: IB and the provincial curriculum. All students receive instruction in the local curriculum as the school's government funding is tied to the delivery of the curriculum. The efficacy of curriculum delivery and resulting students' success is monitored through annual reporting, and benchmark testing in grades 3, 6, 9 and 12 by the province. The data is shared back with the school and publicly available as provincial taxpayers are considered shareholders in school systems and thus informed through these annual reports that parallel corporate reporting (Taylor, 2001). While the school provides instruction in the IB as a layered curriculum from K-12, the IB reports on student achievement offer comparative analytical data primarily at the end of grade 12 through detailed analysis of the diploma exams. As this is a transnational exam, data are available on how well the students at Old Glory did as a group relative to peers in North America and the World.

The two sets of data can offer competing narratives for academic success within Old Glory as the tests are varied. Due to cost-cutting, the provincial test has increasingly become computer based (Wyatt-Smith et al., 2021) using objective questions like multiple-choice, true/false, and numerical response that can be cheaply processed. However, such computer-based testing shifts the focus of learning to lower order thinking skills in Bloom's revised taxonomy as they test more knowledge and recall based tasks (Kozikoğlu, 2018). Aitken et al. (2011) have raised concerns about this shift to low-cost testing limit the ability of human examiners to determine the nuanced and diverse understandings displayed by students in response to open-ended tasks, which are difficult to grade by algorithms (see also Au, 2010). Similarly, Biesta bemoans the policing of teachers that limits their ability to exercise their judgement (2015).

The IB, in contrast, offers multiple modes of student expression to be recorded and graded by examiners across the world with students submitting oral, video, and written submissions over the course of the two-year program. Despite the heavy weighting on exams written in the last month of the two-year program and the critiques related to assessing students through a battery of tests administered in a short period of time, the IB allows students to demonstrate achievement not just on knowledge-recall tasks but also on inquiry and application tasks in richer and more meaningful ways than the provincial tests.

Figure 5 shows the high variability in Old Glory's school rating from provincial test and accountability data relative to three of its competitors in the local area. It is important to note that Old Glory's performance is still well above average in the province, but consistently below its competitors. A similar review of IB data shows that while Old Glory students succeed in tasks, their performance is just above average when compared to other North America students.

This is troubling as not all Old Glory students write the IB exams, and students who write the IB exams are acknowledged by teachers and peers to be academically stronger. Thus, the stronger subset of students within the school are achieving just above average on transnational exams, and the whole cohort in general tends to perform better (if inconsistently) on provincial exams, suggesting that there is a focus on teaching to the local test and responding to test items that would score lower on Bloom's taxonomy (see also Kozikoğlu, 2018).

The Blame Game

The data presented above suggest that teachers at Old Glory may be challenged to teach higher order thinking and processing skills from Bloom's taxonomy. Observations of classroom teaching show ample evidence of teacher-directed "sage-on-the-stage" (King, 1993) instruction. In addition, conversations with teachers during annual professional growth evaluation

conversations as well as in other contexts (e.g., student support, parent conversations) show teacher anxiety relating to completing the curriculum. They describe marching through the units at a set pace or using lectures to plow through the curriculum. At the same time, there is growing frustration among many teachers that students are not able to keep up and require support through one-on-one tutoring and extra help sessions outside the classroom. In such cases, several teachers have voiced frustration with the enrollment office for bringing students into the school who are not "mission appropriate" (personal communication).

Students respond to teacher-talk by self-selecting out of the IB program, describing it as being hard and too much work in reasons for dropping these courses. Their concern for their own wellness and anxiety is rising as reported by increased visits to the school guidance counsellors as well as in climate surveys carried out annually as part of the APORI initiative (Alberta, 2020a) and through Lookout Management (n.d.).

An aspect of this conforming strategy is the greater pressure applied on parents by the student services department to test students for learning disorders as students struggle to keep apace with the work. Nearly 60% of the students in senior school now have a diagnosed learning need requiring specialized support from the learning strategist. These increased learning needs data are then used by student services staff to advocate for more teaching staff resources from administrators while also applying pressure on school leaders to exit high-needs students. Teachers use diagnosed learning needs shared by the learning strategist to activate differentiated instructional needs like small group learning, one-on-one coaching, conversation-based assessments. However, as little professional learning has been done in this area for teachers within the school, many teachers operate in a deficit model when providing support to students. They view special education supports as an add-on rather than implementing established

frameworks like UDL: Universal design for learning (Rose, 1999) or CL: Cooperative learning (Johnson et al., 1994) to improve instructional supports for all students in the classroom.

It is important to note that like students, teachers are not a monolithic group. In some classrooms at Old Glory, student discourse is encouraged and cultivated. Some teachers emphasize metacognitive skills and use UDL strategies to engage and empower student voice to promote achievement and equity (Safir & Dugan, 2021). However, such teachers are in the minority, and their voices currently do not carry weight in conversations about classroom improvement and strategies used for teaching and learning. Teachers with innovative and effective strategies resist efforts to showcase their work to colleagues, citing personal anxiety due to a lack of psychological safety (Edmondson, 2019) based on past negative experiences in their one-on-one conversations with me. Thus, the dominant culture remains one of teacher-centred privatized classrooms (Hembree, 2010). Autonomy and teacher performativity is prized over collaboration and critique of the work of teaching and learning (Burnside, 2021).

Growing Past Success

A significant reason for such privatization of the classroom is that the previous administration of the school focused their time and attention on building new facilities and supporting a robust co-curricular program. In this section, I showcase a mini-case study from the outdoor education (OE) program at Old Glory, an area that has been well-supported by the previous administration and where teacher practice demonstrates reflective growth and collaborative enquiry (Donohoo, 2013).

OE teachers at Old Glory show high levels of collaborative planning, offer differentiated instruction and support, engage students in cooperative learning and self-directed leadership within these courses. They meet regularly outside the timetable to plan trips, engage with parents

via safety briefings and trip briefings, scaffold student skill development, and provide authentic and engaging tasks that lead to high levels of student engagement and success. In addition, every trip is debriefed collaboratively using both quantitative and qualitative data to improve student and teacher learning and growth for the next trip (Figure 7, see also Datnow & Park, 2018).

The school supports the OE program through dedicated time release for the Director of OE who creates an adaptive culture by providing ongoing professional learning (Fullan, 2007) for teachers and oversees accountability by taking responsibility for annual accreditation with an external body that evaluates safety and learning outcomes. Such feedback is used as a monitoring tool for program improvement (Neumann et al., 2018).

It is no surprise that graduating students, when asked to reflect on moments of meaningful and transformative learning within the school, overwhelmingly cite the OE program as the one that helped develop them as learners. On school climate surveys, this program is cited as a positive highlight for current students and parents. Prospective parents also refer to the OE program as a major reason for enrolling new students at the school. Teachers also report high levels of collective efficacy (Donohoo, 2017) within the program and joyfully volunteer additional time to support it in a model of distributed leadership (Harris, 2016, Spillane, 2006).

The OE program is an example of how concerted school leadership focus and support for collaborative teacher teams has led to the development of a successful student-centered program with increased achievement and well-being outcomes. With the arrival of a new Head of School and new principals in the middle and senior school, a shift in leadership focus from co-curricular achievement to academic excellence and deep learning (Fullan et al., 2018) has been unveiled through the new strategic plan. Using the success of teaching and learning practices within the OE program as a seed, the SLT can grow similar practices within academic classrooms. This

asset-based strategy not only allows teachers to see the strategic plan as building on past strengths, but also allows the SLT to understand the levels of support needed to achieve the shift to data-informed collaborative inquiry (Datnow & Park, 2018; Donohoo, 2013) in all classrooms.

This OIP seeks to shift shifting classroom cultures where teacher-centred instruction is currently being practiced with successful test-taking as the goal to student-centered classrooms where deep learning and student engagement is the goal. Such a shift could lead to higher test results, but such higher test results are a natural consequence of the goal, not the goal itself.

Current State Analysis

Despite challenges due to COVID, the school's new leadership team has completed and unveiled a new strategic plan that prioritizes student achievement and well-being using deep learning (Fullan et al., 2018) as a pillar to support belonging and engagement (Safir & Dugan, 2021). As part of the strategic plan process, department leaders are being given more voice as learning leaders within the school in alignment with distributed leadership approaches (Harris, 2013; Spillane, 2006). Team-based professional development (HGSE, 2021) for this group of academic leaders is underway to provide coherence (Fullan & Quinn, 2016) for the change implementation work. This DLT becomes the guiding coalition in Kotter's 8-step change cycle (Appelbaum et al., 2012) and the focus of Deming's 14-point work on continuous improvement.

Currently, there is buy-in from the SLT and the board of governors for this work, and student enrollment at the school is exceeding targets. This suggests that the local community supports the new strategic plan, thus providing an early win for this change implementation strategy. However, it is unclear if the increase in student enrollment or support from the board is also due to the impacts of COVID on schooling. Independent school enrollments are surging

across Canada as parents seek more supportive learning environments, smaller classrooms, and perceive private schools to be safer during the pandemic (Cukier, 2021).

Teacher anxiety is also higher as there is an awareness from the strategic plan conversations that change will be focused on teacher practice. Given the impact of the pandemic and burnout among staff, there is greater possibility of resistance to change (Beerel, 2021) as teachers feel underappreciated for the work put in during the pandemic to support students. Cancellation of school leaving exams by the province and IB during the pandemic have revealed that it is possible for students to find success both at school and for post-secondary options in the absence of high-stakes testing. Thus, some teachers and students resent having to be subject to the tyranny of such testing as Old Glory emerges from the pandemic, while others see a return to test-taking and external benchmarking as a validation of a return to a pre-pandemic normal.

Despite the diversity of reasons, the organization is at cross-roads and must endure the discomfort of the crucible of change as it seeks to emerge with improved academic practices to support student achievement and well-being through its new strategic plan.

Solutions to Address Problem of Practice

To address data illiteracy in schools, and the resultant division within teacher communities on the (mis-)use of data to support student achievement and well-being, this section examines three possible solutions that can lead to the desired change outcome. For each solution, a benefits/drawbacks approach is used to determine viability and long-term sustainability. Each proposed solution's alignment with the selected leadership approaches, the change implementation model, and the ethical framework informed by critical theory is discussed. The solutions are compared and analysed, and a selection made that will support the OIP.

Solution 1: Head of Academics, A Champion of Change

Datnow et al. (2021) use a case study method to show how instructional coaches helped improve data-informed structured collaboration among middle school math teachers in the US. Given that Old Glory does not have an instructional coach role to help school leaders and teachers shift their thinking, a solution is to create a school leadership role of Head of Academics and staff it with an individual who brings coaching prowess combined with data-literacy (Datnow & Park, 2014, 2018) and collaborative inquiry (Donohoo, 2013) experience.

The Head of Academics would be a senior school leader equivalent to the Deputy Head (see Figure 2) working across the K-12 continuum. They would collaborate with the Principals and Head of School to implement Kotter's 8-step model (1995, see also Appelbaum et al., 2012) and create sustained buy-in for the data-informed instructional change project at the highest levels of school governance, including the board of governors. The cost of staffing this position would add between $150,000 and $200,000 to the school's annual operating budget. While this is a significant financial outlay, this role brings the school's leadership structure in closer alignment to other Canadian independent schools (CAIS, 2021) in supporting instructional coaching and teacher support. This leader would be a champion for change (see also Roach et al., 2009) in the instructional system (see Figure 1) and create conditions for a "holding environment" (Heifetz et al., 2009, p. 155) to support teacher development and professional growth that enhances student achievement, a key goal within the school's new strategic plan.

Benefits

Spillane (2006) and Soini et al. (2016) among others make clear the multiple and competing pressures on school principals' time during the school day. Leading with a sustained focus on instructional development and growth is challenging for principals who are balancing

student discipline, school events, teacher evaluation, parent feedback, and increased uncertainty during COVID. To this end, creating a school leadership position focused on improving the instructional system, and to support the distributed leadership team (DLT) consisting of learning leaders of departments and the IB coordinators across K-12 allows the school to enact a coherent vision of data-informed instructional improvement. Alignment across the three divisions would require collaboration between the Head of Academics and the three Principals.

