

Reimagining Assessment and Evaluation in Ontario's K-12 Schools

by

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An oral defense of this thesis took place on August 5, 2022 in front of the following examining committee:

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The above committee determined that the thesis is acceptable in form and content and that a satisfactory knowledge of the field covered by the thesis was demonstrated by the candidate during an oral examination. A signed copy of the Certificate of Approval is available from the School of Graduate and Postdoctoral Studies.

ABSTRACT

This study explores the provincial document of Growing Success (Ontario Ministry of Education, 2010) for Ontario's K-12 schools, interrogates recent literature since 2010, and examines the current themes that emerged surrounding assessment and evaluation, in order to suggest possible directions for a potential new framework that is research-based and founded in the literature. An initial framework is proposed by the researcher that shapes the keyword searches of the data collection. Using template analysis, a form of metasynthesis analysis, the researcher uses nVivo to identify and code major themes in a body of literature since the implementation of Growing Success (Ontario Ministry of Education, 2010). Resulting from this template analysis, iterations are made to the initial framework as a suggested new framework for assessment and evaluation. The findings of this study consider curriculum design, the role of educators, learning environments, narrative documentation, and social justice & equity as central themes for this framework.

Keywords: assessment; empathy; metacognition; critical consciousness; social justice

AUTHOR'S DECLARATION

I hereby declare that this thesis consists of original work of which I have authored. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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STATEMENT OF CONTRIBUTIONS

I hereby certify that I am the sole author of this thesis and that no part of this thesis has been published or submitted for publication. I have used standard referencing practices to acknowledge ideas, research techniques, or other materials that belong to others. Furthermore, I hereby certify that I am the sole source of the creative works and/or inventive knowledge described in this thesis.

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Prologue

I have spent most of my life in formalized education, from elementary school to graduate studies. There has been a recurring contentious discussion with one central theme - grades. In my experience, these letters and numbers on a report card seemed to carry a substantial weight that invaded multiple facets of my life, from how I perceived myself as a person to my participation in class. My grades impacted my self-worth; every test handed back, and every slow tear of that brown report card envelope chipped away at my confidence.

Growing up, many of my teachers considered me a below-average student and, as a result, I believed this of myself. One memory seared into my mind was my Grade 8 teacher telling me I would not make it to university. Another memory of a failing grade in Grade 12 that almost prevented me from admission into my undergraduate program is another I will never forget. Crooks (1933) outlines multiple historical perspectives where marking systems have developed over time, expressing how educators have implemented assessment standards for evaluative purposes. Having lived experiences where grades on a report card directly impacted me personally and professionally led to my reflection on grades and gradeless systems. This reflection is also evident throughout historical accounts of schools and schooling, as discussions around assessment and evaluation, questioning and challenging the purpose and execution of grades, and considering alternative assessment methods have existed for centuries (Blum, 2020; Crew, 1930; Crooks, 1933; Finkelstein, 1913; Kohn, 1994; Madaus and O'Dwyer, 1999).

And so, why have these discussions been around for so long? This thought contributes to my increased anxiety and frustration. How much longer will we have the same, or similar, conversations with little or nothing to show for it? I have been trying to understand why assessment and evaluation have been contentious discussion points for years. I have realized that there are many reasons. Some, I would argue, are easier to debunk or refute than others. Pilcher (1994) conducted a case study that found how grades are interpreted varies by students, families, and teachers. Grades are valued (or undervalued) in different ways, and this perceived value is often shaped by the social environment where the learning occurs (Pilcher, 1994).

Additionally, school and learning are often seen as a game, where the object is to collect points based on prescribed tasks and behaviours, which, if done correctly, elicit a reward in the form of a high grade (Blum, 2015). In many ways, grades have been used as a reward and punishment system for decades, where disobedience or absences are punished by deducting marks and extra credit or consistent attendance earns you bonus points (Geni, 2018). As these structures continue to be implemented and viewed as effective, I feel that it comes as no surprise that things have not changed in all this time. It becomes a classic example of perpetuating a system that you have either survived or succeeded in because if you could do it, so can today's students.

As an educator, school often feels disjointed and lost with an underlying tension between 'innovation' and 'tradition.' I became an educator because I genuinely love learning. I want to create an environment that fosters this sentiment. And yet, every year, I fight this seemingly uphill battle against several stakeholders (i.e., students,

families, colleagues, policymakers) trying to navigate that tension. I want our learning community to take risks, but I am often met with questions from students asking about their grades. I want our community to try something new, but I am often faced with concerns of failure or wasting time. I want families and other stakeholders to reimagine what success can look like in school, but I am met with pushback regarding report cards or expectations placed on students.

Starr Sackstein (2015) articulated these sentiments beautifully in one word - “Frustration.” It sometimes becomes exhausting, and the journey ahead feels long and arduous. The reliance on grading seems all-consuming in the way it has been ubiquitously integrated into the education system. My experience has shown that grades sort and classify students. To determine awards and scholarships, grades can indicate who can and cannot attend certain postsecondary institutions and programs. This sorting becomes a process embedded with social injustice, as the one-size-fits-all credentialing standard excludes and devalues certain disempowered social groups while simultaneously rewarding others. My professional resume demonstrates that I graduated with First Class Standing, which suggests I am more qualified than my peer next to me. And so, despite all my frustration and disappointment at the systemic use of grades, what Stommel (2020) refers to as “currency for a capitalist system that reduces teaching and learning to a mere transaction” (p. 28), I find myself stuck in these transactions, contributing to this problematic and terrifying ‘grades economy’.

This thesis captures some thoughts, considerations, and perspectives at a particular moment in time. I recognize that the sentiments and ideas throughout my

research may change even after this thesis is finished. I wanted to approach this thesis grounded in the idea of wonder and possibility - because I firmly believe that if we look at these systems and structures in society and education with wonder and consider the possibilities, some truly amazing things could emerge if we just try. Education has remained unchanged in so many ways, and yet our world is constantly evolving, particularly now with the impact of COVID-19 (Zhao, 2020). Events like the COVID-19 pandemic disrupt almost all aspects of life, including education, and there is a real threat that we simply return to the status quo (Zhao, 2020). We talk about developing 21st-century skills, global competencies, or preparing students for the Fourth Industrial Revolution (4IR) (World Economic Forum, 2016) and how important it is to adapt. Yet I look at how much educational structures actively resist adaptation. Classrooms worldwide discuss social injustice, the climate crisis, and the political divide. Our learners are ready. Our educators want to be prepared. We are taking on the upheaval of grading in education, instigating the required paradigm shift. Assessment and evaluation are *more* than just grades. How we understand, value and measure learning permeates our societies.

Ultimately, I have three things I wish for students to carry with them both in and outside our school classroom learning environment - *empathy, metacognition, and critical consciousness*.

Empathy is a powerful emotion connected to the affective domain, which refers to one's feelings, cognition, and outward behaviours (Brett et al., 2003). By intentionally developing empathetic attitudes, the affective domain is triggered and provides an

opportunity to understand the expansive range of emotions and resultant behaviours in response to these emotions (Blasco & Moreto, 2012; Brett et al., 2003). Grades can dehumanize the education system and harm the people learning within that system (Holt, 2004). The grading system diminishes our ability to understand the many factors that impact the learning process and reduces that judgement to a value or number. Goleman (2005) discusses emotional intelligence as the ability to hone in on one's emotional impulse and read and recognize emotions in others. The notion of being emotionally intelligent calls us to consider how one understands and acknowledges the emotional capacity of those around them (Goleman, 2005). Empathetic people can develop the emotional intelligence to understand that skill and learning are far more dynamic than the emotions these grades evoke.

Furthermore, *metacognition* is thinking about how you learn and how what is learned may be relevant, mainly when framed within one's beliefs, values, and experiences (Brown et al., 2014; Flavell, 1979; hooks, 1994). Being reflective and understanding how we learn are essential. However, our learners need to feel safe and nurtured in their environment for reflection, learning, and risk-taking to be effective (Immordino-Yang et al., 2018; Immordino-Yang et al., 2019). How ready is one's brain to think about their learning if they feel unsafe due to discrimination, bullying, or other oppressive structures? Can one be prepared to reflect on what lessons they learned from an experiment when faced with barriers like food insecurity or experiencing homelessness? I aim to provide our learning community with the tools and strategies to question what they are learning and understand how the knowledge is impactful to the

individual. I try to consider factors that I can have an impact on while recognizing so much of what these students literally and metaphorically bring into the classroom are outside my reach. To do well, we must *feel* well, starting with building a safe space that reflects the needs of each individual.

Finally, *critical consciousness* is an integral sociopolitical tool that asks learners to question their historical and social situations based on reality (Freire, 2005). Grounded in critical theory, the essential value of consciousness lies in its inherent demand for one to question individual, social, and cultural developments while simultaneously interrogating how social and economic structures are produced and reproduced (Blake and Masschelein, 2003). Education is one of many systems and, like many systems, can support and perpetuate inherently oppressive ideologies (Freire, 2005; hooks, 1994). It is crucial that our society's look at the systemic barriers presented in our world, and our students must be equipped with the skills and knowledge to interrogate and question these systems. Our learning community can be critical of the existing systems while digging deeper into the relationship between how and why these structures are created within their own lives. Educational leaders owe it to these learners, their families, and their communities to do better in understanding one's own authentic existence in the world in relation to others based on their race, gender, orientation, and socioeconomic status. Critical consciousness could prepare learners for this level of criticality necessary in our world.

Suppose we are to truly prepare our learners for the emergence of the Fourth Industrial Revolution (4IR), the next phase of industry impacted by technology and

increased globalization (Oke and Fernandes, 2020). The ideals and values that have seeped into education for centuries could be examined with the three wishes I have for students - discuss empathy for others, develop a critical lens for the systems and structures in place, and have the confidence to question and challenge, while implementing change. We need our students to develop these human skills. We need our educators to create and foster environments that allow skill development to be possible, modeling risk-taking, conflict management, creativity, and emotional intelligence. We need our communities and institutions to embody the very nature of our humanness. If there is a discussion about the sustainability and longevity of our communities and global citizenships, what makes us human is at the centre of it all. Relationships with one another, the environment, institutions, and other living creatures rely on empathy and critical awareness. With the impact of a global pandemic (COVID-19), current climate and humanitarian crises, and economic and political turmoil, the time to dismantle education and fundamentally reexamine assessment and evaluation policy and practice is now. To include current grading practices into our post-pandemic 'return to normal' would be a missed opportunity to address a crucial component to move forward for generations to come in a manner that acknowledges, responds to, and honours our individuality as people. In this thesis, I hope to consider a new normal: one that challenges readers to deconstruct old notions of assessment and evaluation, embrace the disruptive crisis in which we now find ourselves, and courageously suggest a new framework for assessment and evaluation. Our current global situation provides us with a critical moment in time, one where educators and

thought leaders in both industry and academia must leap forward through innovation, originality and thoughtful redesign; each of these can be framed by *empathy, critical consciousness and metacognition*. Perhaps there is a new way we can reimagine education and learning. I would like to contribute to those conversations to consider a new way forward.

Chapter 1. Introduction

Setting the Context

Education is a multifaceted, complex system, and the experiences of each individual can vary throughout their learning journey. Assessment and evaluation are key elements of this system. While events like the COVID-19 pandemic may have led to shifts in practice, longstanding assessment practices have remained in education for centuries (Blum, 2020; Crooks, 1993; Kohn, 1994). The province of Ontario, Canada implemented the Growing Success (Ontario Ministry of Education, 2010) document over a decade ago, with the goal of “enabling all students to reach their full potential and to succeed” (p. 1). It may be time to consider what the next iteration of Growing Success (Ontario Ministry of Education, 2010) could look like and develop an understanding of learning and success for each learner. Parker (2019) argued that Growing Success (Ontario Ministry of Education, 2010) perpetuates neoliberal and neoconservative ideologies. Neoliberalism can be defined as economic, moral, and social systems that support capitalism and those of a higher socioeconomic status (Dale and Hyslop-Margison, 2004). Neoconservative ontology often reflects traditionalist values and the notion that there is absolute truth and clear ideas of right and wrong (Pinto, 2012). These ideologies may have influenced the value of standardized testing results and graduation rates as measures of success (Parker, 2019). As we navigate the next decades of educational development, students may need to develop new skills and competencies. Some would posit that we are in a Fourth Industrial Revolution (4IR), and as a result, there are changing competencies and skills that employers and institutions

increasingly seek (Giammarco et al., 2020; Gray, 2016; Voogt et al., 2013; Waddell et al., 2018). These skills such as creativity, problem-solving, negotiation and critical thinking, have been suggested by numerous stakeholders in industry as potential competencies needed by students as they emerge from K-12 years (Gray, 2016; Schwab, 2018; World Economic Forum, 2016).

Unfortunately, educators can feel bound by policies, practices, and curricula that arguably do not support the development of these skills, particularly regarding assessment. Measuring skill development or curricular learning outcomes can be problematic, often delineated exclusively by grades or standardized test results (Parker, 2019). Blum (2020) stated that “getting rid of grades is not enough if our classrooms are still more about performance than learning. [It] is even more challenging to create a curriculum that’s worth learning” (p.vxii). Educational systems may need to critically evaluate their curriculum, pedagogy, assessment strategies, and the structures that impact learning (Blum, 2020). Based on professional practice and reflection of these educational systems, the researcher was interested in four key pillars to consider in assessment and learning: educational pedagogy, empathy, metacognition, and critical consciousness. Arising from this consideration emerges a series of wonderings: Does the system define and position learning in a way that allows teachers to cultivate environments for students to thrive in the 4IR? Do these policies reflect the students, educators, and stakeholders and their needs? Does the pedagogical framework promote meaningful and authentic learning? Who creates the value structures upon which a curriculum is developed, and how can we define if a curriculum is worth learning?

This research is set in the context of public education in Ontario, examining the Growing Success (Ontario Ministry of Education, 2010) document that teachers are required to use in order to assess and evaluate their students and their learning. Understanding the context of Ontario's articulation of assessment and evaluation is crucial, and how multifaceted these processes are. Blum (2020) posited that while grades seem to be a natural and inevitable part of the school, they are not. Grades were created as a structure at a particular time to serve a specific purpose and have stuck, woven into the tapestry of education (Blum, 2020). Consideration should be given to the frameworks that inform assessment and evaluation and what current research suggests may be impactful practices.

This study aims (i) to explore the provincial document of Growing Success (Ontario Ministry of Education, 2010) for Ontario's K-12 schools, (ii) interrogate recent literature since Growing Success (2010), and examine the current themes that emerged surrounding assessment and evaluation, and (iii) to suggest possible directions for a potential new framework that is research-based and founded in the literature.

Historical Background

It may be helpful to examine some historical perspectives from a body of literature that address the longstanding conversations around assessment, evaluation, and learning. The discourse around assessment and evaluation is not new, as several diverse paradigms have emerged. For centuries, individuals and systems have often situated themselves in the comfort of grading systems - percentages, curving averages, common core standards - without considering what the mark could represent or its impact (Finkelstein, 1913). It has often been argued that grades and marks may hinder

the teacher-student relationship and divert attention away from learning (Crew, 1930). Thus, an understanding that ranking one's achievement (e.g., numerically, on a curve, through standards-based approaches) can be viewed as a central component of assessment and evaluation that could be harmful (Crooks, 1933). These historical accounts can draw attention to questions and challenges around assessment and grades, yet many of these challenges remain today. Finkelstein (1913) posited how education places a "blind faith" (p. 1) in grading systems as a single measure of success versus failure. Additionally, Madaus and O'Dwyer (1999) referred back to 210 B.C.E to explore pre-modernist examples in China of performance assessments, rife with subjectivity and high standards of what was considered productive. However, discussions of assessment have deep roots globally, demonstrating a willingness to explore and arguably revitalize assessment and evaluation practices and philosophies. Kohn (2020) stated that "gradual change is fine—as long as we don't underdo it" (p. xiii). The researcher of this study aims to consider how hundreds of years of discourse can highlight just how gradual change can be in education, particularly around assessment and evaluation.

Postman (2011) argued that there is no absolute best way to know, feel, remember, connect, and apply anything. As a result, educators seek different strategies to challenge more traditional assumptions about grades and learning. Some pedagogies and policies aim to implement what is argued as authentic assessment practices. Strategies like open-ended activities connected to real-world problems continue to emerge and refine themselves, often using digital portfolios to curate and assess learning (Herrington and Herrington, 1998; Khoiriyah and Husamah, 2018; McClam and

Sevier, 2010; McDonald 2012; Reynolds, 2010). Implementing challenges and learning tasks with student input and connections to their surroundings can be considered authentic and often demonstrates higher learning outcomes and student engagement (Herrington et al., 2014). Arguably, emergent terminology like an alternative or authentic assessment method suggests that what is considered status quo is inherently inauthentic. If there is an authentic way to assess and evaluate learning, then can educators settle for anything less? While these authentic methods appear to be making gains, they continue to be pitted against graded methods that are embedded into our institutions (Blum, 2020).

Education and learning are often discussed in the context of a physical classroom setting, and yet it is arguable that education exists anywhere (Postman, 2011). Kolb's (2014) discussion of experiential learning reinforced how learning is ongoing, occurring through process and experience rather than a product. Understanding learning through this lens, learning and knowledge is adaptive and iterative to build onto knowledge, not acquire memorized facts (Kolb, 2014). Furthermore, Dewey (1910, p. 29) argued that "one may have to learn to think well, but not to think" and that these new learning opportunities often exist in everyday life. The notion of experiential learning articulates a natural transaction between the individual and the environment. Learning does not necessitate a physical classroom setting with students in rows being lectured (Dewey, 1997, p. 60). Ontario's assessment and evaluation document, *Growing Success*, states that "every student is unique and each must have opportunities to achieve success according to [their] own interests, abilities, and goals" (Ontario Ministry of Education, 2010, p. 1), and so it may be time to consider

how the document may support this statement and what current literature suggests might also be impactful to achieve this.

Research Questions

This thesis aims to examine the literature around assessment and evaluation to propose a new framework for Ontario's assessment and evaluation policy in K-12 schools. To specifically analyze this research, four key pillars are initially examined: (i) educational pedagogy (ii) empathy, (iii) metacognition, and (iv) critical consciousness. In doing so, this thesis aims to address the following research questions:

RQ 1. What does current research suggest about assessment and evaluation since Ontario's Growing Success (Ontario Ministry of Education, 2010) document was implemented?

RQ 2. What essential factors in recent literature could provide an evidence-based theoretical foundation of a new framework moving forward in Ontario to reimagine assessment and evaluation?

Operational Definitions and Contextual Framework

The following operational definitions are provided to give context to how the researcher has framed and understood these definitions throughout this thesis.

Assessment and Evaluation

Growing Success (Ontario Ministry of Education, 2010) defines assessment as "the process of gathering information that accurately reflects" (p. 28) how a student is meeting curriculum expectations, while evaluation is "judging the quality of student learning" (p. 38) concerning set standards of achievement and assigning value to that quality; in essence, the process of assigning a 'value' to one's learning. Assessment

and evaluation can be far more nuanced than Growing Success's (Ontario Ministry of Education, 2010) suggestions. Considering what and how we assess, and determine what to evaluate, requires thoughtful interrogation into factors like curriculum design, school leadership, systemic barriers, and the pedagogy of staff or the entire school (Blum, 2020; Kohn, 2020; Stommel, 2020; Chu, 2020). The purpose of assessment can be argued as pervasive, providing lifelong skills that foster critical reflection of growth, knowledge, and applying constructive feedback (Boud and Falchikov, 2007; Fu et al., 2018; O'Connor and Lessing, 2017). Where Growing Success (Ontario Ministry of Education, 2010) posits assessment and evaluation as a means to prescribe a value to learning, research suggests we consider the vastness and diversity in the factors that foster learning and promote authentic means of assessment (Bialystok and Kukar, 2018; Cumming and Maxwell, 1999; Herrington et al., 2014; Swaffield, 2011; Vu and Dall'Alba, 2014).

Assessment is the collection of evidence that describes how pedagogy shaped the learners' growth, leaving the evaluation as the narrow measure of specific skills or capacities (Herrington, 2014; McDonald 2012). Defining assessment and evaluation can vary depending on location, institution, and purpose. This variation, in itself, could complicate the process and create challenges to innovation and change. New terminology - like authentic assessment, ungrading, gradeless assessment, portfolio and contract assessment - has taken shape throughout the decades (Bialystok and Kukar, 2018; Blum, 2020; Herrington, 2014; McDonald 2012; Sackstein, 2015) in an attempt to redefine and understand more deeply the multifaceted world that is assessment and evaluation of learning.

Formative Assessment

Formative assessment uses gathered evidence of learning by educators, peers, and learners to decide the next steps in the learning journey (Black and Wiliam, 2009). Often, exemplars of formative assessment can include assigned homework, reflections, quizzes or 'exit passes,' tests, and examinations (Black and Wiliam, 2009). Growing Success (Ontario Ministry of Education, 2010) defines formative assessment as an assessment that “takes place during instruction to provide direction for improvement [and] adjustment to instructional programs for individual students and a whole class.” (p. 147). Thus, emerging terms like an assessment for, as, and of learning take shape to structure pedagogical assessment.

