

Informal Teacher Leaders: Secondary School Teachers' Perceptions of
How They Collaboratively Construct and Implement
Classroom Assessment Policy and Practice

Kristen A. Clarke, B.A., P.G.C.E., M.Litt, M.Ed

Department of Graduate and Undergraduate
Studies in Education

Submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy in Educational Studies

Faculty of Education, Brock University
St. Catharines, Ontario

© Kristen A. Clarke 2018

Abstract

Secondary school teachers enact informal teacher leadership to move their instructional and assessment practices forward by leveraging existing structures and navigating micropolitical contexts. Leadership cannot be oversimplified as the work of an individual because of the complex and interwoven nature of schools and the current political climate of educational settings. Informal teacher leaders (ITLs) co-create roles based on needs that focus on supporting learning for students, for colleagues, and for themselves. This study used a constructivist lens and inquiry methodology to explore perceptions of informal secondary school teacher leaders as they collaboratively construct and implement classroom assessment policy and practice. The study highlights the perceived purpose and nature of informal teacher leadership; organizational factors and conditions that ITLs face when working collaboratively to improve assessment practices; and strategies that these teachers leverage to navigate changes in assessment practice and policy. (Note: a provincial review of assessment was conducted during completion of this dissertation.) This qualitative study explored informal teacher leadership and assessment practice and policy through semi-structured interviews, focus groups, document analysis, and memoing. The research encompassed 28 participants, 11 of whom are ITLs in a suburban school district in Ontario. Findings reveal how ITLs structure their roles to be responsive, reciprocal, reflective, and results oriented. Recommendations are provided to inform educators and policy developers at the provincial, district, and school level for both supporting informal teacher leadership and developing assessment literacy.

Acknowledgements

It has taken me 6 years to complete this work, and although it is not epic by any standard, my gratitude to those who have supported me is.

First, I am grateful for the opportunity to learn from so many wonderful teacher leaders. The participants in this research shared their honest thinking, aspirations, and strategies. They revealed their secrets, successes, and struggles. I appreciate the honesty and insight. It has made me a more reflective learner.

I am also appreciative for friends and colleagues who expressed an interest in my work—even if it was just to see where I was in the process. Thanks to Joanne, Poleen, Hubert, Tina, and Auni for asking me how “things” were going and inviting discussion of my ideas to challenge myself.

Thanks to Raffaello and Coco. They made me tea, told me to get it done, and endured my monologues and (at times) insecurities. My daughter has a mother she describes as determined and smart; my husband has a wife he describes as persistent.

Most importantly, I must express great thanks to Dr. Denise Armstrong. Denise not only has been a supervisor who has challenged me to keep going, think more, and analyze more deeply, but also a mentor and inspiration. I am also thankful for the thoughtful suggestions, questions, and challenges presented to me by my committee members, Dr. Louis Volante, and Dr. Wayne Melville.

Table of Contents

	Page
Abstract.....	ii
Acknowledgements	iii
List of Tables	vi
List of Figures.....	vii
CHAPTER ONE: INTRODUCTION	1
Introduction to the Problem.....	2
Assessment Literacy.....	8
Background and Statement of the Problem	14
Purpose and Research Questions	20
Theoretical Perspective/Conceptual Framework.....	23
Conclusion	30
Thesis Organization	31
CHAPTER TWO: LITERATURE REVIEW.....	32
Teacher Leadership	32
The Six Facets of Teachers’ Engagement in Leadership	39
Types of Teacher Leadership Roles.....	55
Individual, Professional, and Organizational Benefits.....	58
Conditions for Teacher Leadership.....	61
Obstacles to Teacher Leadership	65
Assessment Policy and Practice.....	71
Summary.....	96
CHAPTER THREE: METHODOLOGY	98
Methodological Perspectives	98
Constructivist Paradigm	100
Research Procedures	104
Data Sources and Instrumentation	110
Overview of Analysis Strategies.....	118
Strengths.....	121
Scope and Limitations.....	126
Ethical Considerations.....	127
Summary.....	129
CHAPTER FOUR: FINDINGS.....	130
ITLs’ Perceived Purpose of Their Role.....	131
ITLs’ Perceived Nature of Their Role.....	149
Context for ITLs’ Work	169
Strategies Used by ITLs	186
Conclusion	202

CHAPTER FIVE: DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS	203
Overview of Results	204
Discussion.....	205
Organizational Factors and Conditions Impacting ITLs	215
Leadership Strategies Used by ITLs	225
Implications and Recommendations for Theory, Practice, and Research...	233
Final Thoughts	256
References.....	258
Appendix A: Website Post for Recruitment	311
Appendix B: Script for Initial Contact	312
Appendix C: Letter of Invitation.....	314
Appendix D: Informed Consent Form.....	316
Appendix E: Initial Questionnaire: Research Candidate Information Profile	319
Appendix F: Interview Guide for Informal Teacher Leader	320
Appendix G: Interview Guide for Group Interview.....	321
Appendix H: Observational Field Note Tool.....	322
Appendix I: REB Approval	323