In addition, one of the significant problems facing the use of data within Old Glory is the lack of leadership over information technology infrastructure and the challenges this presents to the use of data in the school. Unlike at a public board, where IT infrastructure is overseen by a central office, an independent school must have the expertise and oversight within its campus. Therefore, both IT and DLT members would report to the Head of Academics, who is tasked with leading the integration of the data and instructional systems of the school (see Figure 1).

In the context of adaptive leadership, this leader can provide sustained focus and help regulate the temperature of the holding environment to ensure that the DLT receives on-going focused support to achieve change using collaborative inquiry (Donohoo, 2013). In this solution, they would leverage the distributed leadership of teachers and help develop teacher capacity in their role as instructional coach and can help the principals align policy and procedures to support the change process with teachers. From an ethical perspective, the role of Head of Academics as instructional coach and change agent also demonstrates an ethic of care and critique (Wood & Hilton, 2012) and such an ethical framework needs to be written into the job description of this role and be a focus during hiring. The person in this role must be a voice for teachers and help teacher-leaders bring ideas to the SLT.

Drawbacks

While the role is envisioned as a voice for teachers, this solution acts against the idea of flattening the hierarchy as a way of empowering teachers. In fact, it creates a new leadership layer for academics in the school where none currently exists. From a financial and human resources perspective, this solution requires new and ongoing investment from the school and depends on the hiring and support of the right change agent who can deliver results by gaining the respect of and credibility among the teaching community at Old Glory.

Solution 2: Empowering a Distributed Leadership Team (DLT)

Distributed leadership (Harris, 2009, 2013, 2016; Spillane, 2006) allows leaders to create a guiding coalition (Kotter, 1995) for implementing sustainable change. Creating an empowered group of teacher leaders who are well-resourced and well-positioned to lead change in teaching teams is a solution to the problem of practice. While most independent schools provide either a stipend or release time of one teaching section to department leaders, in such schools, department leaders function primarily as middle-managers and bureaucrats, ordering supplies, passing down school procedure and policy changes, scheduling, and maintaining budgets.

In the context of this OIP, the distributed leadership team is truly a leadership team where teacher-leaders are provided with additional resources (e.g., release time equivalent to two teaching periods). They are trained to become instructional leaders as a cohort (HGSE, 2021) to develop shared language and coherence (Fullan and Quinn, 2016). They are also empowered to lead DIDM (Datnow & Park, 2014, 2018) both within departments and across divisions as instructional coaches leading collaborative inquiry (Donohoo, 2013).

As a solution to the POP, the creation of an empowered DLT creates an academic leadership team within the school with a clear and sustained focus on student achievement and well-being. While such a team would collaborate and be led by the division principals, unlike the

principals, whose attention switches among many tasks and processes (Soini et al., 2016), the DLT can help maintain the changes to the instructional system through teacher-led initiatives.

Benefits

This OIP uses critical theory to advocate for empowering teachers to lead change in schools. The DLT solution flattens the school leadership hierarchy and gives the work back (Heifetz, 2009) to teacher-leaders to act as instructional coaches (Datnow et al., 2021). This flattening of the hierarchy also means that principals have a guiding coalition (Kotter, 1995) for change implementation. The DLT grounds the work of school leaders and ensures that the change plan is within the zone of proximal development for teacher growth (Warford, 2011).

The work of school leaders with the DLT parallels the envisioned change in the classrooms from teacher-centered to student-centred places of learning. By centring and empowering teacher learning and growth in the school's change plan, school leaders can model for teachers the expectations for improvement and change in classrooms through collaboration with students and empowering student voice and choice to inform instruction and assessment (see also Safir & Dugan, 2021). Such a collaborative flow of power and agency from leaders to teachers to students aligns well with post-colonial theory in education (Andreotti, 2011) and allows space to question current neoliberal notions of achievement and success in schools.

Drawbacks

Unlike principals, who are hired permanently into their position, teacher-leader positions are term appointments (a 3-year term at Old Glory, like other independent and public schools). Terms can be beneficial in developing leadership talent among a larger group of teachers. However, a changing composition of teacher leaders can be challenging when the DLT is meant

to create and sustain school-level coherence in goals and expectations. Managing and leading this group could itself become an ongoing adaptive challenge for the division principals.

Harris and DeFlaminis (2016) caution that distributed leadership can become a tool of teacher oppression if the leadership work is downloaded to teachers without leadership influence. In the case of the DLT, increasing their release time will incur significant ongoing financial costs to the school. The equivalent of two new teacher positions will have to be hired leading to an annual financial outlay of $200,000 to $250,000. In addition, ongoing professional leadership development of teacher leaders through courses like the instructional leadership certificate program (HGSE, 2021) and to provide the DLT with a budget to help them offer differentiated professional learning for teachers will require further investment to ensure success of this team.

This DLT solution is an adaptive solution to an adaptive challenge (Heifetz et al., 2009). However, if the solution works well, many members of the DLT will grow and seek leadership opportunities in other schools, thus creating new opportunities and new gaps for school leaders to manage and support. The very success of this model could potentially become its drawback. Finally, the strategic initiatives at an independent school are directed by a Head of School. As Heads of School change, new competing priorities may be introduced that may be at odds with a long-term plan set in motion by this DLT, and thus lead to potential resistance and conflict.

Solution 3: Developing a Professional Learning Framework

Teachers who are members of a provincial association or union have access to professional development and training through those bodies in Canada (e.g., ATA in Alberta, BCTF in British Columbia, OSSTF in Ontario). Teachers at Old Glory, who are not part of such organizations, receive their professional development primarily based on the directions set by school leaders. Campbell (2017) summarizes the professional development frameworks for

Canadian provinces, though her study only includes organizations representing public school teachers and leaves out professional development offered through CAIS, trans-national organizations like the IB Organization, and the College Board. Old Glory currently does not have a professional learning framework that aligns the learning and development of teachers to coherent policies or strategic directions set by the school.

Changing the policy landscape at the school to create a set of academic policies that are aligned and supportive of the new strategic plan of the school is a low-cost solution for the school leadership team to enact. New policies can also help the SLT implement the updated mission and vision of the school as part of the new strategic plan. While this may be viewed as a top-down solution by teachers, creating new assessment, enrollment, inclusion, and student support policies are ways in which school leaders can redefine and create clarity around work expectations for school employees. To create buy-in for this changing policy landscape and to tighten coupling between envisioned and enacted policies (Schulte, 2018), teacher leaders can be invited to form a working group that creates a specific professional learning framework for faculty at Old Glory by reviewing research on professional learning (Campbell, 2017; see also Fullan, 2007) and selecting best practices for faculty commitment to ongoing professional learning and growth in service of student achievement and well-being.

Benefits

A professional learning framework (for an example, see OCT, 2016) sets clear expectations for which teaching practices are acceptable and not acceptable. If student centred learning in the classroom is valued and DIDM is codified as an approach, then the risk-reward system and the way teachers are provided with professional development, trained, and assessed is clarified. Such a framework creates both expectations for teachers as well as obligations for

leaders to support teachers to meet these expectations (see also Figure 6). In this sense, the

professional learning framework becomes the holding environment for the work to be done by

the teachers in the adaptive leadership approach (Heifetz et al., 2009).

Co-creating this professional learning framework with teachers and teacher leaders at

school is key for success as it helps not only generate buy-in from faculty but allows them to

self-regulate their learning as professionals (Biesta, 2015; Tolo et al., 2019). Such a framework

becomes a tangible way to action the goal pillars of a new strategic plan. The framework also

becomes a vessel for enacting distributed leadership (Spillane, 2006) at the school, offering

diverse ways for teachers to support student achievement based on their experience, subject

expertise, and the age of students they work with (Campbell, 2017).

If the framework is not a top-down compliance document, but rather a co-constructed

commitment framework (Fullan, 2007), then it also aligns with ethical frameworks of an ethic of

care and local community (Wood & Hilton, 2012). The framework would set local teaching

values and processes to optimise the instructional system of the school (see Figure 1). By setting

clear expectations, teachers can self-regulate their practice as professionals to align with the

framework akin to Nordic models of teacher professionalism (Sahlberg, 2010). It also allows

teachers to choose a different school if they do not agree with the framework.

From a financial perspective, the professional learning framework is a low-cost solution

for the school to implement as it draws on and seeks to develop the strengths of the people within

the organization. The principals can lead this work with the newly established DLT to help create

a culture of high expectations for teachers. The school's current investment in professional

development (two percent of its annual budget as per CAIS standards) can be re-directed to align

with the professional learning framework to contain costs, though sustained and growing

investment in professional development during the first few years of the framework is recommended to support teacher capacity building and engagement.

Drawbacks

It is important to reiterate the caution that distributed leadership can become an instrument of oppression if leaders in school download the work of leadership to teachers without giving them access to the benefits of leadership (Harris & DeFlaminis, 2016). The professional learning framework, while bringing research-informed (Campbell, 2017) coherence (Fullan & Quinn, 2016) to teacher professional development at Old Glory can download school improvement work on teachers and be used as a compliance document, creating fear and anxiety.

Without adequate supports in the form of time and money, and if the professional learning framework does not lead to a teacher-led working group that monitors and leads ongoing professional development, this framework can become punitive and deficit-oriented. In such cases, the purpose of the framework to develop teacher professional autonomy (Sahlberg, 2010) to align with the school's strategic plan is defeated.

Campbell (2017) cautions that centring teachers as the point of action for educational improvement is a mixed blessing. It can both be a boon, liberating teachers to become agents of change in schools if ongoing support and professional development are enacted well (e.g., using Nordic models as described by Sahlberg, 2010), or a bane, leading to teacher oppression through data surveillance and evaluation (e.g., using American models of teacher-proofing as discussed in Safir & Dugan, 2021). This OIP explicitly uses critical theory (Bohman, 2005) and post-colonial theory in education (Andreotti, 2011) to reject data as a tool of surveillance as well as to reject oppressive misuse of distributed leadership (Harris & DeFlaminis, 2016).

Solutions Analysis

There is tension between critical theory approaches and the instrumental need for organizational improvement in the context of school success in a competitive environment. Laland et al. (2011) describe the dichotomy of Mayr's proximal/ultimate goals in biology, and this model is used to question the tension between short-term instrumental gains (proximal goal) and long-term critical theory informed structural changes (ultimate goal) in detail in the next section. For this OIP's success, the proximal goal of increasing student achievement and making the school an attractive place for new families must be aligned with the ultimate goal of creating an adaptive organization that empowers students and teachers.

While resourcing the DLT in solution 2 is expensive and aligns well with critical theory, an independent school head is unlikely to give up their positional power and authority to a teacher leader team given the constant change (Soini et al., 2016) a school leader faces. In addition, because the Head of School is answerable to the Board of Governors, delegating the primary school function of instructional improvement to a teacher team that is unaware of other PESTEL factors affecting the school is foolhardy.

Solution 3 in isolation is also unlikely to achieve results without concerted attention and support from school leaders. Given the ever changing needs and demands on a school principal's time, Solution 1 appears to be a key component of any recommended solution. By creating a position of Head of Academics, the SLT can provide undivided attention to improve the instructional system while also ensuring that the changes have oversight and accountability. However, it would be prudent to combine solution 1 with either solution 2 or solution 3 to create Kotter's guiding coalition (1995) to support the success of the change initiative as well as to help sustain the change over the long term (Kershner & McQuillan, 2016).

Recommended Solution (4): Head of Academics overseeing an empowered DLT

In this OIP, the recommended solution combines solutions 1 and 2 as a pragmatic way to support adaptive change (Heifetz et al., 2009) through the use of distributed leadership approaches (Harris, 2013; Spillane, 2006). In this OIP, the school will hire a Head of Academics and create an empowered DLT to champion the change. The recommended solution allows the Head of Academics to advocate for the DLT and negotiate the tension between the DLT and Head of School's needs to regulate the adaptive work (Heifetz et al., 2009).

