Conceptualization and Operationalization of Accountability in Canadian Education: A Systematic Review

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Abstract: In this systematic review, I explore the conceptualization and operationalization of accountability within Canadian K-12 education systems. I suggest that while the frameworks of local jurisdictions remain in Economic-Bureaucratic Accountability (EBA) model, there is a shift from Economic-Bureaucratic Accountability model to Ethic-Professional Accountability (EPA) model in current conceptualization and operationalization of accountability in Canadian education systems. The mechanism of solely using standardized testing programs for accountability has shifted to a multidimensional accountability framework that includes a wide range of indicators and the use of program evaluations to engage and empower key stakeholders in K-12 system and to ensure student success. However, continuous empirical inquiry is needed on current accountability concepts and frameworks to gain more reflective thoughts on refinements and evolvement of accountability in Canadian education systems.

Keywords: Accountability, Conceptualization, Operationalization, Canadian Education System

Introduction

The word accountability has multiple meanings. The verb "to account" in its earliest usage means to reckon, count, count up or calculate (Wagner, 1989). The word moved into the education arena from business, implying that the public is calling for more evidence to show the efficiency, effectiveness, responsiveness, and choice in education systems (Stein, 2001). Ranson (2003) mapped out a professional accountability model in the age of professionalism and four accountability models in the age of neoliberalism in the U.S. education system: consumer accountability, contract accountability, performative accountability, and corporate accountability. In Ranson’s typology of accountability models, the professional accountability model is based on the recognition of professional or specialist’s knowledge. The public trust education committee that formed through collegiality acts as the arena of accountability. Later, Ranson described four neoliberal accountability models to highlight the marketization in education, the product quality, and the infrastructure of local education systems. The consumer accountability model aims to strengthen consumer responsiveness through extending parents’ choice of schools based on market competition rules. Consumer and performative accountability models focus on teaching and learning as well as resources and services that schools can provide. On one hand, schools are held accountable to ensure that they deliver a certain level of service and fulfill their resources targets. One the other hand, schools are subjected to national test scores to demonstrate student achievement and further manifest school effectiveness. The corporate accountability model, which is also the most distinctive one, is characterized by the significant rate of incorporation of privatization of education service.

In Canada, educational responsibility falls under each province’s jurisdiction, with a Ministry or Department of Education that oversees the education system. Thus, it is extremely difficult to have a universal national accountability model. Inspired by Ranson’s (2003) typology of accountability regimes, Spencer described two accountability orientations, Economic-Bureaucratic Accountability (EBA) and Ethical-Professional Accountability (EPA) within the Canadian Context (Ben Jaafar, 2006; Ben Jaafar, & Anderson, 2007). The EPA orientation is more focused on teachers’ accountability for student learning outcome. In EPA model, some education jurisdictions put much autonomy in teachers’ hand, rather than depending standardized testing results to be the sole or the major evidence for holding the system accountable for the public. While the EBA orientation uses the top-down and the marketing approach to keep accountability through disaggregated data from standardized testing programs to make data-driven decisions at national, provincial and district level, which ultimately inform modifications to education practices.

However, recently, the role of provincial standardized testing programs has changed. For example, some Canadian provinces are phasing out their testing programs at early grades and one province is updating its provincial testing programs to be more consistent with student classroom assessment environment. More importantly, the use of LSA scores to evaluate student achievement is changing in some provincial jurisdictions. These provinces decrease the weight of test scores in determining student final grades and increase teachers’ autonomy in their professional judgement on student achievement. Teachers and schools are taking more responsibility for student achievement. Given this situation, it is important to better understand how accountability is conceptualized and operationalized in local jurisdictions (i.e., provinces, districts). In this study, I aim to explore the conceptualization
and operationalization of accountability within Canadian K-12 systems by systematically reviewing related literature. By doing this, I address the pitfalls and concerns residing in the current practice of accountability frameworks in different jurisdictions.

**Literature Search and Data Charting**

Articles about accountability frameworks that focus on how accountability is conceptualized or operationalized in the Canadian K-12 education system are of interest of this study. I completed this literature review in three steps. First, I searched three databases: Education Source (EBSCO), ERIC, and PsycINFO, using the key words “accountability,” “Canada,” and “education system” from 1989 to 2017. This search yielded 294 studies. Excluding studies not written in English and magazine articles, 248 studies were subjected to further examination for selection. Of these 248 studies, there were 241 journal articles, two books, and five book reviews.