Assessment for, as, and of learning

Assessment for learning is “the process of seeking and interpreting evidence for use by learners and their teachers” (Assessment Reform Group, 2002, p. 2); assessment as learning focuses on the “fostering of students’ capacity over time to be their own best assessors” (Western and Northern Canadian Protocol, p. 42); and assessment of learning is what often “becomes public and results in statements or symbols about how well students are learning” (Western and Northern Canadian Protocol, p. 55). Interestingly, Growing Success (Ontario Ministry of Education, 2010) defines assessment of learning as the understanding that it “often contributes to pivotal decisions that will affect students’ futures” (Western and Northern Canadian Protocol, p. 55). Therefore, it is possible to interpret that Ontario’s assessment and evaluation document could support this notion that evaluation as grades can impact students on such a deep level it can infringe on their future.

21st Century Competencies and Fourth Industrial Revolution

The skills and assets that could be viewed as important for students to develop have changed over time. 21st century (21C) competencies reflect a set of themes, skills, and support systems that are seen as valuable for future life and career development (Barell, 2010; Canadians for 21st Century Learning and Innovation, 2012; Marzano and Heflebower, 2011). While terms like 21st century competencies are often popularized in education, the Fourth Industrial Revolution (4IR) has emerged as another framework to consider skills and traits moving into the next quarter of the century. The 4IR acknowledges the rapid change to technology and the impact on industry, societal patterns and processes, and the interconnectedness between technology and human interaction (Gray, 2016; Giammarco et al., 2020; Waddell et al., 2018; Voogt et al., 2013). The evolving needs of industry and the complex global needs of the 4IR suggest that students may need to develop various skills and abilities, including creativity, cognitive flexibility, emotional intelligence, active listening, and complex problem solving (Gray, 2016; Taiwo and Vezi-Magigaba, 2021).

Educational Pedagogy

Over the past decades, educational pedagogies have been shaped by many theorists and frameworks. For the purpose of this study, the researcher defines educational pedagogy through a lens that is influenced by Paulo Freire. For instance, educational pedagogy can be defined as seeking a balance within the tension between freedom and authority, while navigating the challenging structures that shape educational institutions (Freire, 2005, 2020). These structures include the impact of lived experiences and realities, the role of curricula, and the changing interactions within

society that influence the pedagogical frameworks in education (Freire, 2020).

Consideration may be given to the perspectives and experiences of educational leaders, educators, students, and their communities, and how these perspectives can shape the values and how we meet the challenges in education. Pedagogy in practice can often reflect the strategies and beliefs that influence educators' values and choices, and the resulting impact on learning. Part of these pedagogical considerations may include the development of empathy as a means of building relationships between educators, students, and their families, throughout the assessment and evaluation process.

Empathy

Empathy is a core skill where human relationships are fostered through understanding, active listening, and communication (Brett et al., 2003; Blasco and Moreto, 2012; Goleman, 2005). Recognizing that emotions are complex, empathy asks that one considers the point of view of another while acknowledging that one's feelings and thoughts are individual (Brett et al., 2003; Blasco and Moreto, 2012). Assessment and evaluation in Ontario require an evaluative grade, and these grades may not communicate learning in a meaningful and clear way (Blackwelder, 2020; Blum, 2020; Kohn, 1999; Stommel, 2020) and often ignore the understanding and relationship building that empathy requires. It can be important to reflect on one's empathic responses, as a path towards deeper reflection which leads to metacognitive skills.

Metacognition

Metacognition and critical reflective practices play an essential role in deep learning and foster a strong sense of the *journey* that is learning (Blum, 2020;

Brookfield, 1998; Veenman et al., 2006). Brookfield (1998) discussed the lenses of critical reflection, including understanding our autobiographies as learners and understanding how personal experiences shape our understanding of how we learn and impact how educators may view and understand learning themselves. The structures in society combined with one's personal experience and values can impact how one can reflect on their learning and lived experiences (hooks, 1994; Brookfield, 1998; Immordino-Yang et al., 2018). In order to effectively reflect on how one learns, they need to feel safe in their learning environment regardless of race, gender, orientation, or class (hooks, 1994, Immordino-Yang et al., 2019; Immordino-Yang et al., 2018). Ontario's Growing Success (Ontario Ministry of Education, 2010) document defines metacognition as "thinking about one's own thought process" (p.149), without providing a rationale for its effectiveness, implementation strategies for educators and students, or mention of the impact it has on learning. Reflective practices can lead learners to evolve a broader scope and vision, thereby understanding potential impacts that affect others, and the meaning of critical consciousness.

Critical Consciousness

Freire (2005) describes critical consciousness as a sociopolitical tool that considers one's historical and social position and the impact that position has on shaping their reality. Critical theorists assert that one must question their individual, social, and cultural position and how societal structures uphold those positions (Blake and Masschelein, 2003; Freire, 2005). Thus, an in-depth understanding of the world and one's perception of the world may require a critical view of systemic inequities and take action against these systems (El-Amin et al., 2017; Freire, 2005; hooks, 1994). Growing

Success (Ontario Ministry of Education, 2010) does not mention critical consciousness, reinforcing the importance of how the next iteration of the document should consider how assessment and evaluation practices may promote critical consciousness and address systemic barriers rather than reinforce them.

In order to consider a new framework for assessment and evaluation in Ontario's K-12 schools, educational pedagogy, empathy, metacognition, and critical consciousness may be posited as potential components moving forward. This study examines Ontario's Growing Success document (Ontario Ministry of Education, 2010) and a body of literature that contributed to its design. Further to this, this study elicits research on assessment and evaluation in the ensuing years after the implementation of Growing Success, from 2010 to 2021, with a focus on K-12 contexts to examine what research has developed since 2010. This body of literature is analyzed using a metasynthesis template analysis to determine potential themes that may inform a new assessment framework. Finally, these emergent themes may provide the scaffolds to this new framework and are shaped by the key tenets of educational pedagogy, empathy, metacognition, and critical consciousness.

Chapter 2. Literature Review

Overview

This literature review begins with a brief analysis of the Growing Success (Ontario Ministry of Education, 2010) document and its definition of assessment, evaluation, and the research that informed the document's framework of learning and the learning process. Secondly, this review identified some key concepts that emerged within a selected body of literature temporally dated before Growing Success' (Ontario Ministry of Education, 2010) inception and several years after its release. These key concepts include formative and summative assessments, alternative assessment, and technology and assessment. Finally, this review examined a body of literature that addressed evaluation and grading, including concepts related to pass/fail programs, ungrading, the impact of grading on student achievement and social constructivist approaches to assessment.

Growing Success Analysis

Growing Success (Ontario Ministry of Education, 2010) is the policy document that superseded the Ontario Curriculum, Grades 9 to 12: Program Planning and Assessment from 2000. The document outlines the policy for assessing, evaluating, and reporting student achievement in Ontario schools from Kindergarten to Grade 12. The principles which inform the document state that "assessment, evaluation, and reporting practices and procedures must be fair, transparent, and equitable for all students" (Ontario Ministry of Education, 2010, p. 2). This analysis will look at how the document articulates how assessment and evaluation are defined and then will explore the

literature and rationale for how the document describes and understands the learning process.

Defining Assessment and Evaluation in Growing Success

Ontario's policy document clearly defines both assessment and evaluation with the document. Growing Success (Ontario Ministry of Education, 2010) defines assessment as a process for collecting information that reflects how one meets curriculum standards. There are a variety of purposes and methods for collecting assessments. The document suggests formal and informal observations, discussions, learning conversations, questioning, homework, group work, projects, portfolios, peer and self-assessments, reflections, and tests (Ontario Ministry of Education, 2010) as ways to gather information. Student achievement is assessed based on the achievement chart, which identifies four categories of knowledge and skill for all subject areas and disciplines - knowledge & understanding, thinking, communication, and application of the provincially mandated curriculum expectations (Ontario Ministry of Education, 2010). Growing Success (Ontario Ministry of Education, 2010) references assessment for and as learning to articulate when and how a teacher should assess student learning to implement this understanding of assessment. Where assessment for learning is the interpretation of evidence through feedback to determine next steps (Assessment Reform Groups, 2002), assessment as learning focuses on building capacity to self-assess one's learning by modeling behaviours and scaffolding (Western and Northern Canadian Protocol). The document articulates several strategies for developing various skills and competencies for teachers and students (i.e., providing descriptive feedback, developing self-assessment skills, goal setting) to clearly define

the assessment process (Ontario Ministry of Education, 2010). Interestingly, the document quotes Sutton (1991), who states how “assessment is a human process conducted by human beings” and despite one’s efforts to quantify learning, “assessment is closer to an art than a science” (p. 2). Despite this statement, the document itself sits in a contentious space of acknowledging the humanness of learning while spending over a hundred pages justifying a system that aims to measure and quantify learning.

Evaluation differs from assessment, so it is essential to acknowledge the document’s delineation of the two terms. Growing Success (Ontario Ministry of Education, 2010) positions evaluation as a judgment of student learning quality based on set standards and then assigning value to that quality. By definition, evaluation is also considered an assessment *of* learning that provides evidence of student achievement by assigning a value to the quality of work (Ontario Ministry of Education, 2010). The document goes so far as to claim that an evaluation “accurately summarizes and communicates to parents, other teachers, employers, institutions of further education, and students themselves” what the learner knows and can do concerning the curriculum expectations (Ontario Ministry of Education, 2010, p. 38). Curriculum documents are created with expectations for overall (broad) and specific (refer to particular content). It is up to the teacher to determine which specific expectations should be used to evaluate the achievement of the overall expectations (Ontario Ministry of Education, 2010). While there may be something to be said about professional judgement and evaluation, this claim removes the ability to create consistency to clearly define the assessment and evaluation process for the province of Ontario.

Literature informing Growing Success' Understanding of Learning

Policy on assessment and evaluation could clearly state how learning is understood to interpret and implement the document effectively. Growing Success (Ontario Ministry of Education, 2010) does not clearly articulate or easily define its view on how learning is understood. Consequently, this analysis aims to draw attention to several moments in the document that suggest how learning is framed in the context of assessment and evaluation.

The document claims that it reflects an “evolving knowledge about the learning experience” (Ontario Ministry of Education, 2010, p. 3). Reference is made to research that articulates how student learning should not be limited by socio-economic status, ethnicity, gender, location, learning style, or require special services (Volante, 2006). Furthermore, the document also articulates how differentiating instruction and assessment is a key component to ensure every student enjoys learning and strives for excellence (Ontario Ministry of Education, 2010, p. 14). Growing Success (Ontario Ministry of Education, 2010) references Costa and Kallick (2000-2001) and their belief in sixteen habits of mind that lead to success in schools, such as persistence, clear communication, managing impulsivity, using the five senses, and thinking flexibly.

Without a clear definition of how the document aims to understand learning, it may be difficult to assert how the document views learning as a process. The document seeks to have educators collect data (assessment) and decide which pieces of data reflect certain parts of the curriculum in a manner that can determine a final grade (evaluation). Additionally, Growing Success (Ontario Ministry of Education, 2010) acknowledges the diversity of students and sees value in fostering skills (or “habits of

mind”) that arguably make someone successful in school. With little else to ground the document in any tangible sense of learning theory, consideration must be given to the literature that existed during the inception of Growing Success (Ontario Ministry of Education, 2010) to either reaffirm the document’s definitions or address current challenges with the document.

Emergent Key Concepts

The next section of this literature review analyzed literature leading up to Growing Success (Ontario Ministry of Education, 2010) and some evidence shortly after that. In doing so, the following key concepts were identified within the body of literature reviewed by the researcher.

Formative versus Summative Assessment

The terms assessment and evaluation are often used interchangeably, and while they share many significant similarities, noting the differences is essential to understand these complex processes better. The subtle differences between assessment and evaluation as defined in the analysis of Growing Success (Ontario Ministry of Education, 2010) pose a challenge when discussing assessment, arguably when authentic assessment aims to foster a genuine love of learning and desire to build on skills. Newton (2007) posited how demonstrated growth and development of skills (formative assessment) determines if learning objectives are met at the end of a learning cycle. Further to this, Newton (2007) stated that formative and summative means of assessment are both uniquely different and largely ambiguous by design. Assessing learning while considering the impact of summative marks can pose a challenge in navigating the purpose of assessment in education (Newton, 2007). Educators,

students, and their families can either develop a cohesive understanding of the relationship between formative and summative assessment or redefine the terms collectively. McTighe (1997) examined this tension where formative assessment provided an opportunity for implementing alternative assessment in learning environments while summative assessment presents this dichotomy between students vying for a grade rather than asking how they can improve. Therefore, to further examine the role authentic assessment plays in education, consideration should be given to the role evaluation has on implementing alternative assessment methods.

Alternative Assessment

The term alternative assessment could signal a change in the conversation around what traditionally is used and what new possible strategies may be. This shift emerges to remove or lessen the use of standardized tests or multiple-choice questions, calling for alternative methods that value real-world problem-solving skills (Darling-Hammond, 1994). Darling-Hammond (1994) highlighted several studies that demonstrate a decrease in testing scores when traditional assessment methods are used while drawing attention to observable results when students engage in higher-order thinking skills, a trait commonly associated with alternative forms of assessment. Reeves et al. (2002) curated a checklist of potential look-fors when considering authentic assessment, such as providing complex tasks intended to be explored over periods or tasks that are cross-curricular. Arguably, this checklist came to fruition resulting from contrasting traditional teacher-centred approaches to constructivist ideologies that call for collaborative forms of assessment (Reeves et al., 2002). Implementing alternative forms of assessment may have measurable and

observable outcomes. However, it could challenge multiple stakeholders to understand or accept the alternative assessment. Educators may have to shift their entire conceptual model of teaching and learning. Parents and guardians may need to be part of the discussion as they constitute significant influences in a student's life. Learners, parents, teachers and administrators may have years of unlearning to embrace alternative assessments.

Technology & Assessment

Numerous models of online learning communities have been developed, such as the Community of Inquiry framework (Garrison et al., 2010), Communities of Practice (Li et al., 2009), and the Fully Online Learning Community (FOLC) (vanOostveen et al., 2016). These online communities integrate structures and social interactions into digital learning spaces, and articulate how technology can shape learning communities (Garrison et al., 2010; Li et al., 2009; vanOostveen et al., 2016). Technology has also influenced assessment practices, as multimedia tools like collaborative learning platforms and digital feedback strategies can foster collaborative, integrated and interdependent learning environments (Herrington and Herrington, 1998; Reeves et al., 2002; Reynolds, 2010; Timmins et al., 2016). Digital tools can aim to support assessment and evaluation practices that reflect the learning outcomes required in the 4IR. For example, online portfolios or learning management systems (LMS) can provide learners with frequent and continuous feedback documented in a single digital space (Reynolds, 2010). Technology also allows students to curate samples from their learning, reflect on their strengths, and identify next steps provided in response to feedback (Chiaravalli, 2020; Reynolds, 2010; Sackstein, 2020). Barber (2020)

discussed the use of digital moments, replicating in-person relationship building activities by uploading images or quotes to create community. Technology can provide tools and strategies such as digital moments that promote a sense of safety, inclusion, and creativity when educators and students engage in dialogue related to assessment and evaluation (Barber, 2020). Consideration should also be given to technological inequity with respect to access to connectivity and devices, personal privacy, and accessibility tools (Timmins et al., 2016).

Perspectives on Evaluation and Grading

To talk about assessment while dismissing the implication of evaluation is counterintuitive. Standridge (2010) discussed that evaluation has become a barrier in education when grades become incentivized, not the learning. Kohn (1994) asserted that we must fundamentally question the nature by which we assign grades and how we assign them. Grading enables educators to sort students by assumed ability, produces a debatable tool for motivation, and is viewed as providing feedback (Kohn, 1994). These assumed rationales for grading are often perpetuated in educational institutions, societal expectations, and economic factors. The value assigned to one's learning may dictate where they study, what career opportunities they have, and where they live. Conversely, while discussion around authentic assessment is evident in research and this course, there is also an attempt to develop authentic evaluation methods. McMorran et al. (2017) discussed the effectiveness of a gradeless learning approach at a university in Asia that implemented a pass/fail system which relies heavily on student reflection. McMorran et al. (2017) acknowledged and highlighted challenges to gradeless models, such as impacting student motivation and increased stress levels.

Assigning a letter or number to a report card in some ways can streamline the evaluation process. *Growing Success* (Ontario Ministry of Education, 2010) articulates how the system of reporting grades streamlines several influencing factors, affecting “employment opportunities, postsecondary placements, and eligibility for scholarships” (p. 67). The document positions evaluation as an “[accurate summary that] communicates to parents, other teachers, employers, institutions of further education, and students themselves what students know and can do concerning the overall curriculum expectations” (Ontario Ministry of Education, p. 38). Thus, this system begins to form where evaluation and grading can define learning in such a way that is expected to communicate learning to students, families, and all stakeholders. Arguably, if a system that exists is expected to accomplish all that, one would hope that system is free of oppressive tactics and inauthentic measures.

Lloyd (1992) discussed how the pass/fail system in medical schools fails to prepare the learner for the rigor of a medical career, has little to no impact on motivation when it comes to academic preparedness, and blurs the lines between learners being adequately and inadequately equipped to be successful in medical careers. As terms like the 4IR popularize, the call to invest in education that prepares learners for a technologically influenced world has increased significantly (Schwab, 2018; Schwab and Malleret, 2020). Lloyd (1992) asserted that grades effectively tell learners “how well their performances meet the standards in the school and the community” (p. 584). Grades can provide a set measure of which institutions and workplaces can compare someone's ability to be successful to the result of a grade. Crooks (1933) posited how grades can determine financial aid opportunities, rank teacher success merit pay based

on student results, and determine honour rolls and academic integrity. When student achievement indicated by grades is linked to other factors, like teacher pay, negative emotional and psychosocial outcomes are likely in educators facing increased stress levels (Saeki et al., 2018). Grades may support this literal and metaphorical range that determines what one has access to, be it a scholarship, a salary, or an opportunity to attend an academic institution (Saeki et al., 2018).

There may not be one assessment strategy that is without flaws, however it is essential to acknowledge and address potential challenges and impacts of assessment and evaluation practices. McClam and Sevier's (2010) autoethnographic study results demonstrated that while they aimed to shift the conversation of grades to a more student-centered approach, their colleagues did not echo the value. Student work was critiqued and questioned by fellow faculty members when they learned how the learner played an integral role in determining a grade (McClam and Sevier, 2010). This critiquing process could become a painful experience, demonstrating how it does take a united front to strengthen this work.

Another claim of alternative assessment is the inherent ability going gradeless has on motivating and encouraging learners to learn for learning's sake. McMorran et al. (2017) explored the negative impacts the pass/fail system demonstrated within their research. Roughly 20% of respondents felt that gradeless learning could result in a lack of effort or motivation to try in first-year courses, thus leading to poor work habits carried throughout their academic career (McMorran et al., 2017). The research continued to demonstrate how some learners reported increased stress and anxiety levels as a result of a gradeless system, which can be seen as an opposing goal of going gradeless in the

first place (McMorran et al., 2017). Therefore, it is crucial to consider how alternative assessment methods may impact various groups, mainly because we are working against decades of habits and mindsets that value grades above learning and see grades as the only valid or reliable evidence of learning.