Benefits

In this synthesis model, the additional financial expenses are the salary and support for the new administrative role, and no further time release is provided to the DLT members. The new school leader is accountable for developing answers to the guiding questions in chapter 1 with the DLT and creates the psychological safety (Edmondson, 2019) necessary for the DLT's success as they participate in iterative cycles of collaborative inquiry for DIDM. With a specific focus on improvements to the school's academic systems (Figure 1), this solution addresses the lack of sustained instructional leadership for teachers at Old Glory (see also Soini et al., 2016) and creates a model that aligns with past success in the OE program.

From a critical theory lens, this proposed solution combines DLT and the Head of Academics as a primary change agent privileging the instrumental aspect of school improvement over the ultimate goal of liberation using data literacy. However, in the hands of a critical theory informed Head of Academics, there is room for teacher leaders to use the skills learned through professional development to develop aspects of other solutions (e.g., leading the work for the creation of a school-level professional learning framework) that support the emancipation and empowerment of teachers using data literacy in classrooms.

Since resistance to change is inevitable (Kotter, 1995) and most change efforts fail (Higgs & Rowland, 2005) when they are top down and fail to gather sufficient support and momentum within organizations, the recommended solution prioritizes empowering human beings for the adaptive change required by creating a DLT. A technical change of imposing a new professional learning framework with a new Head of Academics would likely generate far more resistance as it would be perceived as a top-down, add-on, deficit-based approach by teachers. Even though the recommended approach will also face resistance, more teachers are likely to see themselves as empowered and respected through the distributed leadership approach (Harris, 2013).

Drawbacks

Resistance to change is inevitable as discussed above. Following the pandemic, there is substantial new research on teacher burnout (Gómez-Domínguez et al., 2022) and the recommended solution can be viewed by some teachers as critical of their past practice and thus an add-on. At least one of the members of the new DLT has indicated that they are not interested in the expectations of the learning leader role and would like to step down. In addition, the school has gone through an unprecedented 30% turnover in staff in the last two years. Given the pandemic, new school leaders, new strategic plan, it's unclear how much of the staff turnover is directly related to the change process. While there is expressed support among DLT members for the change plan, the staff turnover may represent unease with the pace and extent of change.

As a change-agent, the Head of Academics will need ongoing support and feedback from the DLT and SLT members to ensure that the change process is moving forward despite resistance but also is being informed by resistance. Resistance is not just a barrier to be overcome; it can provide insight into teachers' theories of action as well as aspects of school culture (Schein & Schein, 2017). Adaptive leadership (Heifetz et al., 2009) requires the change

agent to regulate the holding environment to preserve the forward momentum of change, but Deming (2018), Kotter (1996) and distributed leadership approaches (Harris, 2013; Spillane, 2006) recommend employee buy-in and commitment to sustain the change process.

Similar to the way Crippen (2012) visualizes leadership as a continuum with followership, this OIP views resistance as a dynamic interplay of power within a change environment (Thomas & Hardy, 2011) that deprivileges the change-agent and aligns well with Spillane's approach to distributed leadership as a shared leadership practice (2006). To that end, the DLT's feedback based on their deep knowledge of the school will be key to supporting the Head of Academics within this recommended solution. Without this key source of feedback, the changes proposed by the SLT may be legitimately challenged both through active and passive resistance strategies by teachers. Such sustained resistance to change can not only undermine the OIP but also lead to the change-agent's fatigue and removal from the school environment.

Having discussed and determined a recommended solution for the leadership problem of practice described in chapter 1, the next section explores the ethics and equity challenges and opportunities for this change process.

Ethics, Equity and Social Justice Challenges to Organizational Change

One of the significant challenges of applying critical theory informed change in an independent school setting is that unlike public schools where equity and social justice are accepted drivers for teacher professional learning and growth (Campbell, 2017), a fee-paying school that seeks to provide a competitive advantage to its students explicitly requires a hierarchy of results where its students do better than others to attract new enrollment.

Within the context of this OIP, therefore, the ethic of the local community (Wood and Hilton, 2012) necessitates a pragmatic and instrumental view of the OIP. In this case, the

recommended solution is more likely to succeed if the new role of Head of Academics is communicated to the school community as emerging from an ethic of care for student achievement and teacher well-being rather than from an ethic of critique of the neo-liberal accountability regime used by the province when reporting on school rankings. However, such school rankings, when published by the province through the APORI initiative (Alberta, 2020a) or through a third party like the Fraser Institute (Cowley & Emes, 2020), create anxiety and unease among the school staff who view any rank slippage as a threat to their employment. Data literacy and empowerment of teachers over time within this OIP can lead to the development of a feeling of emancipation that is aligned with critical theory (Bohman, 2005) even if such development is not explicitly communicated to parents and the school community.

Finally, the positional power of the Head of Academics, as the second-highest authority in the school after the Head of School, can be useful in terms of crafting a school-based narrative of data usage for student and teacher well-being. Withing the local community context, such a school-based narrative creates an alternative to the one from the province and the Fraser Institute. The Head of Academics can leverage data dashboards (Wise, 2018) to bring together multiple measures of data like the IB results, climate survey results, co-curricular results, and university placements to develop a more holistic view of what success looks like in a K-12 independent school. However, early success for this OIP depends on strategic attention to the instrumental aspects of this change and by de-emphasizing the thornier questions raised by critical and post-colonial theories in this section.

Equity in an Independent School Context

A challenge with the use of school and macro-education data is that they are often used to identify gaps and failings (Fullan, 2007; Wiliam, 2010). This deficit mentality with data

interpretation is one of the reasons why teachers often feel evaluated and judged when school data and rankings are released. Safir & Dugan (2021) identify student agency—not raising test scores—as the goal of pedagogical improvements that democratize knowledge. They contend that simply because something is measurable, does not make the resulting dataset valuable.

Smith (2012) uses Indigenous ways of knowing to describe how current data gathering methodologies and interpretations are rooted in western models of empiricism and positivism. She argues that the methodology itself has colonial tendencies to sift, separate, and subjugate its subjects. Similarly, Hall (2019) identifies four ways in which the west categorizes, represents, provides a model for comparison to create difference, and creates the criteria for evaluation of the difference that encapsulate the colonizing ways in which data are currently used.

While an independent fee-paying school is itself a colonial institution, providing access to a high-quality education to settler-colonists in Canada, this OIP seeks to decolonize the use of data for the benefit of the students and teachers within this school. The ultimate goal (Laland et al., 2011) of this OIP is to use the privilege and power of the school to demonstrate that data can be repatriated to schools to drive equity. Empowered students and teachers mobilize and share the knowledge that they have created in diverse and locally contextualized ways.

However, such a decolonizing goal is discomforting for colonial institutions like Old Glory and how they perpetuate and reproduce inequalities through "reconciliatory rather than a critical, anti-colonialist" (Rizvi et al., 2006, p. 255) processes. Such unsettling questions (Tuck & Yang, 2012) go well beyond critical theories of post-colonialism (Andreotti, 2011) and Kuapapa Māori theory (Smith, 2012) in education (Apple, 1995; Freire, 2018).

For the proximate goal of school improvement in a post-colonial context, however, Safir and Dugan (2021) provide specific strategies and tools that help raise the voices of marginalized

students, parents, and teachers within the school's data ecosystem to create room for qualitative data (Winkle-Wagner et al., 2018) that can reframe the quantitative data in dashboards generated from assessment and evaluation data (Wise, 2018). Their equity transformation cycle (see Panel D, Figure 7) with its four steps of listen, uncover, reimagine, and move refracts Shewhart & Deming's plan-do-study-act cycle (1939; Evans et al., 2012) by decolonizing the leader planning step with listening to followers, particularly those in the margins as an act of inclusion. Similarly, the doing step in the PDSA cycle, where action is initiated by the leader and team, is replaced by uncovering, which denotes a mindset of curiosity and seeks to question established mental models that are often colonial in construct as described by Hall (2019).

Safir & Dugan's (2021) work can be leveraged by the DLT and Head of Academics to perform equity work within the instrumental context of school improvement. In this case, the change agents seek to understand the assets brought by students who are underperforming in the current learning environment at Old Glory and give students voice to help improve the instructional, data, and/or curricular systems of the school. The larger equity work outside the school in terms of decolonizing provincial and transnational frameworks of data usage would have to be led by a visionary Head of School who can understand the differences between post-colonial and decolonizing approaches discussed in the next section.

Enacting Social Justice in an Independent School Context

In the context of this OIP, the challenge for the DLT and Head of Academics will be to empower those outlier teachers within Old Glory who currently practice student-empowering instructional practices. They will need to develop a coherent framework with support from the Head of School and the Board of Governors so that all teachers can find ways to empower

student agency within their classrooms and use data iteratively in collaborative inquiry groups (Donohoo, 2013) using four-stage process cycles (Figure 7) to improve student achievement.

Chapter one reviewed post-colonial approaches to leadership based on the work of scholars like Bhabha (2004) and Spivak who questioned eurocentrism three decades ago. Tuck & Yang (2012) argue that decolonization as a verb is not the action that follows post-colonial ideas explicated earlier. Rather they tie decolonization explicitly to land repatriation to Indigenous peoples and distinct from anti-imperialism advocated by post-colonial theorists. The recommended solution in this chapter aligns better with post-colonial theory and with some aspects of Smith's "five dimensions of decolonization" (2012, p. 201) developed in the context of Māori empowerment in New Zealand.

The first dimension of data decolonization is an awakening from the slumber of data hegemony or data somnambulism (see also Wyatt-Smith, 2021). The raising of such a critical consciousness about how we are awash in data but not aware of its power parallels Kotter's first step in change (1995). The second is to reimagine the world and the position of teachers as creators and curators of student data in schools. This alternate vision of interpreting data within the school context creates opportunities of questioning values and deploying new tactics for transforming teaching and learning as the third dimension. This change implementation leads to a disturbing of the status quo, which in turn can create resistance and counter-movements which becomes the fourth dimension. If the decolonizing change is to be successful, change must occur in the fifth dimension which is to alter and shift the power-relations within schools and decouple them from their Prussian/ Victorian, imperial/ colonial roots (Hayhoe et al., 2017).

However, as Tuck & Yang (2012) argue, unless the project involves land transfer by a settler-colonial school to the local Indigenous community, the project cannot be viewed as

decolonizing. Such a structural approach to decolonization as "not a metaphor for other things we want to do to improve our societies and schools" (p. 1) aligns with the fifth stage of Smith's model (2012) and limits its use in the context of this OIP which is more evolutionary rather than revolutionary in its scope. While Tuck & Yang's approach (2012) has been critiqued as being a maximalist position (Fitzpatrick, 2018), an anti-imperialist, post-colonial approach doesn't fully acknowledge Indigeneity and oppression of Indigenous peoples by settlers and thus doesn't extend into decolonization. This OIP is therefore more informed by postcolonial ideas within critical theory, and I acknowledge that it cannot achieve the decolonizing outcomes in all five dimensions as described by Smith (2012).

A shift to DIDM by collaborative teaching teams does not have to be all-or-nothing for improvements in social justice and equity to be achieved. Small-scale shifts in pedagogy in classrooms to empower students and embracing diversity of learners (whether such diversity be cultural, neural, economic etc.), and engaging with qualitative data on student agency and belonging in addition to quantitative data on achievement outcomes are steps towards a more nuanced and critical view of data literacy and usage within schools that resist current neoliberal uses of data (Safir & Dugan, 2021; Wyatt-Smith et al., 2021).

Engaging teachers to shift from using data to draw conclusions and answers and instead to use data to ask questions that allow for critical reflection and learning will already begin to shift the current culture of Old Glory from a compliance driven school to one that is supportive of student agency, thus shifting power from adult teachers to learners in the building.

Chapter 2 Conclusion & Next Steps

In this chapter, two leadership approaches of adaptive and distributed leadership are described as ways to support the planning and implementation of the OIP. Deming's continuous

improvement model is used as a change framework aligned with the leadership approaches. Ethical frameworks of critique, care and local community are used as guides to help develop possible solutions to the problem of practice and the selected solution is subject to critical analysis from an ethics and social justice perspective. An important distinction is made between the instrumental and proximal change achieved by the selected change strategy and the ultimate, transformational change hoped for from a post-colonial perspective.