Second, I reviewed the title and the abstract of these 248 studies to determine whether the focus of the study is about accountability of Canadian education systems, which returned 35 studies. I reviewed the full text of these 35 studies and eliminated studies which did not set their context in K-12 system. I kept sixteen studies in the last round of the selection process.

Third, I went through the reference lists of these 16 studies to identify additional relevant studies. Five studies were added for this scoping review. I also obtained a special issue of Canadian Journal of Education which includes five studies about accountability frameworks in five Canadian provinces. A total of 26 studies were collected in the selection process. Among these 26 studies, four studies are based on empirical studies and 22 studies are theoretical and conceptual. I carefully read the 26 studies. Each study was summarized and recorded after the first reading. Then, information about the context of the study, study aims, methodology, outcome measures, and important results was recorded in the data charting form to the common analytical framework (Arksey & O’Malley, 2005). Together, this data formed the basis of my analysis.

**Result**

I present the main themes in the rest of this paper with a focus on how accountability has evolved and how accountability frameworks have been operationalized within K-12 Canadian education systems from theoretical, contextual, and empirical points of view.

**Test-based Accountability or Performative Accountability Model**

Eight studies focused on using provincial standardized testing programs to achieve educational accountability, which falls in EBA orientation. Five of the eight studies set their research context in Ontario and three set Canada as their context. Five articles focused on provincial assessment programs, one put more emphasis on international testing programs, and the other two articles are about general description of test-based accountability or performative accountability model.

Standardized testing programs have been predominantly employed to provide public confidence under the neoliberal policy articulations and the call for preparing a skilled workforce that can complete in the global market. These standardized testing programs also open a conversation between education practitioners and the public about how to use assessment and background knowledge as a starting point to inform educators about student current performance and help plan next steps in most Canadian provincial jurisdictions (Earl, 1995; Earl & Torrance, 2000; Spencer, 2013). Earl (1995) described the accountability agenda focusing on assessment related activities in Ontario. In late 1980s, the Ontario Ministry of Education embarked on a series of program reviews to evaluate the effectiveness of various programs, one of which was piloting a provincial Grade 9 Reading and Writing test in 1994/1995. Later, Grade 3 and Grade 6 reading and writing assessments and grade 9 mathematics tests were developed and initiated by Education Quality Accountability Office (EQAO) to help the education authorities to understand student overall achievement on core skills. The province framed its accountability framework by using provincial assessment programs and related background knowledge as starting points for educators to understand student academic performance and plan for the next steps. The Grade 10 Ontario Second School Literacy Test (OSSLT) is considered high-stakes for students since passing this test is a prerequisite for graduation. EQAO claims its intension of using OSSLT to achieve accountability is to show “the extent to which Ontario students are meeting
a common, basic standard for literacy across the province” (EQAO, 2002, p. 1) and to enable students to be successful in their future life.

Ben Jaafar and Earl (2008) profiled performance-based accountability model to explore policy differences in 10 Canadian provinces, utilizing Armstrong’s (2002) five indicators: testing structure, standard setting, consequential use of data, reporting, and professional involvement. They found that the performance-based accountability model differed much in the consequential use of data and the degree of professional involvement among the provinces. Subsequently, they grouped the provincial jurisdictions into three categories depending on the degree to which jurisdictions use standardized testing data and engaging educational practitioners’ professional involvement. The first category was provincial jurisdictions which put more emphasis on the use of testing data than professional involvement (i.e., Alberta). The second category was jurisdictions that put emphasis on both the use of testing data and professional involvement (i.e., Quebec, Saskatchewan, Nova Scotia, and New Brunswick). The final category was jurisdictions that put less emphasis on the use of testing data than the professional involvement (i.e., Ontario, Manitoba, Newfoundland, and Yukon).

Researchers have been looking at a performative-based accountability model in Ontario since 1990s. In her early work of examining Ontario’s accountability system, Earl (1995) pointed out critical issues of provincial assessment programs for accountability function, citing that these programs excluded the consideration of student diversity, teacher assessment literacy, economic conditions, and political realities related to the test results. Later, Earl and Torrance (2000) explored the utilization and interpretation of a Grade 3 assessment program for accountability purposes, and how this standardized testing impacted school programs, teaching performance, and student learning. By analyzing teacher background survey data as well as the Grade 3 EQAO assessment program documents in 1996-1998 (the first two years of the implementation of this provincial assessment program), the authors found that the majority of teachers increased their participation in staff development programs. However, less than half of the schools circulated the EQAO results to parents and very few schools (17%) created opportunities for community conversations. Teachers endorsed EQAO’s overriding recommendation of creating an assessment culture. Half of the teachers believed that it is appropriate to use EQAO’s results for continuous conversations about the purpose of the assessment and student achievement. Very few teachers were convinced that implementing and interpreting this standardized testing could influence on curriculum and improve student learning.