Gaps within the Literature

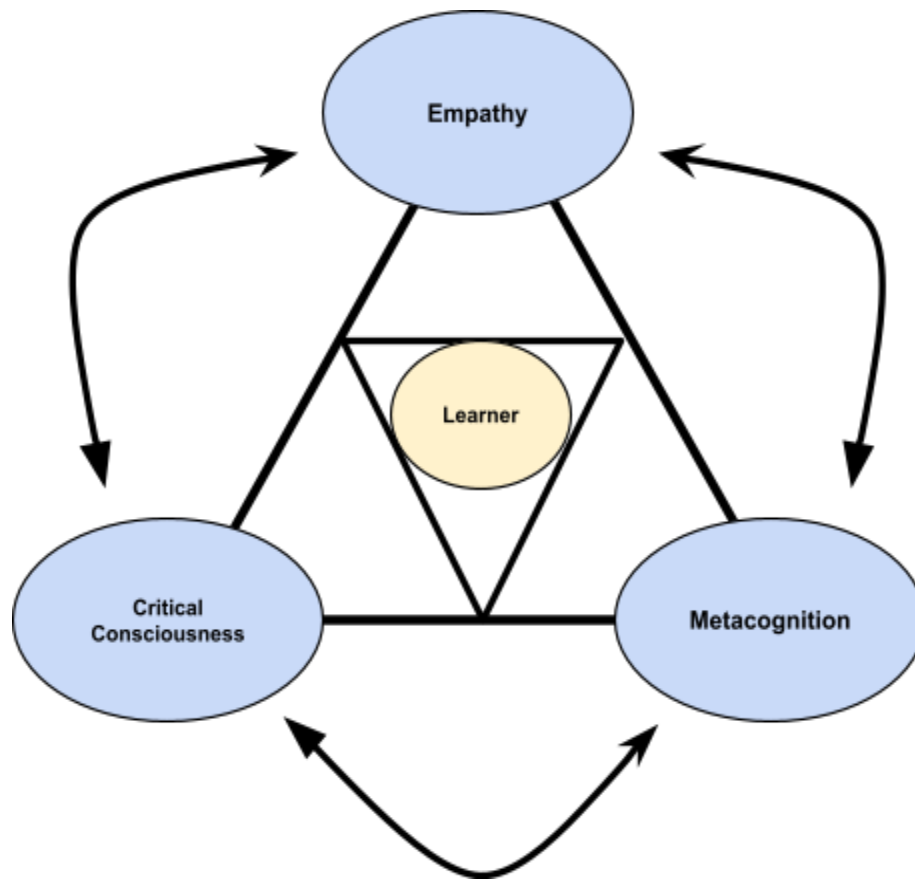
Thus far, the author noticed a lack of research focusing on elementary school environments. Except for Reynolds's (2010) research on digital portfolios for sixth-through eighth-grade students, most of the body of literature focused on secondary school and post-secondary learning. For elementary educators, this can be problematic as teachers often need to use evidence and research in conversation with parents and colleagues to support the assessment practices used in their learning communities. Furthermore, it may be valuable to conduct research to address the impacts of ungrading (Blum, 2020), as this is an emerging concept that may benefit pedagogical practices. This also leads educators to carefully consider the role that alternative assessments can play in the learning process. Alternative assessments may affect students' learning experiences, and the impact of these types of assessments is another identifiable gap in the research. In professional practice, it becomes clear that a learner's perspective on how they value grades can be influenced by family. There is a gap in research that explores how various stakeholders perceive and understand assessment. Critical discussions around learning and assessment cannot be placed into neatly defined boxes or tables or charts; however, the discussion around grades and evaluation taking place for decades may also be a reason to continue researching this question of alternative strategies of assessment in learning.

The researcher observed how the literature in this review did not address in depth the roles of empathy, metacognition, and critical consciousness in assessment. While *Growing Success* (Ontario Ministry of Education, 2010) mentions the word metacognition five times, and the word empathy twice, critical consciousness does not appear in the document. Therefore, this work directly considers the role these keywords may play in reimagining a new framework for assessment in Ontario's K-12 schools.

Initial Framework for Assessment

This research is framed by critical reflection on these gaps in the literature, combined with key issues faced by the researcher in professional practice. Specifically, what key attributes, characteristics, habits of mind or competencies might students attain that would enable and empower them to be socially just, critically conscious, and empathetic people. In reflecting on the fundamental research questions, the keywords of empathy, critical consciousness, and metacognition provided an initial framework for examining a body of literature on assessment. This initial framework is illustrated in Figure 1.

Figure 1
Researcher's Initial Framework.



This inquiry project led the researcher to examine how these keywords of empathy, critical consciousness, and metacognition appear in a body of literature collected from this study. Furthermore, it provided instigation for the delineation of major themes which might emerge from literature collected using these keyword searches and their subsequent use in shaping a new framework for assessment in Ontario's K-12 schools.

Chapter 3: Methodology

For the purpose of this study, the researcher chose to analyze a broad sample of peer-reviewed journal articles and papers, using qualitative research, specifically through the methodological approach of a metasynthesis; this approach emphasizes the need to facilitate knowledge rather than consolidate, and to contribute to an understanding rather than define it (Thorne et al., 2004; Sandelowski et al., 1997). To provide a global view on best practices, both domestic and international articles were considered. The overall vision of the research is to reimagine assessment and evaluation in K-12 education in Ontario, and so a metasynthesis approach (Au, 2007) is an ideal methodology to analyze broadly what currently exists in the literature, deconstruct and discuss the current provincial document Growing Success (Ontario Ministry of Education, 2010), and to suggest movements towards a new framework for assessment and evaluation based on the intersection of three theoretical areas: empathy, critical consciousness and metacognition.

The researcher used a specific form of metasynthesis known as template analysis, a form of thematic analysis in which the researcher determines inclusion and exclusion criteria for data collection, then produces a list of codes representing themes identified in their textual data (Au, 2007; Brooks and King, 2012; Brooks et al., 2015). This form of metasynthesis often begins with broad coding structures that move to more narrow or specific structures, based on themes that arise from the textual data collected (Au, 2007; Brooks and King, 2012; Brooks et al., 2015).

This research aligns with a metasynthesis approach because it aims to examine emergent themes from literature to inform a new framework for assessment and

evaluation in Ontario's K-12 schools. Therefore, a grounded theory approach helps to shape the analysis. Grounded theory, founded by Anselm Strauss and Barney Glaser, is often defined as a theory derived from data where emergent themes are identified and analyzed (Birks and Mills, 2015; Chun et al., 2019). Acknowledging that one may identify and interpret themes in a variety of ways, data analysis through grounded theory is iterative, recognizing that the interpretation, coding and understanding of the emerging themes in the data can change over time (Birks and Mills, 2015; Chun et al., 2019). Furthermore, the coding of data through grounded theory is also iterative, echoing the thematic analysis of a metasynthesis, where coding structures begin with an initial iteration where more specific coding structures emerge throughout the analysis (Birks and Mills, 2015; Chun et al., 2019). It is important to note that there is an intentional use of grounded theory and a metasynthesis methodology. The researcher's lived experiences and knowledge may lead to identified, or unidentified, themes in the data that may differ from another and so acknowledging that analysis, like learning and understanding, is lifelong and iterative just as this methodology aims to achieve.

Data Collection

The data set consists of 72 articles, from domestic and international authors and research teams. These articles were gathered between November 2021 and January 2022 using the Ontario Tech University OMNI database and Google Scholar. Four keyword searches were conducted in the following areas, (i) educational pedagogy, learning and assessment (ii) empathy, (iii) metacognition, and (iv) critical consciousness based on the researcher's initial framework (see Figure 1). All articles were filtered to only include publications within the years 2010 to 2021, as the aim of this thesis is to

examine research since the implementation of Growing Success (Ontario Ministry of Education, 2010). The first search on pedagogy was to ground the theory of learning and assessment in the context of the research, followed by K-12 specific searches for empathy, metacognition, and critical consciousness.

The first search was conducted using assessment and evaluation and education as keywords through Ontario Tech University's OMNI database and Google Scholar. Ontario Tech University's OMNI database yielded 1,443,865 articles. Google Scholar yielded 1,820,000. Both searches were refined to include pedagogy. The intention of this inclusion was to examine the connection between pedagogy and education in relation to assessment and evaluation. Additionally, the research was refined to include peer-reviewed articles only through Ontario Tech University's OMNI database yielding 54,168 articles as Google Scholar does not have the capability to filter based on peer-reviewed results. The inclusion criteria were that articles reference assessment and evaluation in title or abstract, mention of education level (i.e., elementary, secondary, post-secondary), and that pedagogy of learning and assessment or evaluation was mentioned. Exclusion criteria were based on several factors. Articles that focused on one particular curriculum area (i.e., mathematics, music, physical education) were excluded as the aim of this research is to explore the impact of learning and assessment broadly and as a K-8 teacher, the researcher teaches across subject areas frequently. Furthermore, articles that focused on technological influence on learning pedagogy without mention of assessment or evaluation were excluded, as this topic came up frequently in the initial search but without connection to assessment or evaluation, the researcher felt there was not enough relevance to the thesis. Using the

exclusion criteria, 100 articles were curated from Ontario Tech University's OMNI database and 15 from Google Scholar based on abstracts and conclusions for further analysis. This analysis applied the framework in Figure 1 in a close reading of the curated articles where the researcher identified connections to the framework. As a result, 20 articles of the final 72 were selected for this thesis.

The second search was conducted using K-12 and empath and learning as keywords through Ontario Tech University's OMNI database and Google Scholar. Ontario Tech University's OMNI database yielded 10,837 articles. Google Scholar yielded 17,000 articles. The search was refined to include peer-reviewed articles only through Ontario Tech University's OMNI database, yielding 3,235 articles. The inclusion criteria were that articles reference equity and empathy in the abstract or introduction, reference to assessment and evaluation was made, and mention of empathy's impact on learning was present. Exclusion criteria were articles that referenced empathy outside of education settings (i.e., long-term care homes, nursing homes) as the context of this thesis is set in education settings, and articles that did not address empathy's impact on learning as the researcher aimed to examine the relationship between empathy and learning through the keyword searches used and the framework in Figure 1. Using these criteria, the researcher curated 58 articles from Ontario Tech University's OMNI database and five from Google Scholar based on abstracts and conclusions for further analysis. This analysis applied the framework in Figure 1 in a close reading of the curated articles where the researcher identified connections to the framework. As a result, 20 articles, in addition to those chosen above, of the final 72 were selected for this thesis.

The third search was conducted using K-12 and metacognition and learning as keywords through Ontario Tech University's OMNI database and Google Scholar. Ontario Tech University's OMNI database yielded 8,762 articles. Google Scholar yielded 20,000 articles. The search was refined to include reflect and peer-reviewed articles only through Ontario Tech University's OMNI database, yielding 1,953 articles. The inclusion criteria were that articles mentioned assessment or evaluation, mentioned metacognition or personal reflection, and connected reflection to learning or assessment and evaluation. Exclusion criteria were articles where the title, abstract, or conclusion did not mention metacognition or reflection as these are part of the framework in Figure 1 if the article did not address metacognition and the impact on learning as the researcher aimed to explore this connection, and if the article was not set in an educational setting considering the context of this thesis is K-12 education in Ontario. Using these criteria, the researcher curated 50 articles from Ontario Tech University's OMNI database and 8 from Google Scholar based on abstracts and conclusions for further analysis. This analysis applied the framework in Figure 1 in a close reading of the curated articles where the researcher identified connections to the framework. As a result, 17 additional articles of the final 72 selected for this thesis.

The fourth search was conducted using K-12 and critical consciousness and learning as keywords through Ontario Tech University's OMNI database and Google Scholar. Ontario Tech University's OMNI database yielded 23,890 articles. Google Scholar yielded 334 articles. The search was refined to include peer-reviewed articles only through Ontario Tech University's OMNI database, yielding 5,266 articles. The inclusion criteria were that articles directly mention critical consciousness in an educational

context, discuss social justice or inequities in education, discuss the role of teacher education programs in critical consciousness or student impact of exposure to critical consciousness. Exclusion criteria were articles that were not directly related to education as the context of this thesis is K-12 education in Ontario, or the use of consciousness in the absence of the term critical as the term consciousness was generally found to be in reference to physical consciousness or broadly defined as general awareness without a critical lens. Using these criteria, the researcher curated 50 articles from Ontario Tech University's OMNI database and 4 from Google Scholar based on abstracts and conclusions for further analysis. This analysis applied the framework in Figure 1 in a close reading of the curated articles where the researcher identified connections to the framework. As a result, finally this set of processes added 15 articles to the 72 which were selected for this thesis.

Data Analysis

For this study the researcher used nVivo data analysis software, uploading the 72 articles that resulted from the data collection results from inclusion and exclusion search terms. During the data analysis phase, 19 of the 72 articles were excluded from the overall analysis as they did not meet the inclusion and exclusion criteria upon further analysis. This resulted in a final total of 53 articles used in the analysis.

As mentioned previously, this analysis was conducted using template analysis, a form of metasynthesis that often begins with broader coding structures that are reexamined and develop narrow or more specific coding structures based on themes or commonalities that arise from the data (Au, 2007; Brooks and King, 2012; Brooks et al., 2015). Template analysis is iterative in nature, and so this study conducted four phases

for this analysis: identifying initial themes, narrowing them into primary codes, developing secondary codes, and then identifying a final coding structure.

Phase 1 Analysis: Initial Codes

Phase 1 of this study used template analysis to identify a set of initial codes. Au (2007) defines an initial phase of template analysis as:

The coding template is developed in two stages based on themes that arise from the body of textual data. In the first stage, the researcher begins by developing an initial template based on a combination of a priori codes and an initial reading and coding of a subset of the textual data. In the second stage, the initial template is then applied to the whole data set, and codes are added to the template as new themes arise (p. 259).

Applying this method of data analysis, the researcher chose a subset of 25 articles from the total 53 articles collected that reflected literature from the four keyword searches of (i) educational pedagogy, learning and assessment (ii) empathy, (iii) metacognition, and (iv) critical consciousness. After the initial reading, the researcher began to notice commonalities between these emerging trends within the findings of the 25 articles. Consistent with the template analysis and metasynthesis methodological framework, these trends shaped the initial codes which evolved during the first analysis.

Initial codes were generated and identified by selecting a quote or trend from the article that connected to a theme pertaining in some way to the four key categories. Those processes yielded 36 initial codes from the 25 subset articles. While consideration was made to the four keyword searches, the aim was also to identify themes based on their overall importance to the findings of the article. In keeping with a

metasynthesis approach, it was integral to consider how the findings contributed to the discourse on learning, assessment, and education. Therefore, the focus was on the qualitative value that each author placed on themes from the article findings rather than their quantitative volume. The 36 initial codes were reapplied to the final dataset of 53 articles to determine whether these initial codes were seen throughout the literature. These initial codes are reflected in Appendix A. Article references occurred in some instances between initial codes where similar themes were identified from the same quote in the article. These shared common themes demonstrated a connection between the findings of the articles and the initial themes.

Phase 2 Analysis: Primary Themes and Secondary Codes

Using the next stage of template analysis, this broad initial coding structure was refined through identified patterns and trends among the codes. Overall, secondary codes were identified through connections made between the initial codes through similar ideas and elements. Through a metasynthesis of the initial codes, the researcher sought to identify commonalities between these codes and group them accordingly.

There were five primary themes which emerged from similar groupings of the secondary codes. These primary themes were derived through template analysis (Au, 2007) and they consist of Curriculum, Educators, Learning Environment, Documentation, and Social Justice and Equity. These groupings were organized into primary themes based on the secondary codes formed as seen in Table 1. Once these secondary codes were developed, the findings, discussions, and conclusions of all 53 articles were analyzed, identifying quotes that connected to these emergent themes.

Table 1*Primary Themes and Secondary Codes*

Primary Theme	Secondary Code Title
Curriculum	Empathy
	Critical Consciousness
	Design
Educators	Training
	Empathy
	Community
Learning Environment	Authentic Experiences
	Social Interactions
	Metacognition
Documentation	Alternative Types
	Narrative
	Transparency
Social Justice	Equity

Primary Theme 1: Curriculum

The secondary codes formed during Phase 2 analysis centered around curriculum in three broad sub areas: Curriculum Design, Curriculum & Critical Consciousness, and Curriculum & Empathy. The secondary code Curriculum Design was shaped by the initial codes: Inclusive curricula and Curricula design as flexible and responsive. An example of these initial codes informing this secondary code were instances found in the literature when the design and implementation of the curriculum were key in developing skills and building understanding in students (Aronson and Laughter, 2020; Chapman et al., 2020; Cox et al., 2018). Upon further analysis of the

included literature, the researcher aimed to identify instances where the literature examined the concept that the design and implementation of the curriculum made an impact. For example, Jonsson et al. (2015) suggest that curricular goals and standards that align with skills and topics that students have invested in increase transparency among students and teachers when it comes to articulating learning goals and reflecting on growth and achievement.

Additionally, the secondary code Curriculum & Critical Consciousness was shaped by initial codes of Empathy and critical consciousness and Curricula and critical consciousness. Initial codes derived from the literature where the curriculum addresses bias, explores culturally diverse contexts and reflects diverse communities and identities, showed students were able to strengthen empathic skills and develop a deeper understanding and critical consciousness (Boske et al., 2017; Carroll and McBain, 2021; Chapman et al., 2020). Curriculum that interrogates privilege and addresses oppressive systems around gender, sexuality, race, and religion can impact the development of critical consciousness for students (Chapman et al., 2020; Hechter, 2019; Mattheis et al., 2021; McWhirter et al., 2021; Nojan, 2020).

The secondary code Curriculum & Empathy was also shaped by the initial codes Empathy and critical consciousness, as these initial codes derived from the literature highlighted the connection between curriculum and the importance of empathy in developing critical consciousness. Boske et al. (2017) is an example where the initial code connected empathic responses to curriculum implementation as students build capacity in creating awareness of culturally diverse contexts and develop emotional awareness as a result. Further analysis was applied to this secondary code during

Phase 2, identifying instances where empathy and curriculum intersected. Some examples highlighted how curriculum constraints can leave educators struggling to implement effective and meaningful empathy-building skills into their program (Berkovich, 2020), while other examples suggest the social-emotional growth for both personal and global issues around relationships and social equity (Chapman et al., 2020; Lee et al., 2018).

Table 2

Initial Codes that Shaped Secondary Codes for Theme 1: Curriculum

Secondary Code	Initial Codes
Curriculum Design	Inclusive curricula
	Curricula design as flexible and responsive
Curriculum & Critical Consciousness	Empathy and critical consciousness
	Curricula and critical consciousness
Curriculum & Empathy	Empathy and critical consciousness

Primary Theme 2: Educators

A significant theme was identified, by the researcher, in the literature that derived from how relationships involving educators impact learning, relationships, and assessment. Three secondary codes included Educator Training, Educators & Empathy, and Educators & Community. During Phase 2, Educator Training emerged as a secondary code when instances found in the literature reflected the impact of training and professional development on educator practice and impact on learning. The initial search codes Educators lack critical consciousness skills, educators lack documentation knowledge or skill, educator training, educators as reflective metacognitive, and educator interest shaped this secondary code. Educators can seek

opportunities to build skills and engage in professional development in order to better understand their learning community, develop metacognitive skills, and engage in discourse around systemic barriers in education and how to address them (Black 2015 ; Boske et al., 2017 ; Bourdreaux, 2016 ; Bourke and Mentis, 2014). The researcher identified themes where the literature examined how further professional development may be needed to build necessary skills and understanding for educators to implement strategies within the classroom. For example, educators can feel underprepared when addressing social justice and equity issues and building an understanding of lived experiences for marginalized students and their communities (Aronson and Laughter, 2020; Boske et al., 2017).

The code of Educators & Empathy was shaped by emergent themes that addressed the connection between educators and empathic responses in the classroom; Empathy in education, educators have the capacity for empathy and educator's role in creating safe spaces. Literature suggests that educators can demonstrate empathy in the way they implement curriculum, build connections with students and their families, and develop a deeper understanding of challenges in the learning community (Aronson and Laughter, 2020; Berkovich, 2020; Carroll and McBain, 2021; Conrad, 2020; Nojan, 2020). Additionally, this secondary code included instances where the literature reinforces the impact that a lack of empathy could have on learning and building relationships. Warren and Hotchkins (2014) address how it may be necessary for educators to have a critical perspective around empathy and understanding to make effective decisions to support students and their families.

Initial codes were also reexamined and during Phase 2, the secondary code for Educator & Community emerged from the initial code of Community involvement and partnership. This code referenced instances where educators connected with their community outside of their students in the classroom, such as parents/guardians, colleagues, and community partners. Boske et al. (2017) argue that when educators build relationships with fellow educators, families, and the community, educators could understand more clearly the challenges being faced in and outside the classroom. Understanding these challenges may allow educators to make informed decisions and empower their students and community members to address concerns and make change (Boske et al., 2017 ; Hartman et al., 2017 ; Lac, 2021).

Table 3

Initial Codes that Shaped Secondary Codes for Theme 2: Educators

Secondary Code	Initial Codes
Educator Training	Educators lack critical consciousness skills
	Educators lack documentation knowledge or skill
	Educator Training
	Educators as reflective metacognitive
	Educator interest
Educators & Empathy	Empathy in education
	Educators have the capacity for empathy
	Educator's role in creating safe spaces
Educators & Community	Community involvement and partnership

Primary Theme 3: Learning Environment

Theme 3 was identified when looking at initial codes and themes in the literature related to the physical and emotional learning environment: Learning & Authentic Experiences, Learning Environment, Learning & Metacognition. During Phase 2 of the analysis, Learning & Authentic Experiences emerged from the initial codes Student interest, Learning and the real world, and Authentic learning experiences. Authentic experiences can include opportunities for students to explore their own interests as well as explicit connections being made between learning goals and lived experiences or personal inquiries the students bring to the learning community (Bourke and Mentis, 2014; Carroll and McBain, 2021; Conrad, 2020; Doe, 2015). The researcher further examined the literature for instances where student interests and authentic learning opportunities impacted students. For example, Edelen and Bush (2019) suggest that when the focus is on the agency for the students to make decisions about their learning, acquired knowledge and skills arise more often when the tasks are authentic to the learner. Thus, this secondary code was shaped by occurring themes that value student interest and also connect authentic learning opportunities to improving learning outcomes.