In the next chapter, the fit between the CIP and the organization's new strategic plan will be discussed as well as how monitoring and evaluation frameworks can help determine progress of the change in the organization. Finally, a communication plan for sharing the CIP with school stakeholders and beyond will be discussed with a particular focus on knowledge mobilization in the context of critical theory (Bohman, 2005).

Chapter 3: Implementation, Evaluation, & Communication

In the previous two chapters of this OIP, the case for using a post-colonial lens to identify and act on areas of data literacy for teachers within a critical theory framework has been laid out. Specifically, within the OIP for Old Glory Independent School, the need for data ownership, leveraging data through visualization to improve the instructional system, and using data sets to offer alternative local narratives of school improvement has been described.

Kotter & Schlesinger (2008), Higgs & Rowland (2005) among others have noted that fewer than half of change initiatives within organizations succeed. In chapter 2 of this OIP, using adaptive (Heifetz et al., 2009) and distributed (Spillane, 2006) leadership approaches and a continual improvement model (Deming, 2018), three change solutions were evaluated. A composite solution was recommended where Old Glory would hire a Head of Academics as in-school leader and coach advocating for teacher-leader teams in the DLT to own the CIP. By creating a new school leadership role as well as teacher leadership team, this OIP seeks to improve the chances of success as well as long term sustainability of the change initiative. In this chapter, a plan for implementing, evaluating, and communicating the change is described.

Change Implementation Plan

In the previous chapter, a model to implement data-informed collaborative inquiry within teacher teams has been proposed. While this model is backed by substantial research (Datnow & Park, 2014, 2018; Donohoo, 2013), the successful implementation of any change plan is based not on facts and rational logic as Heifetz et al. (2009) have argued. Technical solutions fail when applied to adaptive challenges that involve people's beliefs, worldviews, and emotional connection to their work (see also Roach et al., 2009).

In particular, the use of data as a surveillance tool for accountability (Fenwick, 2001; Page, 2017), has made teachers and unions suspicious of data usage in schools (Wyatt-Smith et al., 2021). Acknowledging past misuse and ongoing awareness of the potential abuse of technology is key to the post-colonial use of data as a tool of empowerment by teachers and students in classrooms (Gezgin, 2020; see also Rizvi et al., 2006). For this OIP to be successful, communicating the idea of teacher leadership and teacher empowerment at Old Glory is essential to building collective teacher efficacy (Donohoo, 2017).

Fit with Organizational Strategy

Leadership approaches by Heifetz et al. (2009) and Spillane (2006) are used in this OIP to ensure that teacher voices are centered in alignment with emancipation as articulated by critical theory (Liu, 2017). The school's new foci on deep learning (Fullan et al., 2018) and belonging (Halse, 2018) have emerged out of a year-long consultative strategic planning process involving teachers, students, parents, and alumni.

Thus, system-wide efforts to create a sense of urgency (Kotter, 1995) and to "ripen the problem" (Heifetz et al., 2009, p. 126) to support change are well underway. In addition, as the senior school principal, I worked closely with the elementary and middle school principal and Head of School to create the DLT as one of the first steps to implement the new strategic plan. Together, we crafted the job descriptions for the new role of learning leaders as well as for a new position of Head of Academics to lead this DLT. Recently, an experienced K-12 school administrator and change-leader from another province has been hired into the role of Head of Academics to support the recommended solution described in chapter 2.

The creation of a learning leaders' team (DLT) reporting to a Head of Academics whose job focus is on improving the instructional and data systems of the school (Figure 1), means that

new structures have been established at Old Glory to enact this OIP in alignment with the

school's long term strategic plan (Leithwood & Strauss, 2008). The strategic plan aims to

improve academic excellence in a neo-liberal climate of Fraser Reports (Cowley & Emes, 2020)

and provincial accountability (Alberta, 2020a). The CIP seeks to improve student voice and

teacher empowerment to leverage the belonging pillar of the strategic plan to contribute to

improved academic excellence through the deep learning pillar of the strategic plan (see also

Halse, 2018). Table 2 and Figure 8 in this section organize the steps needed to implement the

recommended solution described in Chapter 2.

Table 2

Steps in Change Implementation Plan

Description	Timeline	Stakeholders
Update & Link School Databases	Year One and Two	Information Technology Team working under supervision of Head of Academics
Teacher Leader Training	Year One	DLT Members
Data Visualization	Year Two	Head of Academics, DLT and external consultant
Goalsetting: Problems of Practice	Year One and Two	DLT under the guidance of Head of Academics
Data Informed Collaborative Teams	Year Two and Three	DLT and teachers under guidance of Head of Academics

Update & Link School Databases

To support the adaptive challenges in this OIP, technical challenges in Old Glory's

outdated data systems must first be overcome (Figure 8). The current databases prevent easy and

accurate movement of data (Figure 3). In year one of the CIP, the leadership team evaluated and

compared two cloud-based student information systems (SIS) that allow for greater

interoperability with enrollment management and learning management systems (LMS) using

application process interfaces (APIs). A system has been selected and upgrading of the older system has begun. This project is being overseen by the Director of Information Technology.

While the organization of new databases is a technical step, an adaptive component (Heifetz et al., 2009) is the training of administrative personnel to update their knowledge for the new SIS. The Director of Information Technology, currently reporting to the Deputy Head of School (see Figure 2), has organized a timetable for the transition of databases with the external provider as well as created a schedule for training for individuals using the new SIS. Biweekly updates are provided to stakeholder teams and based on these updates, it is expected that by the 2022-2023 school year, the academic components of student information will be moved into the new SIS and that by the beginning of the 2023-2024 school year, APIs will be in place to move data among the various data systems. Given that training and learning to use the abilities of the new system will take time, full interoperability among databases and seamless flow of data is anticipated for summer 2024 for all data users at Old Glory.

Teacher Leader Training

In parallel to technical training for administrative staff, leadership training is being provided to the DLT comprised of learning leaders of departments and IB coordinators. The DLT has been enrolled as a team in the Instructional Leadership Certificate program (HGSE, 2021). The goal of this online training program is to provide adaptive leadership skills and coaching skills to teacher leaders. Such training can help shift them from their current role as managers of department budgets to become successful in their expanded leadership roles within the distributed leadership framework (Harris, 2009; Spillane, 2006).

The training within this framework helps teacher leaders build capacity as coaches, mentors and lead the professional development of adult learners. As the guiding coalition within

the Kotter model (1995), learning leaders need to be empowered and have the tools to become successful middle-level leaders who will bring about change (see panel Y1-Y2 in Figure 8). As part of their training, they will learn to use problem of practice approaches within teaching teams to create psychologically safe learning environments (Edmondson, 2008) where professional practice can be critiqued (Heffernan, 2012) and collaborative improvements can be implemented (Donohoo, 2013). In Leithwood and Strauss's turnaround model for school change (2008), developing teacher leaders allows for the change to be owned by the DLT and is aligned with Heifetz et al.'s idea of the work being done by employees in a holding environment (2009).

DLT members have been enrolled as a cohort, to create coherence and shared language within the group. In addition, there is a unified framework for diverse interventions within the school. The cohort model also allows for DLT members to diversify their approaches with their teacher teams and to seek support when encountering resistance to the change plan. The current cohort of DLT members will complete their training in 2022, and as new teacher leaders join the DLT, they will be expected to complete training as well. It is important to note that at least one teacher, aspiring to join the DLT (personal communication), has already started their training in anticipation of their interview, suggesting that the program is seen to be beneficial by current DLT members and is attractive to future teacher leaders. Meanwhile, a current DLT member, dissatisfied with the shift from manager to leader has decided to step down and move into an OE equipment organization role that is better aligned with their skillset.

Data Visualization

While technical and adaptive changes are occurring within the school in the form of database upgrades and staff training, the Head of Academics has an important role in coordinating the school's data visualization with the external consultant, Consilience. As the

change agent who initiated the school's relationship with the external consultant, I am training the Head of Academics to take over and sustain this relationship.

The external consultant visualizes the school's data in meaningful and beneficial ways to the DLT and teachers. Data visualization is meant to aid collaborative teaching teams (Datnow & Park, 2018; Donohoo & Katz, 2020) diagnose barriers to learning, plan interventions to improve learning, and evaluate the result of such interventions in process cycles (see Figure 7) to determine whether the interventions benefited student achievement and wellbeing.

While data sharing with the external consultant begins in year one (Figure 8) and iterative visualizations are created to meet the needs of Old Glory, database improvements to the school's systems are key to sustaining dynamic data visualizations. Waiting for database improvements would delay the process by an additional year. Therefore, the Head of Academics can start a parallel process of exploring data engines for visualization to understand the scope and depth of data processing available to the school using the external consultant. Early models of data can be shared with the DLT for feedback for iterative feedback using one of the four-stage cyclical processes (Figure 7). Such transparency in communication and opportunities for two-way collaboration (Burnside, 2021) also builds trust and buy-in for the change process (Beatty, 2015).

The Head of Academics must demonstrate effective project management skills in ensuring that the timelines of the internal databases linking project align with and support the data visualization project with the external consultant. In an ideal scenario, by the summer of 2024, not only are data flowing smoothly among the in-school databases, but the school databases are also connected to the visualization engines, allowing for dynamic and accurate representations of attendance, academic achievement, and student well-being data to DLT members and teaching teams for DIDM (Datnow & Park, 2014; 2018).

Goalsetting: Problems of Practice

The Head of Academics, in concert with the principals, leads several parallel initiatives in the technical and adaptive realms (Heifetz et al., 2009) to ensure success for the overall CIP. In year one, learning leaders, as part of the DLT, will be mobilizing their knowledge from the HGSE (2021) courses to engage their teaching teams in problems of practice in monthly department meetings. By engaging teachers in collaborative problem solving (Donohoo, 2013), learning leaders can begin to shift from their previous roles as managers to their new roles as instructional leaders. Examples of problems of practice include reviewing student work from different grade levels to look for evidence of growth in argumentation in social studies and bringing sample quizzes to compare and collaborate on a common definition of what a quiz should look like and what purpose it serves in the science department (Panels Y3 in Figure 8).

Such problems of practice using quantitative and qualitative data generated by teachers and interpreted within teams allows for quick wins for the learning leaders (Kotter, 1995). Monthly department meetings organized around problems of practice also creates a teacher-led culture of inquiry (Donohoo, 2013) that value teachers' current knowledge and interest, thus generating buy-in and diffusing resistance in preparation for the data visualization engines that will allow teacher teams access to larger data sets from current and past years.

Data Informed Collaborative Teams

As the CIP moves closer to summer 2024, the various threads of technical and adaptive changes are brought together intentionally by the Head of Academics and the DLT. Fullan (2007) has noted that teachers resist deprivatizing their classrooms in maladaptive accountability regimes. The DLT and SLT will need to model a community of critical friends (Kuh, 2016) with a growth mindset framework (Hildrew, 2018) to support buy-in from skeptical teachers.

Figure 8

Technical and Adaptive Steps in Four-Year Change Implementation Timeline

Y1 Database integration

Link databases (e.g., SchoolAdmin, ManageBac, PowerSchool, BlackBaud) to ensure accurate and dyanmic data flow to support stakeholders.

Y2 Visualization

Develop visualization dashboards using school data with external partner. Use feedback from Learning Leaders for validation and testing.

Y3 Implementation

DLT supports teacher teams in the use of data visualization to design teaching intervention cycles with focus on improving student achievement (Edwards & Ogle, 2021; Datnow & Park, 2014).

Y1-Y4 Analysis & Feedback

Regular rounds of feedback from teaching teams and via DLT meetings helps school leaders refine and support the agile implementation process to ensure that the change is sustainable and long-lasting. (Leslie, 2020; López-Alcarria et al., 2019). Formative feedback and monitoring (Markiewicz & Patrick, 2016) uses a four process cycle like PDSA (Shewhart & Deming, 1939, see also Figure 6).