List of Tables

Table	Page
1. Subsidiary Research Questions and Data Sources	21
2. Research Participants.....	108
3. Three Themes for Learning	132

List of Figures

Figure	Page
1. Six facets of teacher leadership.....	41
2. Framework for constructivist teacher leadership	150

CHAPTER ONE: INTRODUCTION

This constructivist inquiry blends a focus on informal teacher leadership and classroom assessment practices to explore secondary school teachers' perceptions of how they collaboratively construct and implement classroom assessment policy and practice. For decades, research has identified effective classroom assessment practices as essential to supporting student learning in school and beyond, yet implementation of impactful assessment practices has been slow (Bennett & Armstrong, 2012; Birenbaum et al., 2015; Black & Wiliam, 1998; Deluca, Klinger, Pyper, & Woods, 2015; Earl & Katz, 2006; Volante & Beckett, 2011; Wiggins, 1989). Similarly, over the past three decades, teacher leadership has become an extensively explored leadership construct in North America (Collay, 2011; MetLife, 2013; York-Barr & Duke, 2004), the United Kingdom (Frost, 2012; Muijs & Harris, 2006), and in Australia and New Zealand (Anderson, 2011; Andrews & Crowther, 2002; Melville, Wallace, & Bartley, 2007). Yet, teacher leaders' voices have been neglected in the leadership literature corresponding to administrators (Balyer, 2012; Bush, 2011; Day & Sammons, 2013), where the focus continues to be on the principalship (Anderson, 2008; Rizvi, 2008) under the umbrella framework of transformational leadership (Leithwood, 1992; Shields, 2010). Furthermore, this leadership knowledge base continues to identify principals as the instructional leader (Day & Sammons, 2013; Fullan, 2002; Hallinger, 2005; Lunenburg, 2010; Marks & Printy, 2003) despite evidence showing that administrators' impact on student learning is indirect (Hattie, 2009, 2012; Supovitz, Sirinides, & May, 2010) and second to teaching (Leithwood, Seashore Louis, Anderson, & Wahlstrom, 2004). This leadership challenge, therefore, reinforces the need to explore current leadership realities, including those of teacher leaders to better support student learning.

Introduction to the Problem

The literature on educational leadership is replete with studies on instructional leadership (Kappler Hewitt, Childers-McKee, Hodge, & Schuler, 2013) and transformational leadership (Day & Sammons, 2013). More recently, instructional leadership has been critiqued for being merely a slogan (Leithwood, Day, Sammons, Harris, & Hopkins, 2006). Neumerski (2012) challenges instructional leadership more specifically because of its lack of clarity around how instructional leadership takes place or how effective instructional leadership behaviours are enacted in schools. Calls for a more coherent approach to instructional leadership have been made to deal with the obstacles of expertise, time, and expectations (Hallinger & Murphy, 2013). Notwithstanding Lunenburg's (2010) assertion that "principals need to help teachers shift their focus from what they are teaching to what students are learning" (p. 1), principals have little ability to monitor and share in curriculum implementation (Reubling, Stow, Kayona, & Clarke, 2004), and are critiqued for conflating leadership with an administrative role (Anderson, 2008). Coldren and Spillane (2007) contend that little has changed within the traditional hierarchies of schools "despite the rhetoric touting the importance of instructional leadership" (p. 372) and principals continue to feel overwhelmed with responsibilities.

Department heads or curricular chairs are also often seen as instructional leaders. In Stephenson's (1961) paper exploring departmental organization, he suggests that department heads are selected to support instructional improvements in the department because they are collaborative master teachers with content area expertise and influence. Wettersten (1992) found that department heads lead and support curricular change through advice and collaborative conversations. This notion of instructional leadership held by the department

head has more recently been challenged and extended because of the complexity of the role (Poultney, 2007). Poultney (2007) notes how subject leaders no longer see themselves as subject experts but rather as “professional equals to their staff, willing to work with them collaboratively in the classroom” (p. 10). Additionally, to illustrate the complexity and micropolitical aspect of the role, Melville and Wallace (2007) note that “Departments must be regarded as both communities that offer teachers a sense of identity and meaning and as organizations that can operate their own political agendas” (p. 1204). Instructional leadership, illustrated in many roles, is complex and still merits additional research and exploration for its connection to student learning.

Similarly, transformational leadership, although espousing key values of liberty, justice, and equality (Shields, 2010), does not create space for teachers as leaders, but merely configures them as people requiring development or as individuals working within the influence of a principal with vision (Leithwood, 1992). Cited as a condition for instructional leadership, transformational leadership needs to coincide with other forms of leadership grounded in sound pedagogy (Marks & Printy, 2003). Although Leithwood (1992) claims that transformational leadership “evokes a more appropriate range of practices” (p. 8), many weaknesses exist with this leadership framework when applied to the complex, constructed, and interactive nature of educational leadership.