Social Interactions was initially formed during Phase 2 from initial codes Learning is socially constructed, Learning is complex, and Education system. These initial codes highlighted themes where learning outcomes were reinforced through social interactions and shared experiences (Carroll and McBain, 2021; Cox et al., 2018). Furthermore, initial codes addressed instances that acknowledge complexities of assessing learning, recognizing that may not only be one way to assess and evaluate learning when

considering the many factors that occur during a learning journey (Bourke and Mentis, 2014). Additionally, during Phase 2 of the analysis, Social Interactions as a secondary theme began to address a broader depth of thematic occurrences. The researcher analyzed themes in the literature that addressed an importance of equity and diverse representation in the learning environment, valuing feelings of safety and visibility in one's learning environment (Aronson and Laughter, 2020; Berkovich, 2020; Carroll and Mcbain, 2021; Conrad, 2020; Lee et al., 2018).

Learning & Metacognition was shaped by several initial codes: Authentic problem improves metacognition, Guidance and support improves metacognition, Metacognition and age, Reflection improves metacognition, Metacognition beneficial for learning, and Metacognition and Fourth Industrial Revolution (4IR). Metacognition and learning were connected throughout the Phase 1 initial analysis, recognizing that reflection and thinking about one's learning can impact their ability to build new knowledge, collaborate effectively with others, and set effective learning goals (Black 2015; Bourke and Mentis, 2014; Doe, 2015). Throughout this thematic analysis, the researcher identified instances where the literature valued the importance of metacognitive skills as part of learning. For example, encouraging students to assess their own growth and progress towards goals can lead to stronger achievement of curricular goals and co-created standards (Atmatzidou et al., 2017; Gulikers et al., 2018; Jonsson et al., 2015).

Table 4*Initial Codes that Shaped Secondary Codes for Theme 3: Learning Environment*

Secondary Code	Initial Codes
Learning & Authentic Experiences	Student interest
	Learning and the real world
	Authentic learning experiences
Learning Environment	Learning is socially constructed
	Learning is complex
	Education system
Learning & Metacognition	Authentic problem improves metacognition
	Guidance and support improves metacognition
	Metacognition and age
	Metacognition and Fourth Industrial Revolution (4IR)

Primary Theme 4: Documentation

Theme 4 connects to initial themes that explicitly addressed assessment practices, which were organized into secondary themes of Documentation Transparency, Documentation as Narrative, and Alternative Documentation. Documentation Transparency was informed by Standards-based assessment from my initial coding. Bourke and Mentis (2014) discuss how assessment standards like standardized testing aim to articulate how a student is or is not meeting specific target areas. Through template analysis, this initial code which structured Documentation Transparency led the researcher to examine the literature in Phase 2 for other examples of assessment tools used for documenting and communicating learning. As a result, further themes were identified for this secondary code. For example, a challenge with assessment

documentation can be a lack of understanding that students, their families, and other stakeholders have of the assessments which may call for more transparency in communicating about one's learning (Jedemark and Londos, 2020; Jonsson et al., 2015; Tannock, 2015).

Documentation as Narrative was informed by several initial codes: Learning outcomes not defined by measurement, Learner involved in documentation process, Grades not communicating learning, Documentation for supporting learning not measured, and Documentation as measuring against others. These initial codes addressed how the learner can be involved in documenting their assessment process, potentially reducing the impact of a single grade or standardized outcome as a clear communicator of learning (Black, 2015; Bourke and Mentis, 2014; Carroll and Mcbain, 2021). During Phase 2, this secondary code reflected further instances that highlight that communicating this documentation as a narrative process, like a story or ongoing conversation, and calls to action where educators and students could find ways to document the learning process in ways that may value growth and learning over grading structures (Bourke and Mentis, 2014; Jedemark and Londos, 2020; Padilla-Petry and Vadeboncoeur, 2020).

Alternative Documentation was informed by the initial codes for Self-assessment and Flexible documentation practices. Alternative methods of assessment are often in reference to assessment strategies that deviate from more common practices like tests or projects (Darling-Hammond, 1994; Reeves et al., 2002). The initial codes that informed this secondary code addressed the need for educators to explore various documentation strategies depending on the purpose and intended outcome, often citing

self-assessment and conferencing with students as possible options (Bourke and Mentis, 2014; Doe, 2015). Throughout Phase 2, the researcher examined the literature for further instances of alternative methods of documenting assessment. For example, themes emerged where literature addressed other possible alternative strategies such as educators providing multiple entry points for students to self-select assessment tools based on the learning outcome, or instances where academic institutions focused on pass/fail systems or portfolio-based assessments to justify earning credits (Bourke and Mentis, 2014; Chapman et al., 2020; d’Erizans and Bibbo, 2014; Jonsson et al., 2015; Oyedotun, 2020).

Table 5

Initial Codes that Shaped Secondary Codes for Theme 4: Documentation

Secondary Code	Initial Codes
Documentation Transparency	Standards-based assessment
Documentation as Narrative	Learning outcomes not defined by measurement
	Learner involved in documentation process
	Grades not communicating learning
	Documentation for supporting learning not measured
	Documentation as measuring against others
Alternative Documentation	Self-assessment
	Flexible documentation practices

Primary Theme 5: Social Justice & Equity

Theme 5, Social Justice & Equity, developed as a secondary code which was informed by several initial codes: Social justice pedagogy, Heteronormative cisgender norms negatively impact success, Gender and sexuality equity needed for safety

impacts grades, and Dominant culture influence. Social justice pedagogy calls for an awareness and understanding of structural oppression and the emotional impact these structures have on student achievement, and on educators' perceptions of effective assessment (Boske et al., 2017). Throughout Phase 2, themes emerged that address how oppressive structures around gender, race, and sexuality can impact student learning, standardized testing results, and graduation rates (Aronson and Laughter, 2020; Boske et al., 2017). When applying template analysis to the articles during Phase 2, Social Justice & Equity as a secondary code began to take shape as the literature reinforced the connection between social justice and learning. Inclusive classrooms, policies, and structures may directly impact assessment outcomes for students and their families which calls educators and educational leaders to action in addressing issues faced in their schools (Boske et al., 2017; Bourke and Mentis, 2014; Lac, 2021; Locke, 2017).

Table 6

Initial Codes that Shaped Secondary Codes for Theme 5: Social Justice & Equity

Secondary Code	Initial Codes
Social Justice & Equity	Social justice pedagogy
	Heteronormative cisgender (Hetcis) norms on students negatively impacts success
	Gender and sexuality equity needed for safety impacts grades
	Dominant culture influence

Phase 3 Analysis: Final Codes

During this phase of ongoing template analysis, the secondary codes were applied to all 53 articles to identify five final codes: Social Justice & Equity, Role of

Educator, Curriculum Design, Assessment as Narrative, and Learning Environment.

Applying template analysis to the secondary codes, the researcher identified commonalities between the secondary codes to consolidate them into the five final codes. These final codes were then applied to the 53 articles for the final thematic analysis of this research. The process for this coding structure can be seen in Figure 2.

Final Code 1: Curriculum Design

The final code Curriculum Design was informed by the secondary codes Curriculum Design, Curriculum & Empathy, and Curriculum & Critical Consciousness. Each of these secondary codes was connected to curriculum as discussed in Phase 2, and Curriculum Design as a final code captures the overarching theme of curriculum and how one designs and implements curriculum. For example, Shugurova (2021) discussed how students could be a part of course content design, allowing the students to see themselves reflected in their learning and allowing educators to build their own understanding of others. The researcher observed a connection between empathy and critical consciousness as integrated in the way curriculum can be designed and implemented into the learning environment.

Final Code 2: Role of the Educator

The final code Role of the Educator was informed by secondary codes Educator Training, Educators & Empathy, and Educators & Community. Each of the secondary codes addressed educators and their connection to professional development, capacity for empathy, and connection to their communities. Thus, the final code Role of the Educator captured the themes that emerged throughout the analysis, addressing the role educators play in assessment and learning. For example, Nojan (2020) discusses

how teachers can create a sense of community both in their classrooms and outside the classroom, and this community is built through relationships, content knowledge, and reflective skills. Understanding the role educators play can be connected to reflection and skill development, demonstrating empathy, and building relationships was a commonality the secondary codes shared and informed this final code.

Final Code 3: Learning Environment

The final code Learning Environment was informed by the secondary codes Learning & Authentic Experiences, Learning & Metacognition, and Learning Environment. These secondary codes were connected through common themes that address how the learning environment can impact learning outcomes. The *Learning Environment* as a final code consolidated each secondary code to focus the analysis on how the literature addressed metacognitive skills and the experiences provided to students and the impact these have on the learning environment and assessment. For example, this final code acknowledges that when our professional practice, community culture, and systemic structures in education value empathy and care, learning outcomes and assessment practices may positively impact student learning and sense of place in the classroom (Douglas, 2020; Gulikers et al., 2018; Köpeczi-Bócz, 2020).

Final Code 4: Documentation as Narrative

The final code Documentation as Narrative was informed by secondary codes Documentation Transparency, Alternative Documentation, and Documentation as Narrative. These secondary codes addressed assessment practices, methods of assessment, and communicating learning. The Documentation as Narrative final code consolidates the understanding that regardless of how one assesses, learning is a

journey and assessment should be a part of experiencing and communicating that lived narrative. Including the learning in the assessment process through conversation, meaningful feedback, and opportunities for reflection and voice in assessment tasks contribute to this narrative and encourage student learning and growth (Bourke and Mentis, 2014; Luettchau, 2021; Padilla-Petry and Vadeboncoeur, 2020; Willis, 2010).

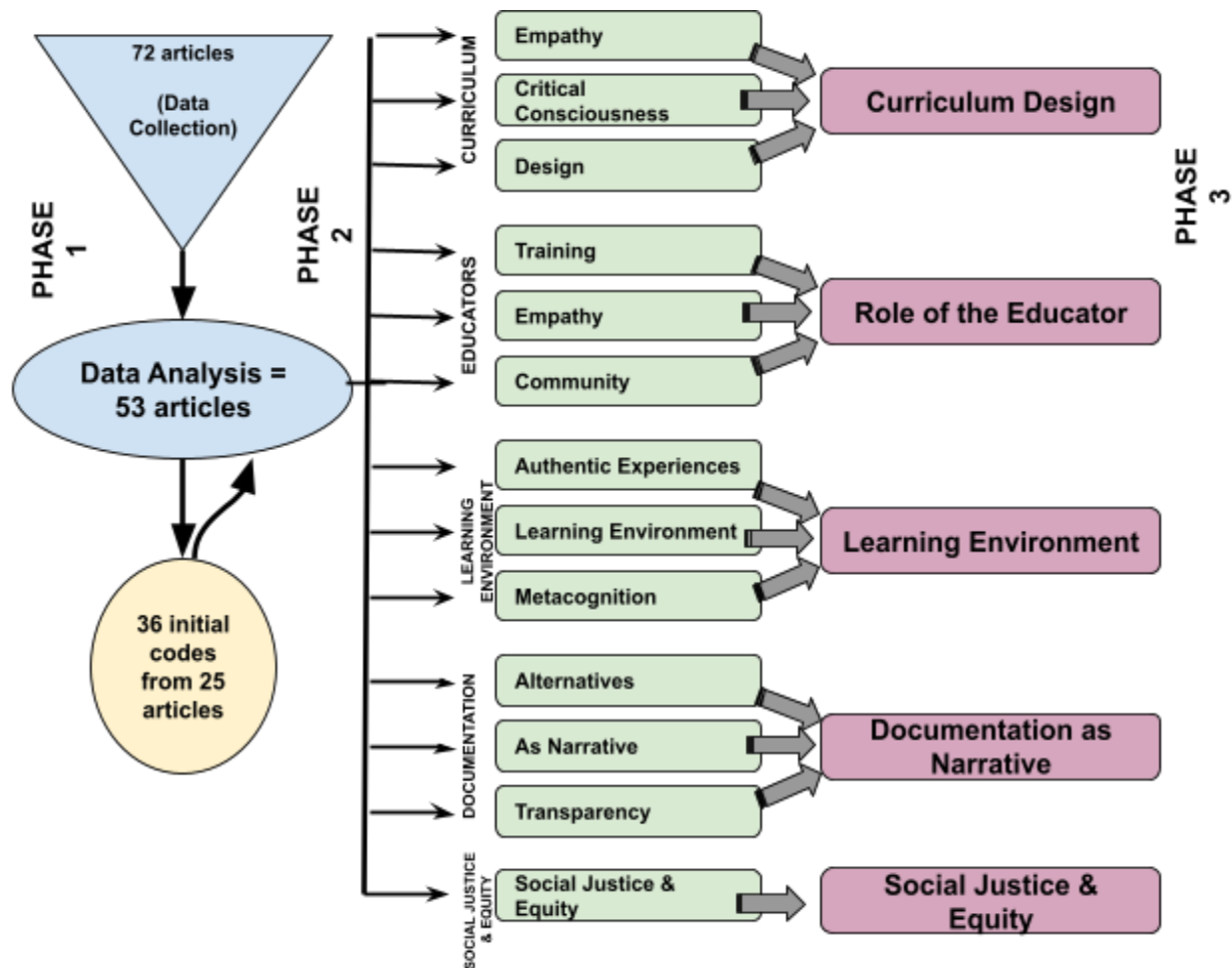
Final Code 5: Social Justice & Equity

The final code Social Justice & Equity was not informed by secondary codes, however, this code carried through as a major theme identified in Phase 2 of the data analysis. However, Social Justice & Equity stood out as its own final code in the value the literature placed on social justice and equity work in school, and how important it is to develop a deeper understanding of systemic barriers in and outside the classroom and how education should act to disrupt these inequities not perpetuate them (Boske et al., 2017; Conrad, 2020; Lac, 2021; Mattheis et al., 2021). This final code also addresses values from the other 4 final codes. For example, curriculum design can directly impact a sense of inclusivity and safety based on the influence that shapes the curriculum (Mattheis et al., 2021). Additionally, building reflective and critically conscious skills in educators and other stakeholders could impact assessment practices and how learning is communicated to others (Bourke and Mentis, 2014).

Each of these five final codes was shaped by the initial codes developed during Phase 1 of the analysis, and using template analysis, were further refined during Phase 2 into secondary codes based on commonalities and themes within the literature. Each phase of this analysis allowed the researcher to reflect on the themes that emerged and their importance, as well as their integration throughout the literature. These final five

codes reflect the journey throughout this analysis and represent five emergent themes that were fundamentally valued throughout the literature since Growing Success (Ontario Ministry of Education, 2010) and as such should be considered moving forward.

Figure 2
Coding Structure During Phases 1 through 3



Phase 4 Analysis: Reliability

Reliability needs to be considered when it comes to template analysis (Brooks and King, 2014, Brooks et al., 2015), and so the researcher has used two strategies to ensure the reliability of the findings in this study. First, the researcher used inter-rater

reliability of their own coding scheme by having a colleague independently code findings of a sample of the literature. Second, Au (2007) talked about improving reliability in template analysis using a critical realist traditional approach when researchers are explicitly reflexive about both the process of their research and their positioning in relation to their study.

The researcher created an inter-rater reliability testing construct, or series of constructs, where data findings were triangulated. A colleague, who was an Ontario educator and graduate student with eight years of experience teaching in Ontario schools, was invited to participate in testing reliability. Through this process, the researcher and their colleague scanned articles deliberately, intentionally identifying themes on their own prior to coming together to compare notes. A subset of four articles from the literature collected, which represented each of the five final codes, were provided to the colleague. The researcher and their colleague met for three rounds of discussion and analysis, consisting of independent reading and thematic analysis from the colleague with follow up discussion with the researcher. The five final codes were provided to the colleague, initially without further context, and the colleague was asked by the researcher to identify quotes from the literature that could correspond to the codes. After each round, identified quotes were compared to the researcher's own findings, and further context was given to the colleague. For example, definitions of the researcher's understanding of each code was provided in round two of reliability testing. After several hours across three rounds of testing, the researcher found that their colleague identified quotes within the themes that generally aligned with those identified

by the researcher. A sample of this structure, comparing round 1 and round 3, can be seen in Appendix B.

The second strategy used by the researcher to ensure reliability was to acknowledge their approach to the study with a critical realist perspective as the research orientation. This study was approached from within the critical realist tradition, which holds that a real world exists objectively outside human perception, that this world is to varying extents knowable through human cognition, and that this world is in fact changeable relative to our knowledge of it (Benton and Craib, 2001).

Chapter 4. Discussion

The purpose of this study was to examine the literature on assessment and evaluation since the Growing Success (Ontario Ministry of Education, 2010) policy document was implemented in Ontario's K-12 schools, to consider pedagogical frameworks for learning, empathy, metacognition, and critical consciousness as pillars for reimagining a new framework moving forward for the province. Education can be slow to change, and the policies and practices that inform assessment and evaluation, in the opinion of this researcher, are overdue for an update. As we redefine education in the Fourth Industrial Revolution (4IR), new skills and competencies are sought after that value creativity, critical thinking, and collaboration (Gray, 2016). This study aimed to identify themes found in the literature since 2010, in an effort to envision a framework for assessment and evaluation in Ontario's K-12 schools. The research questions for this study included:

RQ 1. What does current research suggest about assessment and evaluation since Ontario's Growing Success (Ontario Ministry of Education, 2010) document was implemented?

RQ 2. What essential factors in recent literature could provide an evidence-based theoretical foundation of a new framework moving forward in Ontario to reimagine assessment and evaluation?

In this study, five major themes emerged when examining literature since Growing Success (Ontario Ministry of Education, 2010). Throughout the data analysis, the literature showed that current research suggests curriculum design, the role of educators, the learning environment, documentation, and social justice & equity have an

integral part in reimagining assessment and evaluation. This study also revealed instances of interconnectedness amongst these themes, reiterating a multifaceted, dynamic nature of learning and assessment. While the themes identified in this study suggest important issues to consider moving forward, consideration should also be given to how these themes intersect in assessment and evaluation practices. This discussion will define each of these five themes, identify some key roles each theme can play, and connect these themes to assessment and evaluation.

Theme 1: Defining Curriculum Design

For the purpose of this study, the operational definition of curriculum design includes thoughtful consideration of the interplay between lived experience and interest, the integration of subject matter, and how curricula evolve from a socially constructivist perspective (Carroll and McBain, 2021; Edelen and Bush, 2019; Jonsson et al., 2015). The outcomes within curricula may need to be considered by those writing and implementing curricula moving forward.

Curriculum and Lived Experiences

Carroll and McBain (2021) discussed how “designing with empathy requires that students have a stake in what they are learning” (p. 15). Students can have an interest in the ideas they are learning when it resonates with their lived experiences and personal interests (Carroll and McBain, 2021; Chapman et al., 2020; Cox et al., 2018; Edelen and Bush, 2019; Jonsson et al., 2015; Nojan, 2020). Curriculum can be adapted when considering student voice and responding to the needs of the learner. Jonsson et al. (2015) discussed how educators in Sweden shifted their focus from getting through curriculum standards to reshape curriculum to meet the needs of their students. This

reshaping approach may require those involved in designing and implementing curriculum to intentionally acknowledge how the multiple perspectives and lived experiences can be reflected in the curriculum. Curriculum that privileges white, colonial narratives are harmful and often ignore the diversity of learners who engage with that curriculum (Chapman et al., 2020; Desai and Sanya, 2016; Faez, 2012). Ebel et al. (2019) used curriculum mapping, defined as an intentional long-term plan of curriculum outcomes over the course of a school term or semester, to study the effectiveness of ongoing reevaluation of program learning outcomes (PLOs). This challenged notions of segregated subjects, and emphasized cross-curricular foci in curriculum design (Ebel et al., 2019). Thus, schools can play an integral role in thinking critically about curriculum standards, and how effective, or ineffective, they are to the learning community. Through collaborative discourse, those designing curriculum can consider critical consciousness to address which voices are being privileged or marginalized, and how these voices impact all learners, their communities, and educators. Shugurova (2021) argued that a collaborative and inclusive curriculum should involve the learner in the design rather than imposing outcomes on them. Curriculum that is rigid, and attempts to apply predetermined standards to all learners, can feel constraining, and this impacts how students and educators engage in the learning community (Berkovich, 2020). Instead, the researcher suggests that curriculum designers consider the lived experiences and interests of the learners for meaningful ways to engage with content.

Integration of Subject Matter

Based on the researcher's interpretations, literature in this study showed that curriculum design can consider intersections across subject ideas, and how educators

can focus on overarching skills and concepts rather than specific outcomes (Carroll and Mcbain, 2021; Casale et al., 2018; Ebel et al., 2019). Decades ago, Postman (1970) posited how curricula are rigid, and subjects in schools represent a fixed set of values and priorities upheld by those who design them. This rigidity could be examined further as those designing curriculum consider an integrated approach to learning, as students construct new knowledge and build onto ideas throughout their learning journey. This integration could be considered a form of transdisciplinary curriculum, which Drake and Reid (2018) defined as a curriculum that flows among disciplines, taking shape based on a set of problems or questions as the focus rather than a specific subject. An integrated curriculum might allow for opportunities to explore real world problem solving opportunities that are relevant to the needs of students. Rather than focusing on subject specific learning goals, Aronson and Laughter (2020) discussed an inclusive curriculum that addresses oppressive structures, centering voices of oppressed groups, and challenges students to examine big ideas and understand a broader scope. Curriculum designers can be critically conscious enough to facilitate learning that is diverse and inclusive, and also be flexible enough to avoid rigidity of subjects, while emphasizing the development of curiosity and problem solving skills.