Y1-Y2 Distributed Leadership Team (DLT)

Create a team of teacher leaders (Harris 2013; Spillane, 2006) including IB coordinators and Learning Leaders who oversee teaching and learning within areas of focus and are trained to work together as a collaborative, coherent team (Datnow et al., 2020; Mense & Crain-Dorough, 2017)

Y3 Collaborative Leadership

Learning Leader teams help teachers select problems of practice to implement data-informed teaching interventions (e.g., standardizing assessment across grade 9s) and act as data coaches and critical friends to teaching teams within the school. (Brown et al., 2017; Datnow & Park, 2018).

PLAN
DO
STUDY
ACT

Note. This illustration created by the author using publicly available design elements summarizes the various steps and processes of the change implementation plan.

While dynamic visualization and access to large sets of data can improve DIDM, in truth, improvements in the instructional system can happen even with smaller, qualitative sets of data (Safir & Dugan, 2021) as evidenced by the problem of practice work. Learning leaders can modify classroom observation tools (Centre for Teaching Support & Innovation, 2017) and conduct classroom observations to provide formative feedback (Black and Wiliam, 2009). By making teacher classroom visits the new normal, DLT members can effect improvements to the instructional system (Hembree, 2010).

The fundamental shifts in thinking include becoming aware that data exists within the school, that it can be mobilized for self-improvement, and understanding the limitations of data usage and the dangers of misinterpretation (Datnow & Park, 2014; Macfayden et al., 2014). Such shifts are sufficient to set the school on the road to self-improvement (see also Wyatt-Smith et al., 2021). This type of street-level data analysis (Safir & Dugan, 2021) can have positive impacts on student achievement, well-being, and improve equity in the school context by returning the locus of control of data analysis and implementation to teaching teams.

Social Justice Impact

Empowering teacher leaders to lead the work of school improvement, particularly in the instructional system of the school, while ensuring that the Head of Academics provides coordination to allow for coherence, can improve equity outcomes for both teachers and students in the current neoliberal climate. A teacher who is able to use data literacy tools (Knight & DeMatthews, 2020) in conversations with parents or alumni to address prevalent narratives of Old Glory's Fraser Institute rankings (Cowley & Emes, 2020) not only demonstrates their empowerment through deep knowledge of the data in their classroom but also begins to create a counter-narrative to provincial accountability regimes (Alberta, 2020a; Rosenthal, 2016).

Wyatt-Smith et al. (2021) draw attention to the multiple ways in which data gets siphoned from schools, often without awareness on the part of school administrators. The role of critical theory (Bohman, 2005) to educate, and empower individuals so that they can emancipate themselves from such colonial plundering of data is key to this OIP. Safir and Dugan (2021) draw on Indigenous and anti-colonial perspectives to offer concrete actions teachers can take within schools to empower students and themselves using data. Such street level data awareness, analysis and use can help teachers and school administrators create locally contextualized narratives of school improvement to question neoliberal narratives of school rankings and school improvement (Aitken et al., 2011; Bosetti et al., 2017; Cowley & Emes, 2020)

Transition Management & Challenges

Empowering teachers requires leading two related but distinct aspects of the change process: technical and adaptive (Heifetz et al., 2009). Both are necessary to make the change sustainable. The operational aspect of the transition will be managed by the Head of Academics with support from the Head of School and the division Principals.

Moving from one information management system to another is risky because specific user needs may not translate into the new system in the same way. Careful diagnosing and cataloging of the needs of current users that are being met by the existing system, developing a thorough understanding of unmet needs, and communicating clearly and often with the stakeholders who use the SIS will be key to managing the success of the SIS changeover. In addition, ongoing training of personnel to use the new SIS is needed. Developing their capabilities so that they can use the new SIS and its functionalities will lead to a shift in the relationship between user and database systems.

A significant human resources challenge is that the IT director currently reports to the Deputy Head and must instead report to the Head of Academics for long term integration between data and instructional systems (see Figure 1). In turn, the challenge for the Head of Academics will be to help the IT Director shift from their current largely technical role and develop their adaptive leadership skills to support the DLT's needs. One way the Head of Academics can mitigate this challenge is to develop strong working relationships between the educational technology learning leader within the DLT and the IT director, so that the learning leader can function as a facilitator and translator between IT and the DLT.

As department heads take ownership of their new roles as learning leaders in the DLT, they are noticing changes to their relationships with teachers within their departments. Whereas in the past, teachers would approach the department head for ordering books, to complain about classroom conditions that needed to be escalated to administration, or to advocate for teaching sections in the timetable, they did not expect the department head to be involved in their choices for instruction and assessment within their classrooms. Deprivatizing classrooms (Fullan, 2007; Hembree, 2010) requires a change in culture (Schein & Schein, 2017). Learning leaders have to coach and help teachers accept and grow from critique of how they spend their instructional time as well as their assessment practices. They must also learn to understand that there will be resistance to their change initiatives and reframe this resistance to analyze and evolve their own practice as change agents (Thomas & Hardy, 2012). Current learning leaders will need ongoing professional learning (HGSE, 2021) to develop their leadership skills as they develop their agency. New learning leaders must be hired based on competencies related to instructional coaching and leadership skills rather than managerial acumen.

Support for Plan Success

Since the CIP is school-wide from K-12, the Head of Academics will need support from the three division Principals as well as the Head of School. In turn, it is key that the Head of School articulates the need for change as well as communicates the progress of the CIP to the Board of Governors, the parent council of the school, and the employee group through formal and informal communication (Beatty, 2015; Dempster & Robbins, 2017). Without ongoing support of the Head of School and commitment from the Board of Governors, the Head of Academics as a change agent will not succeed.

Soini et al. (2016) make clear that schools are dynamic institutions where leaders are constantly responding to internal and external pressures with multiple timelines. The school's leadership team will have to navigate changes brought on by the pandemic, regular cycles of external inspections by the province (Alberta, 2020a), national organizations like CAIS (2021), and transnational bodies like IB (Steiner-Khamsi & Dugonjic-Rodwin, 2018), each of which can present their own demands or recommendations for school improvement.

Aligning such requests within the context of a dynamic DIDM model of teaching teams will be key to the sustained success of the CIP. If new recommendations for change are presented to the community distinct from the current change model nested within the strategic plan, it can either devalue the OIP or lead to change fatigue (Bernerth et al., 2011; Orlando, 2014). Thus, the Head of School and the Board must buffer the DLT and Head of Academic's work from new changes to enable the CIP to take root within the school in the next five years.

The CIP is layered and has technical and adaptive aspects that work both in tandem and in parallel. Figure 8 summarizes the plan described above in a visualization of the "what" and

connects it to the "why" described in this section. The next section describes how the plan is monitored and evaluated for successful implementation.

Change Process Monitoring and Evaluation

As this CIP stretches over multiple years, a monitoring and evaluation framework will be necessary for the Head of School to report on the success of the change plan to the Board as well as to community stakeholders. In the context of this OIP, monitoring parallels formative assessment in the classroom (Black and Wiliam, 1998; 2009) and refers to the process of ongoing feedback for improvement of the change process. The process cycles built into the iterative model would be an example of a monitoring mechanism that allows for ongoing improvement and refining of the change process (see also Tichnor-Wagner et al., 2017). Using Figure 7, teaching teams can choose a process cycle that aligns with their needs whether they are instrumental like PDSA cycles (Evans et al., 2012) or equity transformation cycles informed by critical theory (Safir & Dugan, 2021). Just as formative feedback is useful to the student and teacher in the classroom in terms of iteratively improving teaching and learning, monitoring benefits the internal stakeholders in determining how to shift and improve the CIP (Table 3).

Evaluation refers to periodic, in-depth, and summative assessment of the outcomes of the change process against established benchmarks (Markiewicz & Patrick, 2016) that allow the school to determine the success of the CIP, and how much value it has added to the school's larger strategic plan. In the context of a classroom, evaluations occur at the end of a period of study and help the student, teacher as well as parents and tertiary bodies (e.g., university, province) determine the achievement of the student relative to their cohort (norm-referenced standards) or benchmark standards (criterion-referenced standards).

Similarly, evaluation of the CIP not only informs internal stakeholders of the quality of the results produced but also informs stakeholders external to the process of the value of the CIP. These external stakeholders may include the Board of Governors, alumni, community members and external accrediting bodies like the province, CAIS, and IB. The results of such an evaluation can also help develop the next cycle of larger scale interventions as needed. Such interventions can be redirection of technical and human resources, changing the pace of change, as well as developing new targets as the change process concludes.

Table 3

Comparing Monitoring & Evaluation Components of the CIP

Process	Monitoring	Evaluation
Database integration	IT Director provides reports on progress at monthly SLT meetings	Data flow testing using APIs is completed at the end of the database integration. Results are reported to the SLT and the Board by the Head of Academics.
DLT Training	Principals maintain record of DLT members completing the HGSE (2021) course	Head of Academics evaluates DLT members implementation of the HGSE (2021) training and provides evaluation to Principals and Head of School on value of this DLT training with respect to the CIP after the DLT training is completed in 2023.
Data Visualization	Head of Academics monitors progress of data engines developed by external consultant and provides feedback during bimonthly meetings	DLT members evaluate data visualization tools in tests with department members in 2023-2024 school year and success is measured through the frequency and impact of data visualization use in teacher team meetings (Datnow & Park, 2014; 2018).
Problems of Practice	DLT members implement problems of practice using critical friends' protocols (Kuh, 2016) in monthly meetings.	Head of Academics evaluates DLT members annually and reports on value of POP analyses of student achievement and wellness benchmark data to SLT and Board.

Formative and summative assessments work in tandem in the classroom. Good formative assessments give both the teacher and student predictive feedback on how the student would perform on a summative evaluation. Similarly, integrating well-designed monitoring mechanisms

and using their feedback appropriately can help the school leadership team ensure that change process will meet evaluation benchmarks (Neumann et al., 2018; see also Figure 8).

Table 3 demonstrates how monitoring and evaluation are distinct but interlinked to benefit both internal and external stakeholders involved in this OIP (see also Markiewicz & Patrick, 2016). Each of the rows in Table 3 aligns with parts of the CIP described in the previous section and the monitoring column parallels formative feedback (Black and Wiliam, 2009) while the evaluation column aligns with summative evaluation in schools. In the next section, specific tools and measures as they apply to the local context of Old Glory and this OIP are discussed.

Tools & Measures

As the CIP has both technical and adaptive aspects (Heifetz et al., 2009) and involves developing the collaborative capacity of employee teams at Old Glory, a combination of tools and measures will be necessary to ensure that different processes are monitored and evaluated both individually as well as in their contribution to the overall CIP.

Checklists

Checklists (Gawande, 2010) are a simple yet effective monitoring tool for the technical components of the CIP. An example technical component is the integration of databases which involves multiple steps at Old Glory and includes multiple internal stakeholders (e.g., academics, advancement, enrollment, finance) as well as external stakeholders (e.g., vendors for SIS, LMS, and data visualization). The IT director is the responsible person for this transition. They will develop and maintain an overall checklist that allows them to oversee task completion and progress towards the goal of updating and linking databases. In addition, the IT director would create individual checklists for each stakeholder involved in the transition. These individual checklists delineate the tasks and training to be completed by the stakeholder within a specified

timeline. Thus, each individual checklist also feeds into and supports the overall timeline for database migration and linking.

While checklists are a good technical tool to ensure task completion and measure number of tasks completed, they do not provide insight into the quality or depth of understanding of task completion for both user and the IT director. At Old Glory, checklists will therefore be paired with an adaptive and collaborative bi-weekly meeting with supervisors in each department affected by the database updates to shift the execution strategy from one of efficiency to learning (Edmondson, 2008) using ethics of care and critique (Wood & Hilton, 2012).