Spencer (2013) examined teachers’ perspectives on the OSSLT through various data sources: observations, document analysis, and interviews. She reported that the implementation of the OSSLT raised teachers’ concerns about the dilemma between their professional ethics and the mandated policy in terms of preparing their students passing this high-stake test. Duncan (2011) reiterated teachers’ dilemma between doing what is right for students or doing what is needed to increase the test scores. She pointed out that teachers were facing little choice in this test-embedded institutionalized accountability model, which schools are seeing as data generators, as the principles push teachers to the testing programs and thereby improve school results. Volante and Ben Jaafar (2010) expressed the similar negative consequences of using high-stake standardized testing scores to compare schools and districts. Pinto (2016) took the issue further to reliability and validity concerns of standardized testing programs. In her review, she commented that the costly standardized testing programs possessed little reliability and validity in reflecting and predicting student success due to a lack of consideration for other factors, such as students’ family circumstances, measurement errors, sampling exclusions, and inappropriate interpretations.

National assessment (e.g., Pan-Canadian Assessment Program) and international assessment programs (e.g., PISA) are also used in the performative accountability model. Ministry policy makers believe that both national and international assessment programs are of value to measure student achievement, allowing comparison across provinces and opening the opportunities to learn about effective and efficient ways to manage schools to be accountable from other jurisdictions (Earl, 1995; Fagan, 1995; Hodgkinson, 1995; Maheu, 1995; McEwen, 1995). However, this practice has been critiqued by scholars recently. Particularly, Martino and Razai-Rashit (2013) drew on policy sociology in education which addresses questions of biopower and classificatory to highlight the political process and practices that created the phenomenon of gender gap in student reading performance in PISA results. They called for attention to the distorting consequences of measuring and understanding educational inequality.

The above review presents the pitfalls of using standardized test results as the sole and direct indicator for student achievement for accountability purposes in a performative based accountability model. The pitfalls and weaknesses of directly employing psychometric decision-making approach are emerging to show the consequences
in assessment practice. Thus, provincial jurisdictions established more comprehensive and multidimensional models to keep the system responsible and accountable for public, which contains a range of educational indicators and initiatives. The next section reports the main findings that emerged in my review of the multidimensional model in accountability frameworks.

**Multidimensional Accountability Framework**

**Using educational elements and indicators.** Four articles discussed using various educational elements and indicators for accountability purposes. Accountability mechanism does not function well and conveys little meaning if it is not informative and communicative to the general public. Building a framework based on common goals and using it as the vehicle for communication are of primary importance for education system accountability. In British Columbia, the accountability framework contains seven elements. There are public reports, standardized testing programs, program evaluation, educational indicators, school accreditation, reference sets, and financial audit reports (Hodgkinson, 1995). Similarly, in Newfoundland, Education and Early Childhood Development employs an educational indicator system, provincial assessment programs, a school profile system, a student level or school operations database system, and annual reporting as its accountability mechanism. The province of British Columbia and Newfoundland utilized various elements to envision and form their multidimensional accountability frameworks.

One of the critical elements in a multidimensional framework are educational indicators or educational indicator systems, which have been considered the most visible and tangible activities in the field of accountability (Fagan, 1995; Maheu, 1995; McEwen, 1995). The aim of developing educational indicators is to provide a cooperative model to monitor and measure the system and to offer information to explain the interactive factors, which produce effective evidence of how the education system work. Ultimately, these indicators assist the government with identifying problems, planning initiatives, improving administration, and producing better decisions. For example, in Alberta, the provincial committee agree 10 indicators as student outcome indicators: achievement, participation, creativity, graduation, attitudes, self-esteem, satisfaction, behavior, responsibility, and fitness (McEwen, 1995). Likewise, Newfoundland developed its Educational Indicators System to set the standards of student performance to measure the system. The Education Indicators System includes student achievement, attainment, participation, attitude, and behavior measurement (Fagan, 1995). Quebec included indicators such as graduation rates, access to higher education, and workforce entry rate to produce evidences of the state of the system (Maheu, 1995).