Social Constructivist Approaches to Curriculum Design

Curriculum design that implements social constructivist approaches could allow for fluid and diverse learning experiences for students, opportunity to build new skills, and encourage collaboration and discussion (Chapman et al., 2020). Recognizing that learning can be a social process, social-constructivism considers shared understandings between individuals, their culture, the context, and the influence these

experiences have within a learning journey (Kim, 2010). Curriculum can reflect social-constructivist approaches when thoughtfully designed to foster diverse opportunities for learning and growth that consider how knowledge and individual experience are intertwined. von Glasersfeld (2013) discussed radical constructivism, where knowledge is created in the mind of each individual and, through experiences such as social interaction and individual reflection, construct their own models and theories of the world as they understand it in that moment. Curriculum designers could consider the notion that individuals construct their own interpretations of learning outcomes and how social engagement can contribute to these interpretations. As another example, Hechter (2019) engaged with community partners, acknowledged individual student identities, and sought educator input to examine the redesign of curriculum that could consider the knowledge and interest of the individuals in a learning community. One might view this as a social constructivist approach, since this redesign considered the intersection of the individual, authentic student voice and experiences, the needs of the community, and global issues as crucial components of curriculum design (Hechter, 2019). As a further example, Chapman et al. (2020) suggested that discussing and sharing perspectives on historical experiences of various groups, can allow students to find representation, and see themselves reflected in the curriculum as active participants in their learning process. The socially constructed curriculum can be designed in such a way that allows students to be curious, explore concepts and ideas, and most importantly engage in discussion with peers (Carroll and McBain, 2021; Casale et al., 2018; Chapman et al., 2020; Cox et al., 2018; Jonsson et al., 2015).

Curriculum Design and Assessment

At the start of this study, the impact of curriculum on assessment was not initially considered as a key factor for redesigning a framework for assessment. However, the researcher found that literature in this study suggested how the curriculum might be understood as a responsive and flexible component of assessment and evaluation (Carroll and McBain, 2021; Chapman et al., 2020; Cox et al., 2018; Gulikers et al., 2018). Carroll and McBain (2021) argued that students should be collaborators on curriculum design along their learning journey, and that the assessments are co-developed and reflect students' needs and interests. The interplay of assessment and curriculum can be dynamic, and may shift based on the learning readiness of the students, their needs, and their authentic representation in the process. There may need to be a symbiotic interplay between the curriculum and how it is being assessed. Curriculum that is designed to be transdisciplinary, adaptive, and reflective of the learning community can allow for assessment strategies to align more closely with the needs and goals of the students and their lived realities (Ebel et al., 2019; Edelen and Bush, 2019; Guliker et al., 2018; Hechter, 2019; Jonsson et al., 2015). In order for educators to create assessment tools that will accurately reflect student learning, consideration may need to be given to the elements of curriculum design that allow for co-creation of learning objects, student voice and choice (Carroll and McBain, 2021).

Theme 2: Defining Role of the Educator

Educators are active participants in the learning journey; their role is crucial and can take on many forms. Resulting from recent literature reviewed in this research, the operational definition of the role of the educator reflects how educators are critical

thinkers, designers of learning experiences, and engage in mutual interdependence with their local communities (Aronson and Laughter, 2020; Boske et al., 2017; Jonsson et al., 2015).

Educators as Critical Thinkers

Educators can demonstrate a willingness to think critically by reflecting on their practice, developing empathy and critical consciousness, and engaging in learning opportunities for skill development and growth (Aronson and Laughter, 2020; Berkovich, 2020; Jedemark and Londos, 2020; Nojan, 2020). Criticality in this context incorporates reflective practices and modifying thoughts and understandings based on questioning and thinking. Brookfield (2017) discussed critical reflection as an ongoing and intentional process where educators seek to check and validate their assumptions based on personal orientation and assumptions. Furthermore, Popper (1963) articulated how conjectures and understandings can be tested and, through observation and discussion with others, invite refutations or further considerations. Both Brookfield and Popper present an understanding of criticality that encourages reflection and continual discourse to broaden and deepen understanding. Nojan (2020) found that educators who reflect on critical consciousness, and demonstrate empathic responses to students, are able to think critically about their role in the classroom and model critical thinking strategies for their students. Critical thinking involves a willingness to elicit student feedback, as educators can use student voice to guide instructional strategies, and allow educators to consider personal areas of growth. Popper's (1963) notion of critical thinking through conjecture and refutation demonstrates a process where educators and students are making observations and posing questions based on feedback in order to

modify or adapt strategies and future learning opportunities. Additionally, educators can use Brookfield's (2017) critical reflection strategies to think about feedback provided by students with respect to adapting learning opportunities or materials to better reflect their communities, and use feedback to guide discussion amongst colleagues and other stakeholders (Boske et al., 2017; Jedemark and Londos, 2020; Jonsson et al., 2015). Educators can implement the insight gained from critical thinking through metacognitive practices, as educators reflect on their learning and role in the classroom. Literature in this study supported the notion that educators can be critically reflective practitioners, and that metacognitive skills can result from thinking critically about professional learning (Hargrove and Nietfeld, 2015; Whitford and Emerson, 2019; Wilson and Bai, 2010). It may be important for educators to be provided the opportunity and time to think critically, reflect as individuals and collaboratively, and engage in ongoing learning opportunities that may challenge or question strategies. These opportunities could benefit the educators' professional practice by developing new skills, constructing further understandings by checking and validating assumptions, engaging with colleagues, and allowing educators to work more effectively alongside their students (Boske et al., 2017; Brookfield, 2017; Jonsson et al., 2015).

Educators as Designers of Learning Experiences and Environments

Educators can play a role in the learning experiences students and their communities engage with, and impact these experiences through empathy and collaboration (Berkovich, 2020; Boske et al., 2017; Carroll and McBain, 2021; Conrad, 2020). Berkovich (2020) found in a study that over 90% of participants said empathy was the most prominent trait of an ideal educator. Educators who demonstrate

understanding and develop perspective of their students' needs may be able to design experiences for students that feel meaningful and inclusive. For example, empathic responses from educators can lead to inclusive learning environments where educators design opportunities to encourage collaborative discussion and increase student engagement and sense of belonging (Boske et al., 2017; Conrad, 2020; Hasio, 2016; Leighton and Gómez, 2017). However, Berkovich (2020) pointed out that educators often feel that the emotional labour accompanied by empathic responses can lead to teacher burnout. Thus, it may be necessary that the same empathic responses are also offered to educators, from school leaders, colleagues or administrators, as they design opportunities to respond to the needs of their students. Collaboration was also seen as a necessary component of designing learning experiences. Educators can work alongside colleagues, students, and their communities to gain insight into relevant challenges or areas of interest that can shape learning opportunities. Hartman et al. (2017) found that collaboration among educators, students, and the community was an integral part of designing learning experiences for students. This collaboration can lead to educators responding to the needs of their learners in the form of restructuring the pace of the school day or implementing more real-world problem solving opportunities that connect to the community (Hartman et al., 2017). Educators can therefore demonstrate understanding, implement student voice, and work with others to design experiences that are meaningful and responsive to their students.

Educators and the Community

Educators can engage with the community in interdependent ways, and it may be important for educators and community partners to collaborate more frequently. While

educators often focus on the needs of their students, engaging with students' families and community partners can strengthen understanding, address inequities, and model a culture of care (Boske et al., 2017; Lac, 2021; Nojan, 2020). Dialogue with other stakeholders in education can allow for educators to develop an awareness of oppressive structures in the community, and how those in other positions of power (e.g., school administrators, policy makers) can work with educators to address barriers (Boske et al., 2017). Educators may also become aware of their own biases and lived experiences, in order to build trust within the community both in and outside the classroom (Bourke and Mentis, 2014; Carroll and Mcbain, 2021; Lac, 2021; Nojan, 2020). This collaboration among educators and community members can present opportunities to have a variety of caring support systems in a student's learning environment, and encourage continued dialogue involving student learning and inclusion.

Educators' Roles in Assessment and Evaluation

The relationship between educators and assessment practices should continue to adapt to the needs of their students and their communities. Literature in this study showed that educators need ongoing learning opportunities to discuss, explore, and reflect on assessment tools (Aronson and Laughter, 2020; Berkovich, 2020; Jedemark and Londos, 2020; Jonsson et al., 2015). Educators have expressed that they feel unprepared to address safety and care when it comes to academic performance and grades (Aronson and Laughter, 2020). It may be beneficial to consider how educators understand the impact of assessment on student learning, and to have opportunities for pedagogical discourse and collaboration to develop assessment tools. Wylie and Lyon

(2015) advocated for additional support for educators to provide meaningful feedback that focuses on mastery and growth of particular skills rather than focusing on a grade. Mastery, in this context, can be understood as reattempting a learning opportunity through revision and feedback until certain learning outcomes are achieved (Wylie and Lyon, 2015). The way educators provide constructive feedback to students is also an important consideration, as educators work towards developing formative assessments that focus on understanding, continual growth, and a focus on learning outcomes over time (Leighton and Gómez, 2017; Wylie and Lyon., 2015). Ongoing dialogue and discussion may be worth having about how educators can be supported in shifting their assessment strategies to be more inclusive and helpful to student learning.

Theme 3: Defining Learning Environment

Research and professional practical knowledge indicated that the learning environment can be a decisive important feature of student success, and it is important to consider factors that may contribute to safe spaces for learning (Berkovich, 2020; Carroll and Mcbain, 2021; Hartman et al., 2017; Luettchau, 2021; Oyedotun, 2020). While learning environments are broadly diverse, for the purposes of this research, the working definition of learning environments includes the physical space, virtual space, social space, and psychological space. The learning environment can be considered as the intersection among these four spaces and their impact on students.

Physical Space

The physical learning environment can include the classroom, the school building, and can extend to learning opportunities that occur in the physical spaces surrounding a school. Berkovich (2020) discussed the classroom in a school as a

communal space for students and educators to gather, and how there is a collaborative effort to co-develop empathic, supportive, and caring spaces. When the physical environment feels safe and addresses social justice and equity concerns within the community, student learning and engagement can also improve (Boske et al., 2017; Carroll and Mcbain, 2021; Conrad, 2020; Hartman et al., 2017; Rodriguez et al., 2020). For example, Vera et al. (2019) found that physical classroom layout and activities can support a school climate that addresses challenges, such as bullying, through collaborative learning spaces and time for peer discussion and engagement. Locke (2017) argued that schools and classrooms should allow students to live authentically in an environment where they see their identities reflected. These representations of identity could exist through arts and culture, access to diverse materials, and community acknowledgements.

Digital Space

Additionally, digital learning spaces may be considered as technology continues to influence what is considered an environment for learning. The impact of the COVID-19 pandemic has changed several ways educators and students interact in various learning environments, both online and in-person (Luettchau, 2021; Oyedotun, 2020). There is a wide variety of types of online learning environments that each offer very different learning experiences (e.g. asynchronous, synchronous, blended, hybrid). One model, the Fully Online Learning Community (FOLC), posits how digital spaces are dynamic and co-created among educators and students through synchronous and asynchronous learning opportunities (Blayone et al., 2017). Further to this, Balkaya and Akkucuk (2021) explored how learning management systems (LMS) have an increasing

impact on digital learning spaces, acting as an online extension or substitution of the physical classroom. These online learning systems can allow students and educators to collaborate with global colleagues, and provide opportunities to build self-paced learning strategies to manage individual goals (Balkaya and Akkucuk, 2021). For example, Cox et al. (2018) argued how technology can provide students with opportunities to connect with others around the world, access materials, and investigate physical spaces through a technological lens. These virtual environments can foster new opportunities for learning, provided there is access to technology. Digital inequalities need to be addressed as online learning environments increase, and educators will require adequate opportunities to build capacity on strategies and pedagogical considerations in online learning environments (Luettchau, 2021; Oyedotun, 2020). Students and their communities should be considered when addressing barriers to online learning and how to best engage students in digital spaces (Chapman et al., 2020; Luettchau, 2021; Oyedotun, 2020).

Social Space

Learning environments can include the social environments of educators, students, and their communities in which they participate. Social spaces in learning are often related to an awareness of social issues, while also encouraging positive social interactions (Chapman et al., 2020; Nojan, 2020; Scott and Graham, 2015). For instance, consideration can be given to systems of oppression and socio-political contexts within school systems, in order to build empathic communities and create trust in social learning environments (Berkovich, 2020; Boske et al., 2017; Carroll and McBain, 2021; Conrad, 2020; Rodriguez et al., 2020). Social spaces should allow all

voices to share their perspectives and experiences within oppressive structures when, for example, engaging in social justice work that is responsive to the needs of the students and their communities. Furthermore, the FOLC model examines social presence as a sense of social and emotional trust, building relationships with others within a learning community (Blayone et al., 2017). This social presence acknowledges individual experiences and personal expression as valued and integral to foster a sense of community (Blayone et al., 2017). Educators and school leaders can also examine the social experiences that students face, developing an understanding of these experiences throughout a school day. Hartman et al. (2017) found that educators and school administrators have a role to play in developing caring communities by immersing themselves in the social spaces in which students engage. These social spaces ranged from the length of time students spent in classes, the impact of bells and transitions between subjects, and the pressures students faced to meet deadlines or perform on assessments (Hartman et al., 2017). Thus, it can be seen as a collective responsibility of all stakeholders in education to communicate and work together to dismantle systems of oppression, and listen to the needs of their communities within the social environments they experience. Despite these priorities, schools, in particular, face tensions when aligning goals for their learning environments with the priorities outlined in policy and administrative documents (Hayward, 2015; Hechter, 2019; Jedemark and Londos, 2020).

Psychological Space

It is important to consider how psychological spaces are reflected in the learning environment, and can help develop a sense of emotional security and metacognitive

reflection. For example, Brett et al. (2003) explored the correlation between the affective domain and emotions. The affective domain considers one's emotions and expressions, and how the awareness of one's own emotions and the emotions of others can impact the ability to make decisions and respond to situations (Brett et al., 2003). Rossen and Cowen (2014) posited a relationship between psychological wellness, acceptance, and reflection in schools and how these factors can impact learning. Literature in this study supported how feeling safe and included are essential components within the learning environment, and can allow for students to feel motivated and included as active participants in their learning journey, as they strive to reach their potential (Carroll and McBain, 2021; Gulikers et al., 2018; Hargrove and Nietfeld, 2015). This notion of motivation and potential can be understood with an awareness of flow theory; the intrinsic enjoyment of an activity that balances one's skill and the difficulty of a task in an emotionally sensitive environment (Csikszentmihalyi, 1997; Shernoff et al., 2014). Metacognitive skills can support the psychological development of students' abilities to problem solve and reflect on their growth (Atmatzidou et al., 2017; Boudreaux, 2016; Hargrove and Nietfeld, 2015; Köpeczi-Bócz, 2020). Psychological spaces for learning should allow for educators and students to feel emotionally supported through their learning journey and provide time for personal reflection (Brookfield, 2017; Köpeczi-Bócz, 2020; Sacramento, 2019).

Learning Environment and Assessment

Assessment opportunities present themselves within these various learning environments, and consideration should be given to the impact the learning environment can have on learning and growth. Some literature in this study found that

supportive and inclusive learning environments allowed students to feel motivated to self-reflect, take risks in their learning, and engage in discussion about assessment strategies with their educators (Carroll and McBain, 2021; Edelen and Bush, 2019; Gulikers et al., 2018; Hechter, 2019; Jonsson et al., 2015). Metacognitive skills can be integral components within the learning environment, allowing the learner to focus on the journey rather than an assessment or grade (Bourke and Mentis, 2014; Gulikers et al., 2018; Jonsson et al., 2015; Tannock, 2015). Arguably, the environment matters when it comes to assessment strategies, and developing safe, inclusive, and reflective spaces both in-person and online can provide authentic opportunities to assess and talk about learning growth.

Theme 4: Defining Documentation as Narrative

Assessing and evaluating learning can be a complex endeavor, and consideration should be given on how one communicates and documents the learning journey (Black, 2015; Bourke and Mentis, 2014; Carroll and McBain, 2021; Jedemark and Londos, 2020). Students and educators can share in the exchange of narratives, as ways to collaboratively monitor the learning process effectively, and to help educators design personalized learning experiences. Narrative can be an effective tool to reveal the human aspects of learning, which are essential to student success. Thus, documentation as narrative is defined for the purpose of this study as consideration of the relationship between documenting the learning process versus products at the end of a learning cycle, providing critical feedback, and grading practices.

Learning Process versus Product

There can be a variety of ways to capture learning, from products that students create to the process exhibited as students move through a learning opportunity. Ten Berge and Van Hezewikj (1999) discussed procedural and declarative knowledge, where procedural memory is the process of developing understanding, and declarative memory reflects a demonstration of that knowledge. Documentation as a theme can focus on the procedural knowledge, emphasizing the narrative journey of building and developing understanding. Narrative assessment is the capturing and documenting of learning processes like a story, one in which the learner is an active participant, using documented data, anecdotes, and conversations to monitor growth rather than outcomes or final products (Bourke and Mentis, 2014). Documentation that does not reflect the narrative process of learning can be seen as inaccurate and unreliable, impacting engagement and motivation of students as well as the educator's ability to communicate learning to students and their families (Jedemark and Londos, 2020; Padilla-Petry and Vadeboncouer, 2020). Jonsson et al. (2015) found that educators could document learning through ongoing conversations with students, focusing less on specific completed activities and more on the process of developing knowledge or skill. Educators, students, and their families could find value in metacognition; the importance of understanding the thinking and growth that goes into metacognitive thinking, and how these processes contribute to the narrative of learning.

Critical Feedback

Providing critical feedback can contribute to how learning is communicated to students and their families. Critical feedback considers reflecting on both personal

growth and other perspectives, while also encouraging educators and students to consider the impact of these differing perspectives (Brookfield, 2017; Popper, 1963). Educators can provide feedback that provokes further questions or considerations for students to apply to future learning opportunities. Focus can also be placed on a variety of feedback opportunities, where educators document learning through conversations, observations, and self-reflections (Bourke and Mentis, 2014; Doe, 2015; Leighton and Gómez, 2017). These feedback strategies could encourage personal reflective practices where students and educators have a curated documentation of strengths and further considerations. Feedback can also be provided by co-creating physical and digital portfolios to encourage dialogue and critical thinking, conferencing with students on their strengths and next steps, and making connections to their learning goals through journals (Bourke and Mentis, 2014; d'Erizans and Bibbo, 2014; Köpeczi-Bócz, 2020; Luetichau, 2021). Students can also develop skills and strategies to provide critical feedback to themselves and others. For example, Luetichau (2021) argued that students take ownership of their learning when they are responsible for providing themselves feedback that connects to the learning goals. This proprietary action can engage students in their learning journey in a meaningful way that could be communicated to families, community members, and other stakeholders. Feedback could be a useful tool in documenting the learning journey as a way for students to articulate their growth, and educators should recognize the impact of feedback as a communication strategy for learning (Bourke and Mentis, 2014; Jonsson et al., 2015; Köpeczi-Bócz, 2020; Luetichau, 2021; Price et al., 2010).

Grading Practices

Jonsson et al. (2015) found that feedback and grading practices can impact student learning in a variety of ways. When educators provide feedback, students can focus on their growth and the quality of their work; conversely feedback can also encourage students to continually try to fix or improve perceived errors with the hope of improving a grade (Jonsson et al., 2015). Grades, as a means of communicating learning, can be ineffective in communicating the achievement of learning outcomes, and can discourage students (Black, 2015; Jedemark and Londos, 2020; Padilla-Petry and Vadeboncoeur, 2020). A variety of literature reviewed in this study suggested that grades may not reflect the learning that occurred in a way that is meaningful to students, educators, or other stakeholders (Black, 2015; Bourke and Mentis, 2014; Doe, 2015; Jedemark and Londos, 2020; Padilla-Petry and Vadeboncoeur, 2020). Padilla-Petry and Vadeboncoeur (2020) found that grades often had students engage in learning just to pass and earn a credit, privileging passing over learning. Conversely, students engaged less after receiving a grade or felt that the effort they put into learning tasks was impacted by the grading scale (Padilla-Petry and Vadeboncoeur, 2020). Tannock (2015) argued that “grading undermines the sense of collective solidarity and mutual responsibility between students [and] promotes instead an embrace of competitive and detached individualism” (p. 6). Grading practices can also reduce a student’s willingness to engage in new learning. These practices may create a frustrating dichotomy for educators who must provide grades based on systems, policies or regulations, while simultaneously wanting to foster a learning community that

values growth and building knowledge (Padilla-Petry and Vadeboncouer, 2020; Tannock, 2015).