These bi-weekly meetings held by the IT director overseeing the change includes principals, the Head of Academics, and the Deputy Head as observers. School leaders' participation is essential to ensure that they are both being kept informed of the progress and can ensure that feedback from departments is being heard and incorporated into the change timeline. Such reframing of resistance (Thomas & Hardy, 2011) also aligns with Heifetz et al.'s exhortation to "regulate the heat" to maintain forward momentum in the change process (2009, pp. 159-161). During these sharing and dialogue (Ellinor & Gerard, 1998) sessions, qualitative feedback not only updates the checklists but also allows for items to be added, shifted, or removed as stakeholder feedback informs the database update and linking process. These meetings allow for two-way communication between priority audiences (Dempster & Robbins, 2017) and SLT, which is key to maintaining change momentum (see also Beatty, 2015).

While the school has a tradition of weekly meetings and reporting structures, the addition of checklists and timelines has helped create forward momentum with the technical and adaptive aspects of the database migration plans. As a school leader participating in the meetings, I can see progress on the migration plan even when the objectives being met are not related to my

portfolio. In that sense, the process loosely follows the transparency of the objective and key results model (OKRs) used in tech companies (Doerr, 2018).

Triangulation of Evidence

In *Growing Success* (Ontario Ministry of Education, 2010), teachers are encouraged to gather evidence using observation, conversation, and products to triangulate the achievement of students in the province of Ontario (Figure 9). The use of multiple streams of data to determine success is an equity focused approach as not all people and processes can be successfully monitored or evaluated using a single tool.

Figure 9

Triangulation of Evidence
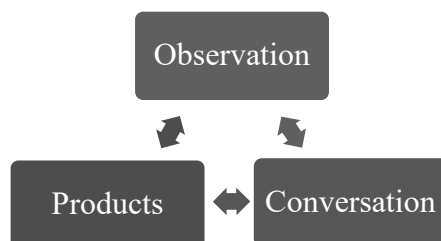
Note. This diagram prepared by the author applies ideas developed from "*Growing Success: Assessment, evaluation, and reporting in Ontario schools*," Ontario Ministry of Education, 2010, p. 34 (http://www.edu.gov.on.ca/eng/policyfunding/growsuccess.pdf). Copyright 2010 by the Queen's Printer for Ontario.

Neumann et al. (2018) note the need for a defined framework with commitment from leaders to ensure successful change monitoring and evaluation. Currently at Old Glory, a formal evaluation process is completed for new teachers using observations, conversations, and products to meet a criterion referenced benchmark (Alberta, 2020b). However, the use of triangulated evidence for change monitoring by school administrators is at best anecdotal and haphazard.

No framework exists for the gathering of such evidence and there are no established criteria for benchmarking such evidence. Therefore, the conclusions drawn from such data can be influenced by confirmation bias (Hattie & Timperley, 2007; Mandinach & Schildkamp, 2021). Norm-referenced comparisons, which are influenced by current school culture (Schulte, 2018), are unlikely to support well-considered change. Therefore, a framework for triangulation that uses criterion referenced benchmarks that are linked to the CIP must be created by the Head of Academics and principals to deploy this monitoring and evaluation strategy.

Framework. Each component of the CIP, whether it be updating the school databases, training learning leaders, data visualization etc., meets an objective of the CIP and certain key results are necessary to determine progress along the CIP. Doerr's OKRs methodology (2018) where teams share their objectives publicly and set up key results that are evaluated each quarter to determine progress towards the objective is a framework that allows for monitoring and evaluation while providing transparency of process.

An example of how OKRs can be developed for the different components of the CIP is illustrated in Table 4. An objective is a long-term goal within the CIP and likely to be achieved over the four-year timeline of the proposed change. However, key results are steps that can be measured in shorter timelines (e.g., a semester) to demonstrate progress in smaller steps towards the long-term objective.

The benefit of such a framework is that the Head of Academics can develop the objective and key results measures in a collaborative and transparent way with the DLT and other school stakeholders within IT, Finance, Enrollment etc. These criteria are co-created with mid-level leaders, thus modeling a culture of empowerment, transparency, and collaboration that the CIP seeks to enshrine in Old Glory's classrooms as well. By ensuring that all members are aware of

the objectives and key results of all departments, the Head of Academics, can communicate a

sense of shared and common purpose across silos aligned with change framework (Kotter and

Schlesinger, 2008) and adaptive leadership approach (Heifetz et al., 2009).

Table 4

Using Objectives and Key Results Framework to Monitor the CIP (Doerr, 2018)

Process	Objective	Key Results for 2022-2023
Database integration	Data flows in real time among Old Glory databases accurately and without human intervention.	1. Data migration to a new SIS is completed. 2. A "pilot" API is written and evaluated to enable accurate attendance data transfer between SIS and LMS. 3. A list of key data transfer components is complied for future API coding.
DLT Training	Learning Leaders are trained to be effective instructional coaches to lead instructional improvement for Old Glory teachers.	1. All Learning Leaders complete the ILC course (HGSE, 2021). 2. Head of Academics develops strong working relationships with learning leaders
Data Visualization	Old Glory's data from internal and external assessments is visualized and contextualized in ways that help teachers make improvements to the instructional system.	1. All internal assessment data from the LMS and IB data are visualized using existing data engines. 2. Consilience builds customized data engines to visualize provincial standardized test results.
Problems of Practice	Department meetings are psychologically safe places where teachers bring problems of practice and receive critical data-informed feedback for improvement.	1. At least 50% of monthly department meeting time is focused on problems of practice from agenda and meeting notes. 2. Learning Leaders share with Head of Academics at least one meaningful and lasting instructional practice change in their department through quality and depth of dialogue (Ellinor & Gerard, 1998).

Observations. Learning Leaders, the Head of Academics, and Principals use OKRs

(Doerr, 2018) as a framework for formal and informal observations of work within departments.

By collecting evidence through observations of teacher practice in classrooms, of Learning

Leaders during department meetings, the school leadership team can monitor and provide

feedback on progress along the objective. An observational log can include checklists and qualitative descriptive observations. Such a log allows school leaders to gather evidence of progress and provide feedback on whose voices are dominating and whose voices are missing as the change process unfold (Safir & Dugan, 2021). Such feedback is provided via conversations.

      Conversations. Formal and informal conversations are key to maintaining change momentum. Adaptive change requires engaging with the human reaction to change. Listening and initiating meaningful dialogue with employee stakeholders allows leaders to understand unintended consequences of change (Safir, 2017) as well as help support employees through the change process. Knowledge transfer is not sufficient for implementing change, and while checklists and group meetings are helpful for training, conversations allow for follow-up, individualized and tailored support (Nu'Man et al., 2007) as well as for leaders to hear from diverse voices (Heifetz et al., 2009) to better understand and respond to change resistance (Kotter & Schlesinger, 2008; Neumann et al., 2018). Conversations can also be moments to build trust, celebrate quick wins (Kotter, 1995), and to motivate and empower employees to contribute positively to the CIP through participatory decision making (Alvesson & Sveningsson, 2003; Armenakis & Harris, 2009).

      Learning leaders, the Head of Academics and the Principals need to keep records of such conversations and collaborate on developing shared messages. Transparency and consistency in communication are key to building trust in the change process and confidence in leaders overseeing the change process (Neumann et al., 2018)). Articulating the needs of employees through evidence from conversations as well as consistency in messaging from school leaders in individual conversations can help avoid mixed messaging (Datnow & Park, 2018) or loss of focus in implementing change at Old Glory. Conversations must also be triangulated with

evidence from observations and products to ensure that there is alignment among the three. Gaps that emerge when conversation data is compared to observed practice or products must be investigated by school leaders as they can be signs of loose coupling between envisioned and enacted practices (Schulte, 2018) or of resistance to change implementation.

Products. School leaders must evaluate the quantity and quality of products delivered through the CIP (see Table 4 for examples) to provide evaluative feedback on the progress of the CIP. For example, if the APIs can shuttle data accurately in a consistent and timely manner, then celebrating the integration of databases with stakeholders who have previously been frustrated by database errors allows the school to mark progress along the improvement plan. Such celebration also allows stakeholders to value the benefits of the change process.

Products are artifacts of the change process, and how they are valued and shared can communicate shifts in organizational culture and values. For example, in weekly staff meetings, if coaches and activity leaders celebrate the achievements of students in co-curricular events but academic wins are not recognized, then employees may feel that school leaders do not care about academics. Contrast this with an all-employee meeting where the DLT shares an example of a change to the instructional system through a problem of practice. Such a product showcase celebrates teacher vulnerability and receptivity to change and links such change to improvements in student achievement and well-being. Now values of vulnerability (Brown, 2018), critical dialogue (Heffernan, 2012), and psychological safety (Edmondson, 2019) are emphasized through a celebration of teaching and learning in the classroom (Donohoo, 2013).

Achievement Data

This CIP seeks to improve student achievement, which is an example of a product in the triangulation system described above. Currently, Old Glory does not have robust monitoring of

grades during each report card cycle. Teachers are encouraged, but not required, to report failing

grades to the principal. Each Principal reviews report cards of all students and flags students of

concern to be discussed during weekly progress meetings between members of the student

services team and the student's teachers. The middle years IB coordinator also processes grades

data through a spreadsheet using a traffic light system (green = good, yellow = monitor, red =

concern) following the January and June report cards to flag students of concern from grades 7

through 10 to the middle and senior school principal. However, there is no longitudinal tracking

of student achievement across reporting periods or across years at Old Glory.

One measure of improvement of student achievement is through internal (i.e., teacher

created evaluations) as well as external (e.g., provincial testing and IB test data) evaluations.

Both internal classroom assessment data and external standardized testing datasets have strengths

and weaknesses in their use to evaluate the success of the CIP. While standardized assessments

are evaluative and occur near the end of the year, and thus can be used for longitudinal study of

improvement at Old Glory (Wiliam, 2010), questions persist on whether standardized tests are a

good measure of student learning (Au, 2010). More frequent teacher-designed internal

assessments, which are adapted to the local context, offer richer seams of data. These can vary

from year-to-year and from teacher to teacher thus making comparisons harder.

However, comparing internal and external sets of data can offer insights into whether the

interventions developed by teaching teams are leading to improved results. Improvements may

look like higher and consistent scores on the Fraser Report School Rating (Figure 5). However,

such school level score increases may be a fortunate after effect of improvements in student

learning and achievement within classrooms. Thus, the Head of Academics should use the data

visualization platform not just to consider final evaluation scores but also to explore difference of

scores between reporting periods to see which students showed improvement and which groups of students did not benefit from the interventions of teaching teams led by the DLT.

The data visualization platform allows for analysis of both cohort and longitudinal data as well as cluster analysis of students by gender, attendance, and other factors to look for patterns in achievement. Hattie's use of effect size as a measure of efficacy of intervention is one such strategy, though given the smaller populations of students at Old Glory, there may be little statistical backing for determining effect size comparisons (Bergeron et al., 2017).

Monitoring and evaluating changes in scores of students can help identify which interventions are successful for which groups of students. They can also reveal which groups of students are not succeeding despite interventions. Thus, a careful study of such street level data allows reflective teaching teams using an ethic of critique (Wood and Hilton, 2012) to identify, understand, and reduce bias (see also Safir & Dugan, 2021) against specific groups of students (e.g., female presenting students in math, or students of colour in physical education).

Iterative Change

Since the changes proposed are iterative, a four-part process cycle (Figure 7) is helpful to support the monitoring and evaluation of this CIP as the school switches to an adaptive, continual-improvement model. Monitoring and evaluation in this CIP can be enacted in the black-background phases of any of the four process cycles in Figure 7. The key results of the OKRs method (Doerr, 2018) emerge from the plan and do parts of the PDSA cycle (Evans et al., 2012); the do it and see it phases of the Medicine wheel (Bell, 2014); or the move/ listen parts of the equity transformation cycle (Safir & Dugan, 2021). These key results then become the substrates for reflection that emerges from the monitoring and evaluation process.