**Program improvement initiatives.** Five articles specifically discuss provincial accountability initiatives in Ontario and British Columbia. Winter and McEachern (2001) described the education reform in Ontario, focusing on the curriculum change. With standardized province-wide achievement goals set in each subject at the end of each grade, the authors called for more time, funding, resources, and training for teachers and schools to be able to maintain the rigor of the ambitious accountability goals. Later, Duncan (2011) described several programs that the Ontario government launched to help students succeed. One of them is the Literacy and Numeracy Secretariat. The idea of establishing The Literacy and Numeracy Secretariat is to encourage experienced expertise educators to work with schools to boost student progress in reading, writing, and math (Ontario Ministry of Education, 2017). Under this overriding program, there are three initiatives: The Teaching-Learning Critical pathways, the Capacity Building series, and the School Effectiveness Framework. Teaching-Learning Critical Pathways calls for teachers to collect data on every student on every single day to guide the instruction, which forms the basis of The Literacy and Numeracy Secretariat program (Duncan, 2011). The Capacity Building Series aims to support leadership and instructional effectiveness in Ontario schools and subsequently strengthen the outcomes of The Literacy and Numeracy Secretariat program running at school level. These funded literacy and numeracy initiatives brought positive outcomes in local implementation, according to the qualitative study by Anderson and Macri (2009).

The School Effectiveness Framework reflects professional growth at the school level. This initiative enhances school improvement through interaction and communication between and within teachers and school and/or system administrators (Duncan, 2011). This framework demonstrates how the EPA model approaches to school, district, and system levels in Ontario education. This professional accountability approach has been largely welcomed by local school administrators according to Chitpin and Jones (2015).

British Columbia has similar initiative that gauges its accountability system. The Reference Set which demonstrates provincial standards and provides representation work from students allows educators and policy
makers to review student performance progress in core knowledge and skills in literacy and numeracy (Hodgkinson, 1995). Additionally, the District Accountability Contracts focuses on local school performance and directs educational stakeholders to examine evidence of student achievement, school boards’ goals and their processes for reaching these goals (Nicols & Griffith, 2009).

**School level accountability.** Maxwell (1996) discussed school accreditation program as part of accountability in British Columbia. The accreditation program for accountability started in 1994 with the aim of supporting schools’ effort to achieve and gain the available funds for further improvement. The process requires internal and external review reports including a set of 80 criteria based on a conceptual framework that contains four key aspects: administrative leadership, professional attributes, learning experiences, and community relationships. Systematic data is required to demonstrate schools’ status on these four attributes of the framework. The Ministry evaluates the reports and various data on these four aspects to determine whether the school can be accredited or not. Primary school accreditation is mandatory and secondary schools need to be accredited every six years.

O’Reilly and Bosetti (2000) described accountability tools used in chartering schools in Alberta. Recognized as being hybrid institutions that share public education as well as private education characteristics, chartering schools in Alberta demonstrated a strong sense of commitment and loyalty among parents, teachers, and students. This empirical study showed that to improve school effectiveness, charter schools tried to engage communities and open conversations to inspire and support students (O’Reilly & Bosetti, 2000).

**Program Evaluation Accountability Framework**

Program evaluation was first introduced in British Columbia in the 1990s to serve accountability purposes (Hodgkinson, 1995). It subscribed to the guiding principles of utility, feasibility, propriety, and accuracy while examining education programs. Evaluation was implemented in newly developed primary, intermediate, and graduation programs in 1990 (Hodgkinson, 1995).

In Ontario, Ali and Favara (2007) presented a conceptual framework for special education using empowerment program evaluation. Other than the top down evaluation model in British Columbia, this participatory and empowering evaluation contains three components in data collection, reporting, and improvement planning. These three key components are: Systemic key performance indicators, a standards-based review process, and a special education program evaluation process.

In a continuous cycle formed by these three components, teachers and school leaders participate in collecting and interpreting the data, which allows the educators gain a better understanding of the status of special education programs at school or district levels while empowering their professional capacity.

**Reporting**

Since one of the most dominant ways accountability has been interpreted is through “answerability” (Ranson, 2003, p.466), the ways of reporting accountability information differ among jurisdictions. Provincial publications and annual reports are considered as the most common forms of reporting to inform the public about education systems. Report cards are used for reporting individual achievement in provincial standardized testing programs (Duncan, 2011; Earl, 1995; McEwen, 1995). Comprehensive and project-based reports also provide public information about the context, input, and the output of certain initiatives or the general education systems (Fagan, 1995; Hodgkinson, 1995; McEwen, 1995).