Documentation, Narratives, and Assessment

Narrative documentation as assessment can provide opportunities for students and their families to be involved in the assessment process. Focusing on learning processes, providing critical feedback, and examining grading practices can reinforce the depth of thinking and feedback that goes into assessment documentation (Bourke and Mentis, 2014; Carroll and Mcbain, 2021; Jedemark and Londos, 2020; Jonsson et al., 2015; Tannock, 2015). Köpeczi-Bócz (2020) indicated that assessments can support student learning with a focus on documenting personalized feedback as a part of the narrative learning journey. Regarding assessment and grading, Blum (2020) explored ungrading, a focus on methods of assessment and evaluation that center on narrative processes of learning, and encourage educators, students, and other stakeholders to interrogate the purpose and impact of traditional grades. Ungrading assessment strategies could support the idea of exploring methods of assessment that reflect the interests and needs of students. Carroll and Mcbain (2021) discussed designing with empathy, where students have a stake in what they are learning and therefore must be involved in the design, implementation, and assessment of their learning. Narrative documentation can be a useful assessment tool, and educators can recognize how listening to students share their learning is helpful as they communicate understanding.

Theme 5: Defining Social Justice & Equity

Equity, diversity, and inclusion (EDI) are integral factors to consider within a framework for education and assessment practices, and reflect social justice &

equity-oriented goals. EDI aims to consider the intersection amongst long-standing systematic barriers that impact marginalized groups, the structures that perpetuate these barriers, and the attempts towards an equitable and inclusive society (Fuentes et al., 2021; Tamtik and Guenter, 2019). For the purpose of this study, social justice & equity focuses on recognizing oppressive structures, developing both educator and student agency for social justice and equity, and building empathy and trust.

Recognizing Oppressive Structures

Much of the literature within this study indicates that there is a need in education to understand, question, and dismantle oppressive structures (Boske et al., 2017; Locke, 2017; Vera et al., 2019). Freire (2020) discussed the contrast between the oppressor and the oppressed, and how oppressive structures are perpetuated by power imbalances and systemic barriers. Further, Aronson and Laughter (2020) argued that schools can be dominated by patriarchal, cis-gendered perspectives that exist within these systemic barriers, and are detrimental to student success and learning. A collaborative effort from educational leaders and community members could be necessary to recognize oppressive structures and their impact on students and their communities. Lac (2021) discussed educational justice as educators “recognize, dissect, and disrupt inequities that pervade daily life” (p. 458). Educators, students, and the community can engage in educational justice through intentional and purposeful disruptions of inequity. Boske et al. (2017) posited a social justice-oriented and equity-oriented approach to developing critical consciousness, so that educators and education leaders can respond to the needs of their communities and be aware of the barriers that schools often present. Education policies and structures can be harmful to

student learning and their sense of belonging, thus potentially impacting the assessment of their work, and requiring active participation and investment on the part of educators to understand these structures and learn how to challenge and dismantle them (Aronson and Laughter, 2020; Lac, 2021; Locke, 2017; McWhirter et al., 2021; Salazar, 2018). Rodriguez et al. (2020) called for educators and educational leaders to be aware of their own biases and perspectives that may prevent them from recognizing oppressive structures within their school communities.

Agency for Social Justice

Boske et al. (2017) argued for a collective focus amongst educators, students, and the community, towards social justice pedagogy, which requires an awareness of the emotions, in deepening one's understanding of social justice, and the emotions that come with equity-oriented learning and empathic responses. There was a pattern in the literature that identified a notion of reinforcing white, male, heteronormative perspectives in schools (Aronson and Laughter, 2020; Boske et al., 2017; Casale et al., 2018; Conrad, 2020; Mattheis et al., 2021). An awareness of these perspectives can provide opportunities for educators to take action and address challenges within their learning communities. For example, educators can demonstrate agency by engaging in ongoing learning opportunities to deepen their understanding of the needs of their students, and collaborate with community partners to provide opportunities for students to succeed and thrive (Locke, 2017; McWhirter et al., 2021; Warren and Hotchkins, 2014). Vera et al. (2019) suggested that agency is relying less on members of oppressed communities, and rather holding privileged individuals accountable to enact social change. McDermott (2017) discussed this accountability as a form of allyship

where those in positions of privilege or power recognize and discuss their position, and actively aim to use this privilege to dismantle systems of oppression. There is an intentional call to action where educational leaders reflect on their roles and responsibilities as allies while engaging with their communities to support and participate in social justice pedagogy.

Building Trust and Empathy

A foundation of trust and empathy in educational settings can support social justice and equity efforts within learning communities. Students and their families need to feel safe and valued regardless of race, ethnicity, gender, sexuality, or socio-economic status (Boske et al., 2017; Bourke and Mentis, 2014; Casale et al., 2018; Conrad, 2020; Lac, 2021; Locke, 2017). Boske et al. (2017) discussed social justice pedagogy as deepening one's understanding of structural oppression and the empathic emotional awareness that comes with this work. It is a call to action for educators to have crucial conversations with their colleagues, students, their families, and community advocates to build trust and deepen understanding of inequities (Bokse et al., 2017; McWhirter et al., 2021; Vera et al., 2019). Casale et al. (2018) found that factors such as political influences or family values can impact student perspectives about oppressed groups, which made it difficult for students to engage in meaningful and respectful conversations. It should be a priority for educational leaders to engage students and their families in building caring relationships that recognize the importance of equity-oriented work.

Social Justice, Equity, and Assessment

Assessment and evaluation may be at the root of inequities that exist in education. Many authors stated that educational leaders should consider the cultural diversity of all learners, and the environment students learn in must reflect diversity in a way that challenges oppressive structures, including assessment (Boske et al., 2017; Bourke and Mentis, 2014; Faez, 2012; Lac, 2021; Locke, 2017). Boske et al. (2017) found that standardized testing was often focused around what was considered the cultural majority of white, middle class, heterosexual students rather than developing empathic responses to marginalized groups. Provincial standardized assessments that occur regularly in grades 3,6 and 9 in Ontario can perpetuate harmful systems of oppression that impact marginalized groups at a much higher rate (Boske et al., 2017). In the province of Ontario, a one-size-fits-all approach through standardization can ignore the vast diversity of the population. Aronson and Laughter (2020) found that academic performance, grades, and graduation rates were impacted when students did not feel safe or included in their learning communities. Educators should consider the impact their assessment practices have on social justice and equity, and understand how to support their students, their families, and colleagues in communicating learning that values the diversity of their learners (Bourke and Mentis, 2014).

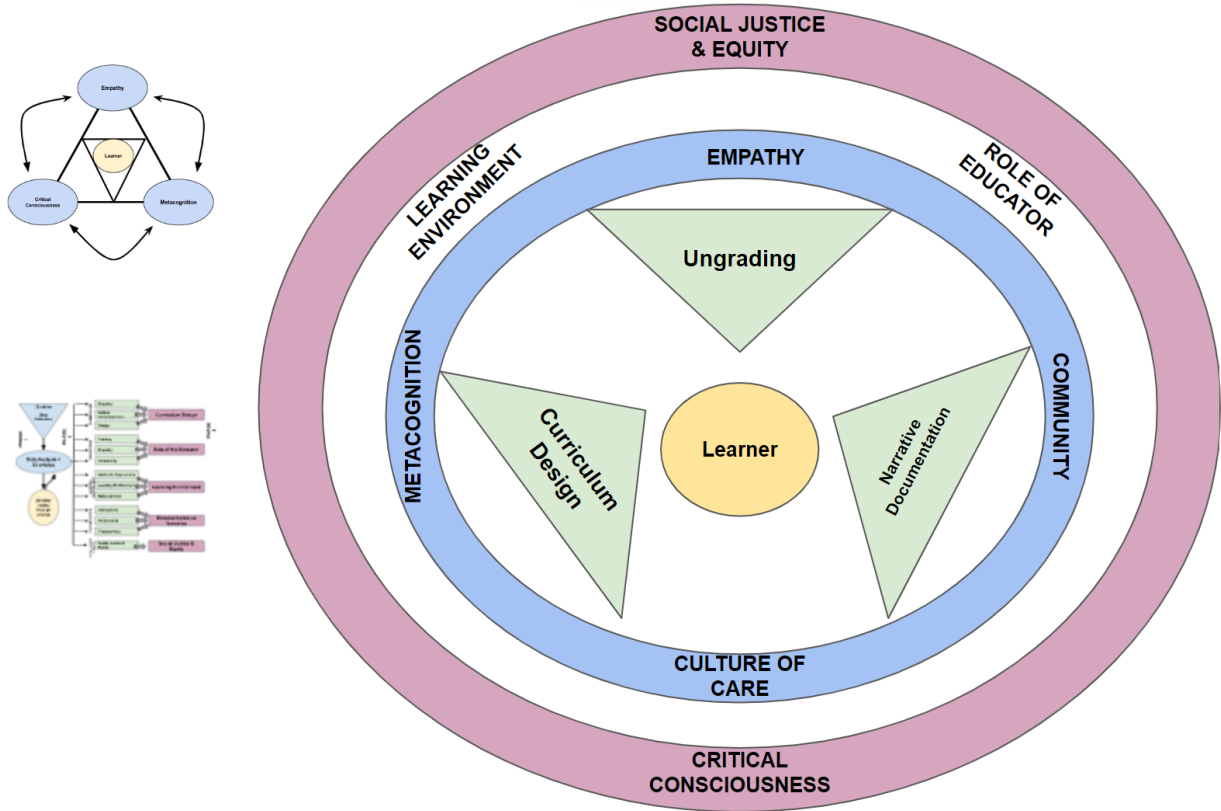
Chapter 5. Conclusion

This study analyzed a body of literature, based on the researchers' inclusion and exclusion criteria, since the Growing Success (Ontario Ministry of Education, 2010) document was implemented. The researcher employed a metasynthesis methodology to gather a data set of 72 articles centered on searches related to educational pedagogy, learning and assessment, empathy, metacognition, and critical consciousness. Using nVivo data analysis software, all 72 articles were analyzed and broad coding structures were shaped based on emergent themes and commonalities within the literature. These themes were examined further, shaping overarching themes and final codes in an attempt to see how these final codes might contribute to shaping a new framework of assessment and evaluation for learning; a framework of assessment and evaluation that fits learning in Ontario's K-12 schools and prepares students for the rapidly evolving digital future.

The literature reviewed in this study revealed several key elements that the researcher determined could be considered in the conception of a new framework of assessment and evaluation for use within schools. Throughout the data analysis, the researcher's conception of the themes within the literature was triangulated and shaped by collaborative analysis with an educator colleague. These were then synthesized through the coding structure that shaped their proposed framework. Figure 3 reflects this potential new framework for assessment and evaluation. Early in this study, an initial framework (see Figure 1) reflected three factors of metacognition, empathy, and critical consciousness. Resulting from this study, the researcher made iterations to Figure 1 as one way to address their research questions. Thus, the researcher's

interpretation of the literature reviewed in this study provided the basis for Figure 3 as a path forward for educators to thoughtfully consider aspects of assessment and evaluation in Ontario.

Figure 3
Proposed New Framework for Assessment



Note: Original smaller images seen in this Figure can be found on page 25 and page 48.

This proposed new framework has the learner at the center, as an aim of the framework is to reimagine assessment for students and the pedagogical approaches to assessment and evaluation that may influence their learning journey. The outermost circle represents how social justice & equity encompass all learners, and how critical consciousness perspectives should be applied through the process. The second circle

reflects the importance of educators and the learning environments within which learners interact, and how these themes are guided by social justice pedagogies. The third circle reflects the values of metacognition, empathy, community and a culture of care; all of these are key elements that educators and the learning environment can support when designing learning experiences, in order to meet the needs of the learner. Finally, the inner triangles represent three implementation strategies to consider for assessment and evaluation. All components of this framework co-exist together as a collective ecosystem, dependent on each theme to support student learning.

The complexities of the world in which students learn can require social justice & equity oriented perspectives in tandem with critical consciousness, and as a result, assessment and evaluation practices could be shaped by this orientation. This study suggests an interconnectedness amongst five major themes: Curriculum Design, The Role of the Educator, Learning Environment, Documentation as Narrative, and Social Justice & Equity, and the impact that each of these have on assessment practices, on students, and their learning.

Social Justice & Equity and Critical Consciousness

Based on the researcher's analysis throughout this study, social justice & equity and critical consciousness emerged as two themes; noting an importance of recognizing and deconstructing assessment practices that may perpetuate oppressive structures (Boske et al., 2017; Locke, 2017; Vera et al., 2019). These themes represent the outer circle of the new framework, encompassing all other elements to reinforce the impact social justice & equity and critical consciousness have on the learner and their assessment journey. The policies and structures around assessment may need to

address and dismantle systems of oppression, from grading practices to graduation standards (Aronson and Laughter, 2020; Boske et al., 2017). Critical consciousness is one's ability to question their historical situations based on their lived realities, and how their experiences interact with those around them (Freire, 2005). This study found that developing an awareness of lived experiences and historical contexts can contribute to an understanding of social justice pedagogies and equity-oriented actions (Aronson and Laughter, 2020; Boske et al., 2017; Nojan, 2020; Shugurova, 2021).

Educational leaders may need to be more informed of the needs of their communities, and their assessment practices should reflect these needs. A foundation of critical consciousness can support an approach to assessment and learning that recognizes, challenges and empowers all stakeholders to collaboratively work to address challenges and issues. If assessment and evaluation practices become dynamic, fluid, and adaptable enough to address issues of inequity, learner agency and voice can be honoured. Assessment processes can provide a set of tools designed for empowering learners to demonstrate their learning and growth in meaningful and authentic ways, that are congruent with their lived experiences, while simultaneously challenging learned biases and perspectives. Individualized assessments that reflect the context of the community may lead to more personalized methods of assessment rather than a one-size-fits-all approach, such as standardized testing. Standardized tests can cause harm to students, particularly those of marginalized groups, often impacting their self-perception and confidence (Boske et al., 2017; Bourke and Mentis, 2014; Carroll and Mcbain, 2021; Parker, 2019). Therefore, educational leaders could consider the impact standardized tests have on their communities, and consider

alternative methods of assessment that reflect a critically conscious lens and honours the individuality of their learners.

Learning Environment and Role of the Educator

Two additional themes involving the role of educators and learning environments emerged from the researcher's interpretation of the literature, supporting a relationship between educators and the impact they can have on various environments for students (Boske et al., 2017; Jedemark and Londos, 2020; Jonsson et al., 2015). Educators that engage in ongoing professional learning opportunities were shown to develop as reflective practitioners, and implement new ideas into the learning environment (Hargrove and Nietfeld, 2015; Wilson and Bai, 2010). These environments consisted of physical learning spaces, digital spaces, as well as social and psychological environments (Boske et al., 2017; Chapman, et al., 2020; Köpeczi-Bócz, 2020; Luetichau, 2021). As educators develop an understanding of their students' needs and experiences, shaped by the values within the first circle in the new framework, they could influence factors in these learning environments to benefit students and their learning. Educators can design learning opportunities that support student interest and curiosity, and may collaborate with colleagues and students to respond to individual needs in their communities. Whether physical or digital, these learning environments can support collaborative, creative, and supportive spaces for students to take risks and build new skills. It was also noted that inequities with access to technology or lack of safe spaces for students should be addressed in order for educators and other educational stakeholders to create learning environments that will benefit student learning (Carroll and McBain, 2021; Hayward, 2015; Oyedotun, 2020).

These themes from this study appear in the new framework to reinforce the importance of students and educators feeling supported and valued in their learning environments. Educators may need to be given the opportunity to collaborate with colleagues, tinker with new assessment practices, and iterate based on feedback and conversation with their students. Resources, including time and effective professional development opportunities, can benefit educators to be able to support students in their learning environments so that the assessment strategies they use can be meaningfully co-designed to facilitate students' learning within safe and supported spaces. In order to do well, people may need to feel well in the level of support they are receiving, and the implementation of various assessment practices could acknowledge the many factors that impact one's learning.

Empathy, Community, Metacognition, and Culture of Care

The researcher found that the literature in this study supported how developing a culture of care through empathy can play an essential role in assessment practices (Boske et al., 2017; Carroll and Mcbain, 2021; Hartman et al., 2017; Nojan, 2020). Educators and educational leaders can apply empathic ways of connecting with students and their families, and recognize the role that empathy can play in assessment practices. Berkovich (2020) found that empathy was identified as one of the most ideal traits for educators to embody. Educators and educational leaders can build new ideas and constructs based on the lived experiences of their students, and aim to prioritize empathy when implementing assessment practices. Furthermore, it is important to also recognize how educators may need to receive empathy, supporting their personal and professional growth in order to provide support to their students (Berkovich, 2020). The

researcher found that the value of a caring culture should be considered with respect to assessment practices. This commitment to build trust and empathy can foster strong community relationships where students and their families could feel safe and valued regardless of race, ethnicity, gender, sexuality, or socioeconomic status (Boske et al., 2017; Bourke and Mentis, 2014; Casale et al., 2018; Conrad, 2020). However, this foundation of trust and empathy should be an ongoing commitment that continually aims to honour the voices of their community and be responsive in their practice. A reflective learning community can be a foundation of a caring and empathetic culture.

This type of supportive learning environment can provide ideal conditions for students to develop skills in metacognition, critical thinking, risk taking and growth. Metacognition involves thinking about one's own thinking process, habits, and strategies that contribute to learning and reflection (Brookfield, 1998; Blum, 2020; Veenman et al., 2006). The researcher found in the literature that supportive communities, involving educators, students, and their families, could allow individuals to think metacognitively, reflecting on their own experiences and understandings, and recognize personal strengths to develop goals for each individual need (Berkovich, 2020; Bourke and Mentis, 2014; Hechter, 2019; Lac, 2021; Nojan, 2020). Assessment and evaluation practices may consider metacognition as an essential asset for skill development, and by inviting students as partners in the assessment process, educators can encourage learners to think about their own learning strengths and needs throughout their journey. An understanding and empathetic community can support these highly reflective environments where educators, students, and their families can work together to share

their thinking metacognitively and reflect on growth and identify future goals collaboratively.

Narrative Documentation, Curriculum Design, Ungrading, and The Learner

At the center of the new framework, the learner, and their journey, are influenced by the accompanying themes and three assessment strategies based on the researchers interpretations from this study. Designing curriculum that is inclusive, documenting learning as narratives, and ungrading were identified throughout the literature examined by the researcher as potential strategies. Carroll and Mcbain (2021) discussed how students can have a stake in what they are learning, and the curriculum can be a starting point to allow student voice and choice in assessment. Learning outcomes could reflect the lived experiences of students and their communities, and so curriculum design may need to allow educators to adapt to the needs of their students rather than imposing standards on them (Chapman et al., 2020; Jonsson et al., 2015; Shugurova, 2021). Transdisciplinary curriculum is one approach, aiming to design curricula that flows among disciplines and focuses on big ideas or questions instead of specific subjects (Drake and Reid, 2018). These questions and big ideas can be co-constructed with learners and their communities, reflecting how a socially constructed curriculum can be designed in a way that evokes curiosity and discussion around important topics and challenges that students are actually encountering (Chapman et al., 2020; Carroll and Mcbain, 2021).

Documenting learning over time through narrative assessment could provide insight into the processes of learning, and the impact of feedback on the learning journey. Narrative assessments document learning like a story, and involve the learner

as an active participant in their assessments (Bourke and Mentis, 2014). Ongoing conversations among educators and students can instill a sense of ownership where students become invested in the assessment process and seek feedback from others that highlights personal strengths while identifying areas of growth (Doe, 2015; Leighton and Gómez, 2017; Luettchau, 2021; Willis, 2010). This new framework suggests that documentation of learning experiences should include the learner, and that assessment practices should also reflect collaborative structures where value is given to procedural knowledge rather than a focus on declarative knowledge through products or tests. This narrative curation of a students' learning may account for failures, attempts, new insights, and wonderings that can occur throughout their learning journey. Students can be empowered by engaging in documenting their process, discussing their growth, and sharing their journey with their families as a method of articulating their knowledge.

Ungrading is a method of assessment that values the narrative process of learning, and encourages educators, students, their families, and other stakeholders to reexamine grading structures that have been in place for decades (Blum, 2020). Literature in this study supported the goals of ungrading, addressing harmful outcomes of traditional grading practices. For example, Padilla-Petry and Vadeboncoeur (2020) found that student engagement was impacted by grades; students would disengage after receiving a bad grade or if they felt their efforts in a class were not reflected in the grading structure. Educators, students, and their families may be accustomed to the traditional use of grades as a form of assessment and evaluation. Therefore, it may be worth considering how grades can undermine students' knowledge and understanding while reducing the complexity of learning to a grade (Blum, 2020; Padilla-Petry and

Vadeboncouer, 2020; Tannock, 2015). Ungrading could be an important assessment strategy for learners, their families, and educators in this new framework. In tandem with redesigned curriculum and narrative documentation of learning, ungrading may provide another strategy for educators and students to grow together and have a collective responsibility to engage in continued discourse around student learning.