Change is a process (Dudar et al., 2017), and in this OIP, is viewed as a series of iterative and adaptive cycles. Monitoring and evaluating the change to ensure that Old Glory moves from a traditional teacher-centred culture to an agile and responsive school through collaborative inquiry (Donohoo, 2013) is key to developing horizontal forms of accountability and collective responsibility akin to those seen in Nordic schools (Sahlberg, 2010; Tolo et al., 2020). In the next section, the communication plan to generate buy-in for such ongoing change is discussed.

Plan to Communicate the Need for Change and Change Process

While the CIP articulated in this OIP is new, the change process and communication around the need for change started three years ago at Old Glory. A new Head of School was hired by the Board with a mandate to re-focus the school's efforts as an organization on improving academic results based on the school's uneven results on provincial standardized tests (Figure 5).

Extensive consultation with parents, students and with teachers through surveys (Alberta, 2020a; Lookout Management, n.d.), as well as through formal and informal conversations has helped the Head of school formulate their vision. Hiring new school administrators and teachers has helped create a guiding coalition (Dudar et al., 2017) to support the change in alignment with Kotter's change plan (1995) and the adaptive leadership approach (Heifetz et al. 2009).

Much of the Head's success comes from their successful communication of content, the process used to share the content, and providing context in an authentic way to engage stakeholders (Siccone, 2012). The sequence of events at Old Glory map closely to Leithwood & Strauss's (2008) description of turnaround change, where declining performance is first identified usually using standardized test data. The leader then expends time and energy to build capacity during a crisis stabilization phase. This OIP describes the changes during this crisis

stabilization phase. The final phase of sustaining and improving performance is rarely reached (2008), in a nod to the pervasive nature of change facing schools (Soini et al., 2016).

The COVID-19 pandemic shifted the conversation from academic achievement as measured by neo-liberal accountability regimes (Winton & Pollock, 2016) to academic safety. The school leadership adapted its communication style by building a responsive website focused on sharing information for continuity of learning to reduce anxiety (Coombs, 2015) as well as surveying students and parents regularly for iterative improvements to our COVID response to build trust through two-way communication (Lewis et al., 2013). Teachers were contacted by phone or zoom on a weekly basis as a priority audience (Dempster & Robbins, 2017).

The Head of School persevered with a new strategic plan process using an external consultant, Berlineaton. The creation process for this ten-year strategic plan involved extensive consultations with stakeholders both in person and using online tools during the 2020-2021 school year. The stakeholders included students, parents, teaching and non-teaching employees, alumni, and board members. The resulting ten-year strategic plan (Leithwood & Strauss, 2008) has four pillars, two of which are the subject of this OIP: deep learning and belonging.

The disruptive shift to online learning during the pandemic jolted many teachers out of their established practice of using common tests for all students or setting a single essay topic for an entire class. Such practice for standardized provincial and IB diploma exams became moot during the pandemic. Widespread cheating also devalued common assessments. Teachers at Old Glory quickly realized that co-creating assignments with students that allowed voice and choice in topics and shifting to project-based assessment led to more student engagement with learning and authentic evaluation of learning (see also Darling-Hammond & Hyler, 2020).

The parallel conversations around a forward-looking strategic plan along with crisis communication around the pandemic aligned well to support change (Deming, 2018). The crisis functioned as an activator of change to include students as co-creators and collaborators in learning, thus generating buy-in among teachers. The synergy between the communication prior to and during the pandemic is being leveraged in this section to demonstrate that communication is not an add-on to the CIP, but rather is woven into a successful change implementation process.

Current Communication Protocols

Old Glory, like other independent schools in Canada, has a dedicated marketing and communications (MC) department. MC staff work closely with administrators and teachers to produce a variety of formal and informal communications targeting specific stakeholders (Table 5). Examples include an annual report that is shared with the Board, alumni, donors, and current parents, a monthly e-newsletter that aggregates celebratory stories and upcoming events, a weekly Head's message that is sent to all parents, as well as daily updates to social media feeds.

The MC staff mailed special documents to all school stakeholders during the strategic planning process to set context and generate excitement about the new direction for the school (Beatty, 2015). In addition, the department also created a dedicated strategic plan website that both describes the plan in detail and shares goalsetting benchmarks to be achieved by the school as the plan is put into action. In addition to the MC staff communications, teachers and school leaders communicate via the LMS to parents and students, as well as through email. A weekly employee meeting is a venue for two-way communication between staff and school leaders, and each division has weekly assemblies that allow students and teachers to share ideas and content.

Table 5

Communication Protocols at Old Glory

Protocol	Purpose	Audience Examples
One-on-One conversations	Problem-solving, seek to understand, shared decision making, engagement	Priority Audience (Dempster & Robbins, 2017) • Parent with a concern; • Student discipline or counseling; • Teacher needing support; • Donor stewardship.
Group Conversations	Collaboration, planning, developing, implementation, shared meaning making (Coombs, 2015)	Priority Audience (Dempster & Robbins, 2017) • Weekly staff meeting; • DLT meetings; • IB coordinators planning PD
Push Pages	Crisis Communication; Elevating Information sharing from school to community	Priority Audience (Dempster & Robbins, 2017) • Emails to all employees and parent groups to highlight changes in policy or procedures; • During crises, automated phone and text messages draw attention to push pages.
Reports	Legal or regulatory function; evaluation; long term planning (e.g., strategic plan)	Priority Audience (Dempster & Robbins, 2017) • Annual reports to the Board; • Accreditation by CAIS, IB, Province • Donor stewardship
Webinars & Assemblies	Information sharing; clarifying meaning; transparency of process	• Parents' safety briefing for a school trip; • University counselling for a grade of students; • Expert speaker on a topic for families or employees.
Email	Information sharing, operational coordination, setting common expectations; sharing news & small wins (Kotter, 1996)	• Weekly email from Principals to faculty; • Messages from teachers to students and parents via LMS; • Messages from students and parents to school staff.
E-Newsletters	General information sharing; sharing school values, celebratory news.	• Friday email from Head of School highlighting specific school values, celebrating milestones & achievements; • Monthly newsletter sent to all parents with upcoming events and dates.
Social Media	Celebratory, informal, buzz creation, community building, school visibility	• Showcase learning and co-curriculars to current parents; • Generate excitement with prospective families; • Engage alumni and community partners.

Crisis communication involving changes to school practices during COVID were carried out through push pages with a focus on sharing bad news realistically (Lewis et al., 2013) which helped build trust in school leaders (Coombs, 2015). Virtual town halls allowed students, parents, and teachers to ask questions offering transparency as well as helping stakeholders feel valued (Dempster & Robbins, 2017) enabling shared meaning making (Coombs, 2015). Since the early part of the pandemic, such webinar formats have proven popular with parents for ongoing two-way communication with division Principals. Now they have grown to include evening school-parent nights like university planning, course selection, as well as larger student events.

As Dempster & Robbins (2017) have noted, Old Glory parents, students, and employees are inundated with messaging from the school, thus careful selection of content, process, and context (Beatty, 2015; Siccone, 2012) is necessary to ensure that the CIP communication is received by the right audiences at the right time for generating buy-in.

Communicating for Change Readiness

This OIP is at a stage where the DLT has been constituted and in place for the 2022-2023 academic year, and a Head of Academics has recently joined the school leadership team. The IB coordinators are working as a collaborative team from K-12 to lead professional development workshops with a visiting expert to underscore the importance of coherence and shared understanding of the role of assessment in improving student learning (Cooper, 2011; see also Black and Wiliam, 1998, 2009).

Meanwhile, learning leaders are collaborating with teachers to develop locally relevant definitions of what excellence in teaching and learning looks like at Old Glory in coordination with the three division Principals. This is a visioning exercise (Dudar et al., 2017) for teachers to help operationalize the deep learning pillar from the school's new strategic plan, but also

evidence that the DLT is demonstrating "a willingness to be held responsible for what students learn." (Leithwood & Strauss, 2008, p. 23).

During two days of professional development, teachers have structured time and opportunities to learn from each other the diversity of assessment practices as well as collaborate with each other to develop a shared understanding of what excellence means at Old Glory (see Figure 1). DLT and SLT members are embedded in teaching teams to listen deeply to conversations as well as to clarify questions linked to the CIP. Through this focused professional development time, the SLT is communicating that reflection and critical conversations about our practice as educators is valuable (Beatty, 2015). The DLT as a guiding coalition also becomes the professional development committee of the school, using feedback from these sessions to monitor change readiness and seek support for propelling the change forward (Kotter, 1996). In these conversations, resistance to change is also measured and used to dynamically assess the pace and extent of change (Thomas & Hardy, 2011).

In a culture of communication by email and information overload, taking the time to meet for two days in focused dialogue in groups, over meals, and using external consultants, highlights to teachers the value of this change for school leaders (see Table 5). By investing time and effort, the school leaders demonstrate that the change readiness plan is ready to grow beyond the DLT to include teachers and their classroom practices. Teachers become the priority audience for this change work as described below by Dempster and Robbins (2017).
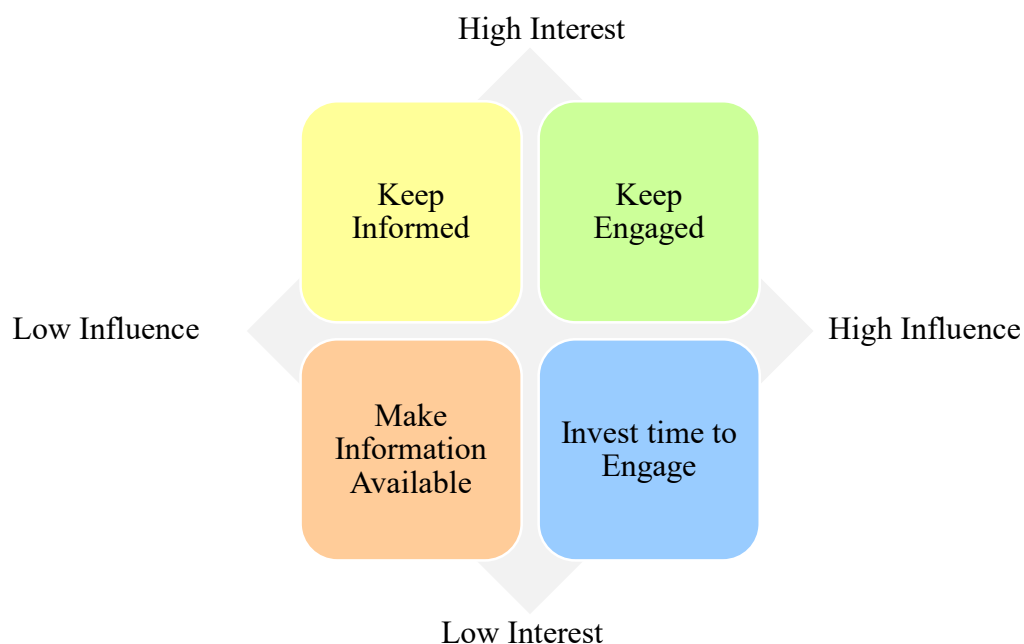
Framing Change Process for Audiences

Dempster and Robbins (2017) use two axes of interest and influence to create a quadrant of possible audiences that a school leaders should understand when working with change. Beatty (2015) proposes a similar quadrant-based audience analysis using influence but replaces interest

with impact from change. Figure 10 shows the communication strategies used by school leaders for these different audiences based on the Dempster & Robbins' 2017 findings.

Figure 10

Information Plan for Audiences at Old Glory

High Interest

Low Influence

Keep Informed	Keep Engaged
Make Information Available	Invest time to Engage

High Influence

Low Interest

Note. The blue and green quadrants are considered priority audiences for communication of the first cycle of the CIP. This figure is adapted from "*How to build communication success in your school: a guide for school leaders,*" by K. C. Dempster and J. Robbins, 2017, p. 30, Routledge (https://doi.org/10.4324/9781315282176). Copyright 2017 by Karen Dempster and Justin Robbins.

In the context of Old Glory and the communication plan for the CIP, the Head of Academics and Principals use frequent two-way communication with the DLT members (high influence/ high interest) to ensure their engagement with the change plan. DLT members lead the work in their departments and communicate the successes and challenges with school leaders

(see also Beatty, 2015). Board members are a similar high influence/ high interest group that must be kept engaged by the Head of Academics and the Head of School (Figure 10).