**Discussion**

With various forms of accountability frameworks at provincial and school district level, no standardized or unified form of reporting mechanism was found in the review. In this scoping review, I synthesized the literature on how accountability has been conceptualized and operationalized in Canadian K-12 education systems. Although accountability does not have a consensus definition across provinces, studies have showed that, in Canada, educational accountability is rooted in a neoliberal political grounding. Under this common political grounding, provincial jurisdictions take the EBA orientation by using test-based accountability or the PBA model to hold schools and education practitioners accountable for and answerable to student achievement. While sharing this
commonality, the PBA models differ among the provinces according to the degree of emphasis on the use of testing data and professional involvement as Ben Jaafar and Earl (2008) categorized in their study.

This costly and hierarchical way of providing indicators of student achievement to ensure system accountability raises concerns of having a low level of trust towards professional, misleading teaching practices and a lack of public confidence. Therefore, provincial jurisdictions integrate other educational indicators for accountability. However, the indicators claimed by local jurisdictions are rather different. For example, Ontario and Alberta rely more on standardized assessment programs and the accompanied provincial or district level interventions and initiatives, while Quebec considers more on leaning outcomes, such as the opportunity for higher education and entering the workforce. Although curricula are admittedly similar among provinces, there seems to be a difference in how student achievement is conceptualized in each education system. This difference manifests and is represented through the way that other education indicators relate in the accountability framework.

Another trend emerged from this scoping review demonstrates the gradual move from EBA to EPA in the conceptualization and the operationalization of accountability in Canadian provinces. Although Ben Jaafar and Anderson (2007) claimed that both accountability orientations coexist in Canadian systems, there is a strong advocacy that educational accountability be rooted in EPA rather than EBA. This bottom-up accountability orientation focuses on teachers’ professional judgment and their leadership. Teachers’ assessment literacy and their understanding of assessment are critical in building and maintaining the EPA model. Through professional development in assessment, reflection on individual or peers’ assessment practice, and communication with colleagues on assessment practices, teachers’ assessment competence can be improved, which is a key factor to fully realize the EPA orientation.

In addition, researchers remind us to include other stakeholders’ perspectives in accountability models. This alternative way to approach accountability is called intelligent accountability or holistic accountability. The holistic accountability framework takes a further step of explaining accountability through multiple stakeholders’ perspectives and not only relying on policy makers and education practitioners. Empowering key stakeholders and creating opportunities for them to communicate allows the main characters in the arena to develop a comprehensive understanding and interpretation of accountability (Reeves, 2004; Stobart, 2008). This alternative concept has been strongly demonstrated in an empirical study by Ali and Faravo (2007).

It is also interesting to see where Canadian provincial jurisdictions are regarding the evolvement of conceptualizing accountability. Among the provinces included in this review (Ontario, British Columbia, Alberta, Quebec, and Newfoundland) only Ontario has undergone a conceptualization and operationalization change in accountability model. Obviously, Ontario is one of the early provinces establishing provincial assessment programs to hold student accountable. However, the continuous conversations between researchers and education practitioners along with the rich empirical data refine accountability models over the years. In other jurisdictions, there are only a few contextual studies published since mid 1990s, with no updated research on the change or refinement to their accountability frameworks.

Lastly, in this review, I found only a few empirical studies on student achievement, which is considered the most commonly used indicator for accountability research. Also scarce are longitude or cohort comparison studies that demonstrate the sustainability and the effectiveness of the mechanism of accountability. This may be due to the massive resources and time needed involved in research projects that evaluate accountability initiatives. This lack of empirical work needs attention from policy makers as well as educators. It is important to have empirical data to better understand the accountability frameworks that have been proposed and currently implemented. It is of great value for practitioners and the public to know whether these initiatives have addressed and helped improve the systems for accountability purposes, and whether they are worthy to carry on at individual school or school board levels or share with other jurisdictions across Canada. Furthermore, continuous reflections and refinements on the current accountability concept and mechanism will be helpful for education practitioners as well as researchers to critique and propose new thoughts about what can be done to ensure Canadian student success in future.
REFERENCES


ABOUT THE AUTHOR

Yan (Lizzie) Yan is a PhD student in Faculty of Education, Queen’s University. Her passion in education lies in exploring and understanding the relationships between education policies and classroom assessment practices. Particularly, she is interested in teachers’ perceptions and practices of using various assessment tools to engage, facilitate, and enhance students’ learning. Her current doctoral project is to explore how assessment policies guide secondary teachers’ summative assessment in classroom practices, and how large-scale assessment practices explicitly and/or implicitly impact teachers’ summative assessment and their subsequent grading practices within the Canadian context.