Limitations and Future Considerations

There are several limitations of this study to consider. This study examined literature within a specific range of time, from 2010 to 2021, chosen specifically as they represent the ensuing years post-implementation of the Growing Success (Ontario Ministry of Education, 2010) document. During the data analysis phase, attention was not focused on factors around geographic location, race, gender, or socioeconomic status since the researcher was focused on results and discussions from the literature to inform a broader interpretation of their search. One may also wish to consider that there are vast differences in Ontario communities, from the far north to urban settings, and how these differences might impact the results. The literature also did not include a focus on post-secondary education settings or subject-specific classroom settings. Additional research databases may also be considered, as the researcher focused their search through Google Scholar and Ontario Tech University's OMNI databases. The researcher of this study recognizes their professional role as an elementary educator in Ontario, and acknowledges how their experiences presented a particular lens when examining the literature. Furthermore, the researcher acknowledges that this study is not comprehensive based on the inclusion of articles based on their own defined criteria, interpretations, and understandings.

Future research might consider including some of the parameters not considered within this present study to determine any impact these characteristics may have on results. An inclusion of educator, student, and family voices and perspectives may also be beneficial to gain an understanding of how Ontario's K-12 stakeholders perceive the current assessment and evaluation policies. While the new framework resulted from an analysis of the literature in this study, it would be crucial to develop an implementation of this framework for further feedback and iteration.

This study highlighted an integrated ecosystem of learning, assessment, and community, demonstrating this interconnectedness in the design of the new framework as one way to deconstruct current assessment practices and reframe a new paradigm better aligned with learner needs in the Fourth Industrial Revolution. Learning can be an emotional human experience, and in an ever-changing world, it is essential to deconstruct, and reimagine decades old systems and structures that still inform how to assess and value student learning. Discourse on the impact of grading, the rigid structure of a school day, and the factory-style model of moving students through an education system has existed for years. It is with hope and optimism that this study provides an invitation; a challenge to educational stakeholders across the province, that we can envision a learning environment open to all, one that values who students can be, respects and honours student diversity, and moves far beyond what an assessment says they are.

References

- Aronson, B., & Laughter, J. (2020). The theory and practice of culturally relevant education: expanding the conversation to include gender and sexuality equity. *Gender & Education, 32*(2), 262–279.
<https://doi-org.uproxy.library.dc-uoit.ca/10.1080/09540253.2018.1496231>
- Atmatzidou, S., Demetriadis, S., & Nika, P. (2017). How does the degree of guidance support students' metacognitive and problem solving skills in educational robotics? *Journal of Science Education and Technology, 27*(1), 70–85.
<https://doi.org/10.1007/s10956-017-9709-x>
- Assessment Reform Group. (2002). Assessment for learning: 10 principles.
- Au, W. (2007). High-stakes testing and curricular control: A qualitative metasynthesis. *Educational researcher, 36*(5), 258-267.
- Balkaya, S., & Akkucuk, U. (2021). Adoption and use of learning management systems in education: The role of playfulness and self-management. *Sustainability, 13*(3), 1127.
- Barber, W. (2020). Building creative critical online learning communities through digital moments. *Electronic Journal of e-Learning, 18*(5), pp. 387-396.
- Barell, J. (2010). Problem-based learning: The foundation for 21st century skills. *21st century skills: Rethinking how students learn*, 175-199.
- Benton, T., & Craib, I. (2001). *Philosophy of social science: The philosophical foundations of social thought*. New York: Palgrave.
- Berkovich, I. (2020). Conceptualisations of empathy in K-12 teaching: a review of

- empirical research. *Educational Review (Birmingham)*, 72(5), 547–566.
<https://doi.org/10.1080/00131911.2018.1530196>
- Bialystok, L., & Kukar, P. (2018). Authenticity and empathy in education. *Theory and Research in Education*, 16(1), 23–39. <https://doi.org/10.1177/1477878517746647>
- Birks, M., & Mills, J. (2015). *Grounded theory: A practical guide*. Sage.
- Black, P., & Wiliam, D. (2009). Developing the theory of formative assessment. *Educational Assessment, Evaluation and Accountability* (formerly: Journal of Personnel Evaluation in Education), 21(1), 5-31.
- Black, P. (2015). Formative assessment - an optimistic but incomplete vision. *Assessment in Education : Principles, Policy & Practice*, 22(1), 161–177.
<https://doi.org/10.1080/0969594X.2014.999643>
- Blackwelder, A., (2020). What going gradeless taught me about doing the “actual work”. In S. D Blum (Eds), *Ungrading: Why rating students undermines learning (And what to do instead)* (pp. 42-52). West Virginia University Press.
- Blake, N., & Masschelein, J. (2003). Critical theory and critical pedagogy. *The Blackwell guide to the philosophy of education*, 38-56.
- Blasco, P. G., & Moreto, G. (2012). Teaching empathy through movies: reaching Learners' affective domain in medical education. *Journal of Education and Learning*, 1(1), 22.
- Blayone, T. J., vanOostveen, R., Barber, W., DiGiuseppe, M., & Childs, E. (2017). Democratizing digital learning: theorizing the fully online learning community model. *International Journal of Educational Technology in Higher Education*, 14(1), 1-16.

- Blum, S. D. (2015). *The game of school*. Retrieved August 29, 2021, from <http://www.susanblum.com/blog/category/game-of-school>
- Blum, S. D., (2020). *Ungrading: Why rating students undermines learning (And what to do instead)*. West Virginia University Press.
- Boske, C., Osanloo, A., & Newcomb, W. S. (2017). Exploring empathy to promote social justice leadership in schools. *Journal of School Leadership*, 27(3), 361-391.
- Boud, D., & Falchikov, N. (Eds.). (2007). *Rethinking assessment in higher education: Learning for the longer term*. Routledge.
- Boudreaux, M. K. (2016). Survey of developmental students' print and online metacognitive reading. *Educational Research Quarterly*, 39(3), 3–22.
- Bourke, R., & Mentis, M. (2014). An assessment framework for inclusive education: integrating assessment approaches. *Assessment in Education : Principles, Policy & Practice*, 21(4), 384–397. <https://doi.org/10.1080/0969594X.2014.888332>
- Brett, A., Smith, M., Price, E., & Huitt, W. (2003). Overview of the affective domain. *Educational Psychology Interactive*, 1-21.
- Brookfield, S. (1998). Critically reflective practice. *Journal of Continuing Education in the Health Professions*, 18(4), 197-205.
- Brookfield, S. D. (2017). *Becoming a critically reflective teacher*. John Wiley & Sons.
- Brooks, J., & King, N. (2012). Qualitative psychology in the real world: the utility of template analysis. University of Huddersfield Repository.
- Brooks, J., McCluskey, S., Turley, E., & King, N. (2015). The utility of template analysis in qualitative psychology research. *Qualitative research in psychology*, 12(2), 202-222.

- Brown, P., Roediger, H., McDaniel, M., & Stick, M. I. (2014). *The science of successful learning*. Cambridge, MA.
- C21 Canada (Canadians for 21st Century Learning and Innovation). (2012). *Shifting minds: A 21st century vision of public education for Canada*. Retrieved from: www.c21canada.org/wp-content/uploads/2012/11/Shifting-MindsRevised.pdf.
- Carroll, M., & McBain, L. (2021). Where empathy meets learning: Exploring design abilities in K-12 classrooms. *Voices From the Middle*, 29(1), 14-9.
- Casale, C., Thomas, C. A., & Simmons, T. M. (2018). Developing empathetic learners. *Journal of Thought*, 52(3-4), 3–18.
- Chapman, T., Jones, M., Stephens, R., Lopez, D., Rogers, K. D., & Crawford, J. (2020). A necessary pairing: Using academic outcomes and critical consciousness to dismantle curriculum as the property of whiteness in K-12 ethnic studies. *Equity & Excellence in Education*, 53(4), 569–582.
<https://doi.org/10.1080/10665684.2020.1791767>
- Chiaravalli, A., (2020). Grades stifle student learning. Can we learn to teach without grades? In S. D Blum (Eds), *Ungrading: Why rating students undermines learning (And what to do instead)* (pp. 82-88). West Virginia University Press.
- Chu, G., (2020). The Point-less classroom. In S. D Blum (Eds), *Ungrading: Why rating students undermines learning (And what to do instead)* (pp. 161-170). West Virginia University Press.
- Chun Tie, Y., Birks, M., & Francis, K. (2019). Grounded theory research: A design framework for novice researchers. *SAGE Open Medicine*.
<https://doi.org/10.1177/2050312118822927>

- Crew, H. (1930). President's address—Annual meeting. *American Association of University Professors Bulletin*, 16, 103-111.
- Conrad, J. (2020). Navigating identity as a controversial issue: One teacher's disclosure for critical empathic reasoning. *Theory and Research in Social Education*, 48(2), 211–243. <https://doi.org/10.1080/00933104.2019.1679687>
- Costa, A & Kallick, B., (2000-2001). *Describing 16 habits of the mind*. Available at www.habits-of-mind.net/whatare.htm.
- Cox, T. L., Malone, M. E., & Winke, P. (2018). Future directions in assessment: Influences of standards and implications for language learning. *Foreign Language Annals*, 51(1), 104–115. <https://doi.org/10.1111/flan.12326>
- Crooks, A. (1933). Marks and marking systems: A digest. *The Journal of Educational Research*, 27(4), 259-272. Retrieved June 13, 2021, from <http://www.jstor.org/stable/27525788>
- Csikszentmihalyi, M. (1997). Flow and education. *NAMTA journal*, 22(2), 2-35.
- Cumming, J. J. , & Maxwell, G. S. (1999). Contextualising authentic assessment. *Assessment in Education: Principles, Policy & Practice*, 6(2), 177-194.
- Dale, J., & Hyslop-Margison, E. J. (2010). *Paulo Freire: Teaching for freedom and transformation: The Philosophical influences on the work of Paulo Freire*. New York: Springer.
- Darling-Hammond, L. (1994). Setting standards for students: The case for authentic assessment. *Paper presented at The Educational Forum*, 59(1) 14-21.
- d'Erizans, R., & Bibbo, T. (2014). E-portfolio: Time to reflect. *The International Schools Journal*, 34(1), 61.

- Desai, K., & Sanya, B. N. (2016). Towards decolonial praxis: Reconfiguring the human and the curriculum. *Gender and Education*, 28(6), 710-724.
- Dewey, J. (1910). The Analysis of a Complete Act of Thought. In J. Dewey, *How we think* (pp. 68–78). D C Heath. <https://doi.org/10.1037/10903-006>
- Dewey, J. (1997). Experience and education. *New York: First Touchstone Edition*, 64-67.
- Doe., C. (2015). Student interpretations of diagnostic feedback. *Language Assessment Quarterly*, 12(1), 110–135. <https://doi.org/10.1080/15434303.2014.1002925>
- Douglas, V. A. (2020). Moving from critical assessment to assessment as care. *Communications in Information Literacy*, 14(1), 46–65. <https://doi.org/10.15760/comminfolit.2020.14.1.4>
- Drake, S. M., & Reid, J. L. (2018). Integrated curriculum as an effective way to teach 21st century capabilities. *Asia Pacific Journal of Educational Research*, 1(1), 31-50.
- Ebel, R., Ahmed, S., Thornton, A., Watt, C., Dring, C., & Sames, A. (2019). Curriculum assessment practices that incorporate learning outcomes in higher education: A systematic literature review. *NACTA Journal*, 64.
- Edelen, D., Bush, S. B., & Nickels, M. (2019). Transcending boundaries: Elevating toward empathy in STEM with a robotics inquiry. *Science and Children*, 57(1), 44–50.
- El-Amin, A., Seider, S., Graves, D., Tamerat, J., Clark, S., Soutter, M., Johannsen, J., &

- Malhotra, S. (2017). *Critical consciousness: A key to student achievement*.
kappanonline.org. Retrieved January 21, 2022, from
<https://kappanonline.org/critical-consciousness-key-student-achievement/>
- Faez, F. (2012). Diverse teachers for diverse students: Internationally educated and Canadian-born teachers' preparedness to teach English language learners. *Canadian Journal of Education*, 35(3), 64–84.
- Finkelstein, I. E. (1913). *The marking system in theory and practice*. Baltimore: Warwick & York.
- Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive–developmental inquiry. *American Psychologist*, 34(10), 906.
- Freire, P. (2005) *Education for critical consciousness*. New York: Continuum International Publishing Group.
- Freire, P. (2020). Pedagogy of the oppressed. In *Toward a sociology of education* (pp. 374-386). Routledge.
- Fu, H., Hopper, T., & Sanford, K. (2018). New BC curriculum and communicating student learning in an age of assessment for learning. *Alberta Journal of Educational Research*, 64(3), 264-286.
- Fuentes, M. A., Zelaya, D. G., & Madsen, J. W. (2021). Rethinking the course syllabus: Considerations for promoting equity, diversity, and inclusion. *Teaching of Psychology*, 48(1), 69-79.
- Garrison, D. R., Anderson, T., & Archer, W. (2010). The first decade of the community of inquiry framework: A retrospective. *The Internet and Higher Education*, 13(1-2), 5-9.

- Geni, L., ed (2018). *Agency: A teacher's guide to self-directed learning*. Geni Consulting. <http://www.geniconsulting.org/a-teachers-handbook>.
- Giammarco, M., Higham, S., & McKean, M. (2020). The future is social and emotional: evolving skills needs in the 21st century. *The Conference Board of Canada*. Retrieved January 13, 2022, from https://www.conferenceboard.ca/temp/977ecc82-0284-49c5-9bac-514adbd82e25/24357_10628_FSC_SES_Impact_Paper_EN.pdf
- Goleman. (2005). *Emotional intelligence* (10th anniversary ed.). Bantam Books.
- Gray, A. (2016). *The 10 skills you need to thrive in the Fourth Industrial Revolution*. World Economic Forum. Retrieved January 14, 2022, from <https://www.weforum.org/agenda/2016/01/the-10-skills-you-need-to-thrive-in-the-fourth-industrial-revolution/>
- Gulikers, J. T. M., Runhaar, P., & Mulder, M. (2018). An assessment innovation as flywheel for changing teaching and learning. *Journal of Vocational Education & Training*, 70(2), 212–231. <https://doi.org/10.1080/13636820.2017.1394353>
- Hargrove, R. A., & Nietfeld, J. L. (2015). The impact of metacognitive instruction on creative problem solving. *Journal of Experimental Education*, 83(3), 291–318. <https://doi-org.uproxy.library.dc-uoit.ca/10.1080/00220973.2013.876604>
- Hartman, R., Johnston, E. & Hill, M. (2017). Empathetic design: A sustainable approach to school change. *Discourse and Communication for Sustainable Education*, 8(2) 38-56. <https://doi.org/10.1515/dcse-2017-0014>
- Hasio, C. (2016). Are you listening? How empathy and caring can lead to connected

- knowing. *Art Education (Reston)*, 69(1), 25–30.
<https://doi.org/10.1080/00043125.2016.1106852>
- Hayward, L. (2015). Assessment is learning: the preposition vanishes. *Assessment in Education : Principles, Policy & Practice*, 22(1), 27–43.
<https://doi.org/10.1080/0969594X.2014.984656>
- Hechter, R. (2019). The giant, the wintermaker, and the hunter: contextual ethnoastronomy towards cultivating empathy. *Physics Education*, 55(1), 15025–.
<https://doi.org/10.1088/1361-6552/ab537d>
- Herrington, J., & Herrington, A. (1998). Authentic assessment and multimedia: How university students respond to a model of authentic assessment. *Higher Education Research & Development*, 17(3), 305-322.
- Herrington, J., Reeves, T. C., & Oliver, R. (2014). Authentic learning environments. *Handbook of research on educational communications and technology*, 401-412.
- Holt, J. (2004). *Instead of education: Ways to help people do things better*. Sentient Publications.
- hooks, b. (1994). *Teaching to transgress : Education as the practice of freedom*. Routledge.
- Immordino-Yang, M. H., Darling-Hammond, L., & Krone, C. (2018). The brain basis for integrated social, emotional, and academic development: How emotions and social relationships drive learning. Aspen Institute.
- Immordino-Yang, M. H., Darling-Hammond, L., & Krone, C. R. (2019). Nurturing nature: How brain development is inherently social and emotional, and what this means for education. *Educational Psychologist*, 54(3), 185-204.

- Jedemark, M., & Londos, M. (2021). Four different assessment practices: how university teachers handle the field of tension between professional responsibility and professional accountability. *Higher Education*, 81(6), 1293–1309.
<https://doi.org/10.1007/s10734-020-00612-4>
- Jonsson, A., Lundahl, C., & Holmgren, A. (2015). Evaluating a large-scale implementation of Assessment for Learning in Sweden. *Assessment in Education : Principles, Policy & Practice*, 22(1), 104–121.
<https://doi.org/10.1080/0969594X.2014.970612>
- Khoiriyah, A. J., & Husamah, H. (2018). Problem-based learning: Creative thinking skills, problem-solving skills, and learning outcome of seventh grade students. *JPBI (Jurnal Pendidikan Biologi Indonesia)*, 4(2), 151-160.
- Kim, B. (2010). Social constructivism. In Orey, M. Editor (Eds.) *Emerging perspectives on learning, teaching and technology*. (pp. 55-61). Global Text.
- Kohn, A. (1994). Grading - The issue is not how but why. *Educational Leadership*, 52(2), 38–41.
- Kohn, A. (1999). *The schools our children deserve: moving beyond traditional classrooms and "tougher standards"*. Houghton Mifflin Harcourt.
- Kohn, A., (2020). Foreword. In S. D Blum (Eds), *Ungrading: Why rating students undermines learning (And what to do instead)* (pp. xiii-xx). West Virginia University Press.
- Kolb, D. A. (2014). *Experiential learning: Experience as the source of learning and development*. FT press.
- Köpeczi-Bócz, T. (2020). Learning portfolios and proactive learning in higher education

- pedagogy. *International Journal of Engineering Pedagogy*, 10(5), 34–48.
<https://doi.org/10.3991/ijep.v10i5.13793>
- Lac, V. (2021). “Now I know that meritocracy and the American dream are myths”: employing critical hope in a teacher pipeline program serving minoritized high school students. *International Journal of Qualitative Studies in Education*, 34(5), 447–463. <https://doi.org/10.1080/09518398.2020.1771458>
- Lee, J., Lee, Y., & Kim, M. H. (2018). Effects of empathy-based learning in elementary social studies. *The Asia-Pacific Education Researcher*, 27(6), 509–521.
<https://doi.org/10.1007/s40299-018-0413-2>
- Leighton, J. P., & Bustos Gómez, M. C. (2018). A pedagogical alliance for trust, wellbeing and the identification of errors for learning and formative assessment. *Educational Psychology (Dorchester-on-Thames)*, 38(3), 381–406.
<https://doi.org/10.1080/01443410.2017.1390073>
- Li, L. C., Grimshaw, J. M., Nielsen, C., Judd, M., Coyte, P. C., & Graham, I. D. (2009). Evolution of Wenger's concept of community of practice. *Implementation science*, 4(1), 1-8.
- Lloyd, D. A. (1992). Pass-fail grading fails to meet the grade. *Academic Medicine*, 67(9), 583-4.
- Locke, L. (2017). Finding my critical voice for social justice and passing it on: an essay. *International Journal of Qualitative Studies in Education*, 30(1), 83–96.
<https://doi.org/10.1080/09518398.2016.1242810>
- Luetichau, K. (2021). Choice and reflection: How I’ve used personalized learning to

- engage students and provide equity during a pandemic. *English Leadership Quarterly*, 43(3), 2–6.
- Madaus, G. F., & O'Dwyer, L. M. (1999). Short history of performance assessment: Lessons learned. *Phi Delta Kappan*, 80(9), 688-689.
- Marzano, R. J., & Heflebower, T. (2011). *Teaching & assessing 21st century skills*. Solution Tree Press.
- Mattheis, A., Lovos, J., Humphrey, C., Eichenberger, L., & Nazar, C. R. (2021). Queering the common core (and the NGSS): Challenging normativity and embracing possibility. *Journal of Homosexuality*, 1–20.
<https://doi.org/10.1080/00918369.2021.1987748>
- McClam, S., & Sevier, B. (2010). Troubles with grades, grading, and change: Learning from adventures in alternative assessment practices in teacher education. *Teaching and Teacher Education*, 26(7), 1460-1470.
- McDermott, V. (2017). *We must say no to the status quo: Educators as allies in the battle for social justice*. Corwin Press.
- McDonald, B. (2012). Portfolio assessment: Direct from the classroom. *Assessment & Evaluation in Higher Education*, 37(3), 335-347.
- McMorran, C., Ragupathi, K., & Luo, S. (2017). Assessment and learning without grades? Motivations and concerns with implementing gradeless learning in higher education. *Assessment & Evaluation in Higher Education*, 42(3), 361-377.
- McTighe, J. (1997). What happens between assessments? *Educational Leadership*, 54, 6-13.
- McWhirter, E. H., Cendejas, C., Fleming, M., Martínez, S., Mather, N., Garcia, Y.,