Teachers who are change resisters (high influence/ low interest) are also a priority audience. By building relationships, understanding their concerns and motivating them through conversations (Dudar et al., 2017), school leaders can help engage them and move them higher up on the interest scale (Dempster & Robbins, 2017). Such a reframing of resistance (Thomas & Hardy, 2011) is aligned with critical theory ideas of empowerment and temper the forward momentum advocated by Heifetz et al. (2009). The DLT members should engage with teachers who are change champions to ensure that their high interest also gives them higher influence within the school community. Examples include co-facilitating department meetings with change champions, selecting them as mentors for new teachers, and highlighting their work in weekly employee meetings and through professional development opportunities.

Similarly, parents and donors with high influence but whose interest has waned in the school can be engaged and reconnected with the school's new academic focus. The Head of School can tend to these relationships to move them into the high influence/ high interest quadrant in Figure 10 to build support and resources for the CIP.

Most parents and students at Old Glory would fit in the high interest/ low influence quadrant as the changes proposed to the instructional system primarily affects teachers and classroom learning. However, as student empowerment grows using problems of practice and collaborative teaching methods, the influence of students in their learning will grow (see also Halse, 2018). Finally, low influence and low interest audience would be disinterested parents or alumni who are not close to the school and are unlikely to engage deeply or directly with the change process but can be kept informed through the school's usual communication protocols.

For the first cycle of change implementation within this OIP, the focus of communication is on groups with high influence within the school. For instrumental reasons, these two groups are being designated as priority audiences (Figure 10, see also Table 5). In the long-term, with an equity focused lens, all groups need communication. The core work of equity is to improve outcomes for marginalized low-influence groups (Safir & Dugan, 2021). Despite being aware of the inequity of focusing first on high-influence groups, this is a strategic decision to generate early wins by prioritizing ongoing, multi-modal, and contextualized communication in the change cycle (Kotter, 1995).

The Head of Academics and Principals will prioritize two-way, face-to-face communication with DLT members to model the expectation of similar communication between DLT members and teachers (Beatty, 2015). Weekly emails from Principals to their staff, while operational, will communicate at least one item linked to the CIP. This can be celebrating a small win (Kotter, 1996), or a call for collaboration on a colleague's problem of practice (Burnside, 2021), or an opportunity to share relevant research for knowledge mobilization.

In addition, the school's book club for teachers run by the Head of School, which functions as a professional learning community should be focused on the use of data-informed instruction (Datnow & Park, 2014) or on collaborative inquiry (Datnow & Park, 2018; Donohoo, 2013), to allow for capacity building through ongoing communication (see also Donohoo, 2017).

Knowledge Mobilization Plan

The idea of priority audiences developed in the previous section is key to successful communication of and commitment to this CIP. While there is significant research on data-informed collaborative decision making for school improvement (Datnow et al., 2007, 2021; Datnow & Park, 2014, 2018; Donohoo, 2013; Donohoo & Katz, 2020; Edwards & Ogle, 2021;

Kuh, 2016; Macfayden et al., 2014; Mandinach & Schildkamp, 2021; Safir & Dugan, 2021),

mobilizing such research knowledge within the local context of the school for sustained

implementation requires building capacity, nurturing collaboration, and active listening (Mosher

et al., 2014). School leaders also need to embrace the idea that successful mobilization in the

local context can itself change the knowledge being mobilized.

Edmondson (2008) notes that many leaders execute change as efficiency, seeking to

attain results in a timely and consistent manner. This hurry can backfire in a knowledge-centred

workplace. She argues instead that execution of change must allow for learning to occur where

employees discover answers. Experimentation and iteration should be encouraged and problem

solving requires collaboration and two-way communication (Dempster & Robbins, 2017).

Thus, it is no longer appropriate for school leaders to sift through research and proclaim

their conclusions, like Moses bearing the ten commandments down from Mount Sinai, in a linear

one-way relationship (Campbell et al., 2017) with school stakeholders. Instead, knowledge

mobilization is a collaborative and collective task of building capacity with the team (Datnow et

al., 2021). Gathering diverse perspectives on research (see also Safir & Dugan, 2021) facilitates

constructive and critical dialogue (Heffernan, 2012), applying research to the local context.

While this process may be slow and messy, both Edmondson (2008) and Mosher et al. (2014)

argue that such a learning-based knowledge mobilization process leads to deeper penetration of

change within an organization and greater uptake of new knowledge and practices.

For example, rather than sharing best practices in formative assessment during

professional development with staff using a sage-on-the-stage approach (King, 1993), the IB

coordinators interviewed students from K-12 asking them what formative assessment meant to

them at Old Glory. By pre-planning (Dudar et al., 2017; Kotter & Schlesinger, 2008) and

creating a video, the IB coordinators set the stage for teacher talk to shift from a general discussion about formative assessment research to problem-solving its application in specific classrooms. The diversity of responses from students in the video becomes qualitative data to begin a critical reflective dialogue (Ellinor & Gerard, 1998; Heffernan, 2012), but it also couches a rational demand for coherence within an emotional appeal (Beatty, 2015). Teachers are more likely to taking ownership of assessment problems using their own students' feedback (Leithwood & Strauss, 2008) than from a visiting expert.

Heifetz et al. (2009) remind us that in adaptive organizations, leaders must create the holding environment, but allow employees to own and do the adaptive work (Figure 4). The example above shows how members of the DLT are leveraging their strengths and knowledge of the school to communicate the need for change and create opportunities for collaboration and two-way dialogue (Burnside, 2021). Leithwood & Strauss (2008) note that such teacher ownership is key to success in turnaround change. By modeling the work (Beatty, 2015), becoming comfortable with failure (Edmondson, 2008), and being vulnerable (Brown, 2018) school leaders communicate their willingness to support change with stakeholders.

The ultimate goal of this OIP is to reduce the power distance (Hofstede, 2011) between leaders and teachers in schools, and between teachers and students in classrooms, so that there is greater psychological safety which facilitates honest and meaningful communication to promote a culture of learning (Edmondson, 2008).

Chapter 3 Conclusion

This chapter has described how DIDM research (Datnow et al., 2007, 2021) has been applied to the local context of Old Glory. The CIP section shares how specific actions and

processes that occur both in tandem and in parallel weave together to create a data-informed collaborative school culture over a four-year timeline.

As these processes have varying timelines and outcomes that feed into the long-term objective of creating an adaptive culture at Old Glory, monitoring and evaluation tools to measure the success of these processes is key. Both technical and adaptive measures are included with triangulation of evidence (Ontario Ministry of Education, 2010) emerging as a key theme to enable the use of both quantitative and qualitative data in measuring success relative to agreed upon benchmarks (Neumann et al., 2018).

However, to create a shared understanding of the benchmarks, which are not only measures of success but also are a result of backward mapping the objective set in the change plan, communication and buy-in for collaboration is key. In the last section of this chapter, the plan for communication as an integral aspect of the CIP is discussed with a special emphasis on knowledge mobilization as a tool of empowerment.

Next Steps & Future Considerations

The OIP has described how Old Glory can move from traditional teacher-led classrooms to collaborative, inquiry-based practices using data to improve student achievement. While this OIP offers instrumental advantages to help the school raise its standings relative to its competition, the ultimate goal is to develop an adaptive and agile (Leslie, 2020) culture where students and teachers collaborate using a growth mindset (Hildrew, 2018; Patrick & Joshi, 2019).

To move towards true empowerment and liberation in the school, student voice needs to emerge as central to the problem of practice conversations in teacher teams. Learning leader observations of classrooms must look for student discourse in classrooms and determine if students are indeed owners and shapers of their own learning (Morrison, 2014).

Centering student voices in the classroom does not mean marginalizing teacher voice. Marginalization is an oppressive use of power that reproduces social hierarchies, and if the teacher shifts from being the sage-on-the-stage and voluntarily moves to the side to be a guide (King, 1993; Morrison, 2014), then they create space for student voices to be centered in ways aligned with critical theory and emancipation (Andreotti, 2011; Apple, 1995; Freire, 2018). In fact, Halse (2018) notes that students' self-understanding of their privilege within elite schools is constructed from the spaces teachers in these schools create for centering student voice and empowering groups of students.

A continuing area of work at Old Glory is the critical examination of which student voices are privileged, and which students experience inequity and marginalization (Safir & Dugan, 2021). As the school shifts from teacher-centred classrooms directed by external standardized test pressures to a student-centered learning community focused on using qualitative and quantitative data to improve the learning experiences within the school, the power dynamic in classrooms will shift. Articulating the changes in school culture and values internally and externally will be key both to sustaining the CIP and to sharing local narratives that challenge dominant central narratives of school reform (Andreotti, 2011; Wiliam, 2010).

To lead in this area, the school's leadership team needs to showcase the CIP both for transparency within the local community but also for knowledge sharing among the wider independent school community in Canada. With a demographic shift underway in Canada, independent schools need to evolve to remain relevant to the changing needs of diverse families (Bosetti et al., 2017). Thus, Old Glory can be a leader within independent schools by showcasing how it became an adaptive and agile (Leslie, 2020) institution through a data-informed, collaborative inquiry process (Datnow & Park, 2018).

OIP Conclusion

A successful school with a long history accrues the weight of tradition and public perception. Having survived many waves of changes in educational systems, a long-established school has inertia like a giant cargo ship. It can be difficult to turn and change direction. Keeping to the metaphor of a great ship, developing teacher collective efficacy (Donohoo, 2017) is akin to reigniting the ship's powerful engines. Data sets become the compass and binoculars on the bridge helping school leaders determine where and how to steer the ship (Datnow & Park, 2014).

Like the ship in an ocean where currents shift and winds change, schools are buffeted constantly by both internal and external change (Drysdale & Gurr, 2017; Soini et al., 2016). Given that the pace of change continues to increase and technology acts as an accelerator for change in schools, this OIP seeks to create an adaptive culture to help the school remain agile (Leslie, 2020). Thus, rather than focusing on a specific outcome (e.g., student achievement improvement by X%), the OIP seeks to create a culture of empowerment in teachers and students within the school so that their collective efficacy improves (Donohoo, 2017) and they have the skills and structures in place to tackle new challenges as they emerge.

While the ship's crew may not always have the right solutions for new challenges they encounter, they should not be afraid. Ships are not meant to stay in harbours. Despite the challenges and errors made along the way, it is important that as school leaders we continue to sail into the open ocean where the winds and waves may rock the boat. This OIP calls on leaders to build collaborative teams to solve problems, make changes, and improve conditions in schools for all human beings to flourish.

Epilogue

Completing an EdD during a pandemic seems, with hindsight, to have been a foolhardy task. As Socrates noted, bravery and foolishness are two sides of the same coin. Teachers and school leaders were relentlessly tested. Assumptions and values that were once unquestioned were cast aside as the pandemic forced paradigm shifts on schools. Technology proved to be an amplifier of change, allowing schools to move online within days, while also revealing inequities in our education system as schools struggled to source hardware, and families found themselves unable to afford fast internet access. Private schools and rich students flourished as public schools and poorer students struggled, proving the pandemic also amplified social inequities. Within schools, technology also allowed some teachers to shine while others became insecure in their practice due to lack of tech literacy skills (Orlando, 2014).

In many ways, despite the enormous effort required of working school leaders, the practical demands of school leadership were complemented by the EdD readings (e.g., Drysdale & Gurr, 2017). The cohort approach provided us with a community of educators grappling with different stages of the pandemic around the world, and we became a source of support and knowledge mobilization for each other. Not everyone flourished, as some took leaves of absence, while others left their jobs, and still others struggled with family challenges. The process of completing this OIP during the pandemic distilled for each of us, in our own ways, what matters to us as educators and individuals.

I am grateful that I was able to research and report on my views on the value of data-literacy and data-empowerment during a period of extraordinary acceleration of the influence of technology in education. I am grateful for the very human support that helped me achieve this work both at home and in my workplace.

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