- Romero, L., Ortega, R. I., & Rojas-Araúz, B. O. (2021). College and career ready and critically conscious: Asset-building with Latinx immigrant youth. *Journal of Career Assessment*, 29(3), 525–542. <https://doi.org/10.1177/1069072720987986>
- Newton, P. (2007) Clarifying the purposes of educational assessment. *Assessment in Education*, 14(2), 149-170.
- Nojan, S. (2020). Why ethnic studies? Building critical consciousness among middle school students. *Middle School Journal*, 51(2), 25–35. <https://doi.org/10.1080/00940771.2019.1709259>
- O'Connor, J. S., & Lessing, A. D. (2017). What we talk about when we don't talk about grades. *Schools (Chicago, Ill.)*, 14(2), 303–318. <https://doi.org/10.1086/693793>.
- Oke, A., & Fernandes, F. A. P. (2020). Innovations in teaching and learning: Exploring the perceptions of the education sector on the 4th industrial revolution (4IR). *Journal of Open Innovation: Technology, Market, and Complexity*, 6(2), 31.
- Ontario Ministry of Education. (2010). *Growing Success: Assessment, Evaluation, and Reporting in Ontario Schools*. Retrieved from <http://www.edu.gov.on.ca/eng/policyfunding/growSuccess.pdf>
- Oyedotun, T. D. (2020). Sudden change of pedagogy in education driven by COVID-19: Perspectives and evaluation from a developing country. *Research in Globalization*, 2, 100029. <https://doi.org/10.1016/j.resglo.2020.100029>
- Padilla-Petry, P., & Vadeboncoeur, J. A. (2020). Students' perspectives on engagement, learning, and pedagogy: Self-evaluations of university students in Spain. *SAGE Open*, 10(2), 215824402092406. <https://doi.org/10.1177/2158244020924063>

- Parker, L. (2019). Deconstructing growing success: A critical discourse analysis of Ontario's assessment policy. *Critical Education*, 10(14), 1-18. Retrieved from <https://ices.library.ubc.ca/index.php/criticaled/article/view/186326>
- Pilcher, J. K. (1994). The value-driven meaning of grades. *Educational Assessment*, 2(1), 69. https://doi-org.uproxy.library.dc-uoit.ca/10.1207/s15326977ea0201_4
- Pinto, L. E. (2012). *Curriculum reform in Ontario: 'Common Sense' policy processes and democratic possibilities*. Toronto: University of Toronto Press.
- Popper, K. (1963). Science: Conjectures and refutations. *Conjectures and refutations*, 33-39.
- Postman, N. (1970). Curriculum Change and Technology.
- Postman, N. (2011). *The end of education: Redefining the value of school*. Vintage.
- Price, M., Handley, K., Millar, J., & O'Donovan, B. (2010). Feedback : all that effort, but what is the effect? *Assessment & Evaluation in Higher Education*, 35(3), 277–289. <https://doi-org.uproxy.library.dc-uoit.ca/10.1080/02602930903541007>
- Reeves, T. C., Herrington, J., & Oliver, R. (2002). Authentic activities and online learning. *Quality Conversations: Research and Development in Higher Education*, 25, 562-567.
- Reynolds, B. G. (2010). Effect of digital portfolio assessment on mathematics attitudes and self-perceptions of sixth- through eighth-grade students (Order No. 3413062). Available from ProQuest Dissertations & Theses Global. (1370975236). <http://search.proquest.com.uproxy.library.dc-uoit.ca/dissertations-theses/effect-digital-portfolio-assessment-on/docview/1370975236/se-2?accountid=14694>

- Rodriguez, S., Monreal, T., & Howard, J. (2020). "It's about hearing and understanding their stories": Teacher empathy and socio-political awareness toward newcomer undocumented students in the New Latino South. *Journal of Latinos & Education*, 19(2), 181–198.
<https://doi-org.uproxy.library.dc-uoit.ca/10.1080/15348431.2018.1489812>
- Rossen, E., & Cowan, K. C. (2014). Improving mental health in schools. *Phi Delta Kappan*, 96(4), 8-13.
- Sackstein, S. (2015). *Hacking assessment: 10 ways to go gradeless in a traditional grades school*. Cleveland, OH: X10 (Times 10) Publications.
- Sackstein., (2020). Shifting the grading mindset. In S. D Blum (Eds), *Ungrading: Why rating students undermines learning (And what to do instead)* (pp. 74-81). West Virginia University Press.
- Sacramento, J. (2019). Critical collective consciousness: Ethnic studies teachers and professional development. *Equity & Excellence in Education*, 52(2-3), 167–184.
<https://doi.org/10.1080/10665684.2019.1647806>
- Saeki, E., Segool, N., Pendergast, L., & von der Embse, N. (2018). The influence of test-based accountability policies on early elementary teachers: School climate, environmental stress, and teacher stress. *Psychology in the Schools*, 55(4), 391-403.
- Salazar, M. D. C. (2018). Interrogating teacher evaluation: Unveiling whiteness as the normative center and moving the margins. *Journal of Teacher Education*, 69(5), 463-476.
- Sandelowski, M., Docherty, S., & Emden, C. (1997). Qualitative metasynthesis: Issues

- and techniques. *Research in Nursing & Health*, 20(4), 365-371.
- Schwab, K. (2018). The global competitiveness report 2018. In *World Economic Forum* (Vol. 671).
- Schwab, K., & Malleret, T. (2020). The great reset. In *World Economic Forum*, Geneva (Vol. 22).
- Scott, K., & Graham, J. A. (2015). Service-learning: Implications for empathy and community engagement in elementary school children. *The Journal of Experiential Education*, 38(4), 354–372.
<https://doi.org/10.1177/1053825915592889>
- Shernoff, D. J., Csikszentmihalyi, M., Schneider, B., & Shernoff, E. S. (2014). Student engagement in high school classrooms from the perspective of flow theory. In *Applications of flow in human development and education* (pp. 475-494). Springer, Dordrecht.
- Shugurova, O. (2021). Feminist dialogic pedagogical spaces in teacher education: Practical inclusivity, eye-opening and change. *Contemporary Education Dialogue*, 18(1), 29–57. <https://doi.org/10.1177/0973184920969338>
- Standridge, M. (2010). Behaviorism. In Orey, M. (Eds.) *Emerging perspectives on learning, teaching and technology*. (pp. 55-61). Global Text.
- Stommel, J., (2020). How to ungrade. In S. D Blum (Eds), *Ungrading: Why rating students undermines learning (And what to do instead)* (pp. 25-41). West Virginia University Press.
- Sutton, R., (1991). *Assessment: A framework for teachers*. London: Routledge.
- Swaffield, S. (2011). Getting to the heart of authentic assessment for learning.

- Assessment in Education: Principles, Policy & Practice*, 18(4), 433-449.
- Taiwo, S. O., & Vezi-Magigaba, M. F. (2021). Human capital perspective of previous industrial revolutions: Review in support of 4IR and its possible impacts. *Multicultural Education*, 7(8).
- Tamtik, M., & Guenter, M. (2019). Policy analysis of equity, diversity and inclusion strategies in Canadian universities—how far have we come?. *Canadian Journal of Higher Education/Revue canadienne d'enseignement supérieur*, 49(3), 41-56.
- Tannock, S. (2017). No grades in higher education now! Revisiting the place of graded assessment in the reimagination of the public university. *Studies in Higher Education*, 42(8), 1345-1357.
- Ten Berge, T., & Van Hezewijk, R. (1999). Procedural and declarative knowledge: An evolutionary perspective. *Theory & Psychology*, 9(5), 605-624.
- Thorne, S., Jensen, L., Kearney, M. H., Noblit, G., & Sandelowski, M. (2004). Qualitative metasynthesis: reflections on methodological orientation and ideological agenda. *Qualitative Health Research*, 14(10), 1342-1365.
- Timmis, S., Broadfoot, P., Sutherland, R., & Oldfield, A. (2016). Rethinking assessment in a digital age: Opportunities, challenges and risks. *British Educational Research Journal*, 42(3), 454-476.
- van Oostveen, R., DiGiuseppe, M., Barber, W., Blayone, T., & Childs, E. (2016, June). New conceptions for digital technology sandboxes: Developing a Fully Online Learning Communities (FOLC) model. In *EdMedia+ Innovate Learning* (pp. 665-673). Association for the Advancement of Computing in Education (AACE).
- Veenman, M. V., Van Hout-Wolters, B. H., & Afflerbach, P. (2006). Metacognition and

- learning: Conceptual and methodological considerations. *Metacognition and learning*, 1(1), 3-14.
- Vera, E., Hill, L., Daskalova, P., Chander, N., Galvin, S., Boots, T., & Polanin, M. (2019). Promoting upstanding behavior in youth: A proposed model. *The Journal of Early Adolescence*, 39(7), 1020–1049. <https://doi.org/10.1177/0272431618798514>
- Volante, L., (2006). Reducing bias in classroom assessment and evaluation. *Orbit*, 36(2), 34-36.
- von Glasersfeld, E. (2013). *Radical constructivism*. Routledge.
- Voogt, J., Erstad, O., Dede, C., & Mishra, P. (2013). Challenges to learning and schooling in the digital networked world of the 21st century. *Journal of computer assisted learning*, 29(5), 403-413.
- Vu, T., & Dall’Alba, G. (2014). Authentic assessment for student learning: An ontological conceptualisation. *Educational Philosophy and Theory*, 46(7), 778–791. <https://doi.org/10.1080/00131857.2013.795110>
- Waddell, K., Gauvin, F., & Mattison, C. (2018). Rapid synthesis: Fostering K-12 students' global competencies. Retrieved January 13, 2022, from <https://macsphere.mcmaster.ca/handle/11375/23794>
- Warren, C.A., & Hotchkins, B. K. (2014). Teacher education and the enduring significance of “false empathy.” *The Urban Review*, 47(2), 266–292. <https://doi.org/10.1007/s11256-014-0292-7>
- Western and Northern Canadian Protocol for Collaboration in Education. (2006). *Rethinking classroom assessment with purpose in mind*. Winnipeg: Manitoba Education, Citizenship and Youth.

- Whitford, D., & Emerson, A. M. (2019). Empathy intervention to reduce implicit bias in pre-service teachers. *Psychological Reports, 122*(2), 670–688.
<https://doi.org/10.1177/0033294118767435>
- Willis, J. (2010). Assessment for learning as a participative pedagogy. *Assessment matters, 2*, 65-84.
- Wilson, N., & Bai, H. (2010). The relationships and impact of teachers' metacognitive knowledge and pedagogical understandings of metacognition. *Metacognition and Learning, 5*(3), 269–288. <https://doi.org/10.1007/s11409-010-9062-4>
- World Economic Forum (2016). The 10 skills you need to thrive in the Fourth Industrial Revolution, Retrieved from
<http://www.weforum.org/agenda/2016/01/the-10-skills-you-need-to-thrive-in-the-fourth-industrial-revolution>.
- Wylie, C., & Lyon, C. J. (2015). The fidelity of formative assessment implementation: issues of breadth and quality. *Assessment in Education : Principles, Policy & Practice, 22*(1), 140–160. <https://doi.org/10.1080/0969594X.2014.990416>
- Zhao, Y. (2020). COVID-19 as a catalyst for educational change. *Prospects, 49*(1), 29-33.

APPENDICES

Appendix A. Initial Codes During Phase 1 Analysis

Initial Code Title	Files	Ref.
Authentic problems improve metacognition	1	1
Guidance and support improves metacognition	1	1
Metacognition and age	1	1
Reflection improves metacognition	2	2
Gender and sexuality, equity needed for safety, impacts grades	2	3
Educators lack critical consciousness skills	2	4
Heteronormative cisgender norms have negative impacts on success	2	2
Inclusive curricula	4	6
Educator role in creating safe spaces	6	10
Educators have capacity for empathy	2	2
Empathy in education	6	12
Grades not communicating learning	1	1
Educators lack documentation knowledge or skill	1	1
Metacognition beneficial for learning	4	7
Educator training	4	4
Empathy and critical consciousness	3	9
Social justice pedagogy	1	2
Community involvement and partnership	1	5
Student interest	6	13
Educators as reflective metacognitive	2	2
Metacognition and Fourth Industrial Revolution (4IR)	1	1
Learning is complex	1	3

Learning outcomes not defined by measurement	1	1
Self-assessment	2	5
Documentation for supporting learning not measuring	1	2
Standards based	1	2
Documentation as measuring against other	1	2
Flexible documentation practices	1	1
Learner involved in documentation process	2	2
Learning is socially constructed	2	3
Learning and the real world	1	1
Educator interest	1	1
Dominant culture influence	3	3
Curricula and critical consciousness	1	4
Curricula design as flexible and responsive	1	4
Authentic learning experiences	1	1

Note. Files indicate the number of articles related to the initial code, and reference is the number of instances that initial code was identified in the files during Phase 1 of the coding structure.

Appendix B. Sample of Reliability Structure

Figure B1. Reliability Coding, Round 1

ARTICLE	ASSESSMENT AS NARRATIVE	CURRICULUM DESIGN	LEARNING ENVIRONMENT	ROLE OF EDUCATOR	SOCIAL JUSTICE & EQUITY
Article 1	Teachers could use the assessment framework to see where such assessment information could be obtained in order to strengthen a learner's identity, self-regulation and self-determination.		knowledge valued out of school can be transformed profitably into a school context, for both learner and teacher	teachers can use normative assessment to inform their understanding of how best to support the learner, alongside ipsative or self-assessment, for example, to support the learner to understand their own learning and build their own identity as a learner	an inclusive context where students with high needs learn alongside their peers, the assessment framework is a tool for teachers to navigate their decisions on assessment to ensure that all learning is valued and legitimized
	Findings from a survey of teachers in New Zealand showed that given the assessment approaches that are used and the reported purposes for assessment with students with high needs, an integrated narrative assessment approach might be the best way to document learning. Through using different approaches within a narrative assessment, teachers consciously legitimise the importance of identifying and describing the growth and progress for every learner.				
Article 2		Regardless of student's political leanings, the findings indicate students benefitted from discussing controversial topics because it allowed them to engage new dialogue topics. These dialogues fostered critical thinking.	This study is particularly relevant because there is a need to create empathetic learners who think critically, reflect, and have compassion	This drastic difference in student completion of tasks is credited to an actively engaged teacher	the findings indicate students benefitted from discussing controversial topics because it allowed them to engage new dialogue topics
				The findings also suggest that teachers should engage students in controversial topics to enable them to understand different perspectives.	
Article 3	This suggested that in order to generate truly innovative and unique solutions to creative problems, a person must first generate numerous alternatives. It was not typically the case that a student was able to generate a large number of original responses without also generating a large number of alternative responses.		creative problem solving can be enhanced with educational interventions that support metacognitive strategy instruction and regulation	creative problem solving can be enhanced with educational interventions that support metacognitive strategy instruction and regulation	
		course focused on understanding the importance of process and made clear that the best way to generate creative solutions is to build knowledge of creative thinking strategies and to then use monitoring and control processes in the application of such strategies			
Article 4		This standard offers specific opportunities for teachers to disrupt heteronormativity and distinguish between gender and biological/chromosomal sex as distinct categories of meaning.	prepare students for goals of career and college readiness while also offering students the opportunity to (per Britzman, 2005) to acknowledge difference as the grounds of identity, and to situate themselves in dialogue with texts and broader discourses	Queering the way educators navigate language and concepts in their pedagogical practice supports teaching the CCSS and NGSS standards while disrupting normative thinking that is embedded in traditional pedagogies, and challenging assumptions and norms about gender.	When we detach understandings of gender from processes of sexual reproduction, we understand that organisms have functional parts that do not define social identity
			Educators can teach and uphold this concept in their classrooms as 12 A. MATTHEIS ET AL. a practice of inclusivity, especially for students who do not rely on their assigned sex categories to identify their personhood. These findings directly respond to other research that showcases the dominance of heteronormative reproductive curriculum in schools and challenges that dominance	These findings support other research that demonstrates the powerful ways that teachers are capable of challenging normative ways of thinking and being through their pedagogical and curricular choices	These findings, in relation to other research, exemplify how content can be intentional and taught from a different standpoint (Bartell et al., 2017) and challenge assumptions of "proper" public performances of heterosexual selves
				We demonstrate that in embracing their own identities as queer and as People of Color, novice educators engage in the crucial, intense, and necessary work to make schools sites that create rather than foreclose possibility	Leveraging various learning modality, selecting diverse sources and texts, and applying the meanings of "queer" as a way to disrupt traditional structures and modes of communication—including those of LGBTQIA+ identities and gender and sexual diversity—should also include ways to recognize diverse knowledge production where STEM can be used critically as a tool to solve problems within those communities

Figure B2. Reliability Coding, Final Round

ARTICLE	ASSESSMENT AS NARRATIVE	CURRICULUM DESIGN	LEARNING ENVIRONMENT	ROLE OF EDUCATOR	SOCIAL JUSTICE & EQUITY
	alternative assessment, journey, authentic, documented and changes over time, self/peer assessments as it promotes metacognition	implementation or design of curriculum itself (standards, criteria) where curriculum an empathy and critical construct	where do environment, real world, and metacognition influence learners	training capacity, educator empathy, educator in the community	Dominate culture influence, heteronormativity, patriarchy, oppression
Article 1	Teachers could use the assessment framework to see where such assessment information could be obtained in order to strengthen a learner's identity, self-regulation and self-determination		knowledge valued out of school can be transformed profitably into a school context, for both learner and teacher	teachers can use normative assessment to inform their understanding of how best to support the learner, alongside ipsative or self-assessment, for example, to support the learner to understand their own learning and build their own identity as a learner	an inclusive context where students with high needs learn alongside their peers, the assessment framework is a tool for teachers to navigate their decisions on assessment to ensure that all learning is valued and legitimised
	Findings from a survey of teachers in New Zealand showed that given the assessment approaches that are used and the reported purposes for assessment with students with high needs, an integrated narrative assessment approach might be the best way to document learning. Through using different approaches within a narrative assessment, teachers consciously legitimise the importance of identifying and describing the growth and progress for every learner.		an inclusive context where students with high needs learn alongside their peers, the assessment framework is a tool for teachers to navigate their decisions on assessment to ensure that all learning is valued and legitimised	Teachers could use the assessment framework to see where such assessment information could be obtained in order to strengthen a learner's identity, self-regulation and self-determination.	Inclusion in education and society ultimately relies on inclusive thinking – of people, place and assessment practices; in education it is visible for parents, students and their teachers through diverse and supportive action that values all learners.
	Narrative assessment, through learning stories, is one means to capture this learning and achievement by including the learner and their family in the assessment process through writing their own learning stories, and then using these data, alongside other forms of assessment, to give a fuller picture of the student in school and in out-of-school settings.		Narrative assessment, through learning stories, is one means to capture this learning and achievement by including the learner and their family in the assessment process through writing their own learning stories, and then using these data, alongside other forms of assessment, to give a fuller picture of the student in school and in out-of-school settings.		
Article 2		Regardless of student's political leanings, the findings indicate students benefitted from discussing controversial topics because it allowed them to engage new dialogue topics. These dialogues fostered critical thinking.		This drastic difference in student completion of tasks is credited to an actively engaged teacher	the findings indicate students benefitted from discussing controversial topics because it allowed them to engage new dialogue topics
		This study is particularly relevant because there is a need to create empathetic learners who think critically, reflect, and have compassion		The findings also suggest that teachers should engage students in controversial topics to enable them to understand different perspectives.	At both schools, students were less likely to express empathy toward individuals who were different from them.
Article 3	course focused on understanding the importance of process and made clear that the best way to generate creative solutions is to build knowledge of creative thinking strategies and to then use monitoring and control processes in the application of such strategies		creative problem solving can be enhanced with educational interventions that support metacognitive strategy instruction and regulation	creative problem solving can be enhanced with educational interventions that support metacognitive strategy instruction and regulation	
Article 4		This standard offers specific opportunities for teachers to disrupt heteronormativity and distinguish between gender and biological/chromosomal sex as distinct categories of meaning.	prepare students for goals of career and college readiness while also offering students the opportunity to (per Britzman, 2005) to acknowledge difference as the grounds of identity, and to situate themselves in dialogue with texts and broader discourses	Queering the way educators navigate language and concepts in their pedagogical practice supports teaching the CCSS and NGSS standards while disrupting normative thinking that is embedded in traditional pedagogies, and challenging assumptions and norms about gender.	When we detach understandings of gender from processes of sexual reproduction, we understand that organisms have functional parts that do not define social identity
			Educators can teach and uphold this concept in their classrooms as 12 A, MATTHEIS ET AL. a practice of inclusivity, especially for students who do not rely on their assigned sex categories to identify their personhood. These findings directly respond to other research that showcases the dominance of	These findings support other research that demonstrates the powerful ways that teachers are capable of	These findings, in relation to other research, exemplify how content can be intentional and taught from a different standpoint (Bartel et al., 2017) and

Table B1. Reliability Legend for Figure B1 and B2

Green	Yellow	Blue	Purple
Same quotes identified by both researcher and colleague	Different quotes identified by researcher and colleague under the same theme	Researcher identified additional quotes unidentified by colleague	Colleague identified quotes and applied to a different theme than researcher