Leithwood’s initial work on transformational leadership developed from the business literature and created a framework that focused on “helping staff members develop and maintain a collaborative, professional school culture; fostering teacher development; and helping teachers solve problems together more effectively” (Volante, 2012, p. 13). Pounder (2006) presents an alternative and inclusive interpretation of transformational leadership

when he describes transformational classroom leadership as a framework that extends the original construct of transformational leadership to one that includes many individuals in a process of mentoring, decision-making, and reflective inquiry. The focus on the principal as leader presents a narrow and limited view of school leadership (Frost et al., 2009; Spillane, 2005) and does not address the complexities of schooling (Fullan, 1997; Rivzi, 2008), leaving space for an exploration of teacher leadership as a framework to support effective pedagogical and assessment practices. Often research omits to compare or connect the impact of principals' instructional or transformational leadership with the impact of teacher leadership (Jackson & Marriott, 2012; Neumerski, 2012). This omission cues a need for teachers to be more engaged in leadership practices that focus on improving student learning and for researchers to explore this connection.

Teacher leadership has been interpreted and depicted in numerous ways (Angelle & DeHart, 2011; Muijs & Harris, 2006; Pounder, 2006; Scott-Williams, Lakin, & Kensler, 2015; York-Barr & Duke, 2004) and continues to be a broadly articulated research construct (Bae, Hayes, O'Connor, Seitz, & Distifano, 2016; Scribner & Bradley-Levine, 2010). Teacher leadership, as with other forms of leadership, involves a process of influencing others and working collaboratively toward improved student learning (Clarke, 2009; Liu & Tsai, 2017). Simply put, it implies an increased empowerment and sense of agency in teachers (Struyve, Meredith, & Gielen, 2014). Teacher leadership is an individual and collective reflective process (Clarke, 2012; Pounder, 2006) of leading teachers through change (Fullan, 2002), which positively affects and supports student learning (Aubrey-Hopkins & James, 2002), teacher sense of self (Stewart, 2012), and collective efficacy (Angelle & Teague, 2014).

Definitions of teacher leadership are constantly changing and being debated (Anderson, 2004; Bae et al., 2016; York-Barr & Duke, 2004; Yow, 2007). Within the distributed leadership literature, Spillane, Camburn, Pustejovsky, Stietziel Paraja, and Lewis (2008) recognizes that “leadership and management potentially involve more than the work of individuals in formal leadership positions—principal, assistant principal, and specialists; it can also involve individuals who are not formally designated leaders” (p. 191). Yet, much of the existing teacher leadership research focuses on formal teacher leaders—those individuals who hold formal positions of responsibilities in schools (Harris, 2005; Harris & Muijs, 2002; Melville, Jones, & Campbell, 2013). This attention to formal teacher leadership is not surprising, as much of the educational leadership literature focuses on roles and responsibilities of administrators reinforcing a bias for positional leadership in the literature (Katzenmeyer & Moller, 2009). Formal teacher leaders have specific roles in school, although these roles are often noted as ambiguous due to the absence of job descriptions, shifting responsibilities, and changes in supervisors who interpret the roles differently (Aubrey-Hopkins & James, 2002; Bae et al., 2016; Mayers & Zepeda, 2002; Schmidt, 2000). Frost et al. (2009) suggest that relying on the creation of specially designated teacher leadership roles is problematic as these roles place a financial burden on the system and a perceived cap on leadership. Yow (2007) contends that this narrow view of teacher leadership limits the capacity of teachers to be seen as leaders. Formal teacher leadership definitions are limited and therefore they open the door to explore informal teacher leadership. Unlike formal teacher leaders with designated roles, informal teacher leaders (ITLs) act as needed in schools, navigate educational settings alongside teachers with and without formal roles, and co-construct their informal teacher leadership roles with

collaborative colleagues, while focusing on improving teaching and learning (Angelle & DeHart, 2011; Bae et al., 2016; Liu & Tsai, 2017; Neumerski, 2012; Struyve et al., 2014). More recently, the phrase “non-positional teacher leadership” has surfaced in the literature because of the perception that the phrase “informal teacher leadership” may construe a lack of legitimacy or authority (Frost, 2014). Although this concern is noted, informal teacher leadership in this study is used to refer to teachers as a way of differentiating non-positional teacher leadership from those who hold titles such as department head, mentor, or lead teacher. Leithwood (2003) described informal teacher leaders as those who share expertise on a voluntary basis. These ITLs may assist colleagues with duties and classroom practices (Frost, 2014). At the school level, they may influence decision-making, co-create school vision and mission, and or influence professional learning (PL) and inquiry. In their study of science educators, Judson and Lawson (2007) found that “constructivist teachers may try to convey reformed pedagogy by facilitating workshops and presenting at conferences, but their greatest influence may be felt by increased communication with the teacher next door” (p. 502). This illustrates how ITLs can have an impact on learning despite being untitled. ITLs are focused on their own personal and PL and often do so collaboratively.

Lastly, educational systems have been slow to recognize and value teacher leadership (Brosky, 2011). Despite more than 30 years of literature, there is still debate over its value and role in education. This lack of respect for teacher leadership continues to place teachers on a lower rung of the ladder of influence in schools. Teachers have the knowledge to be included in policy-making conversations, but are often omitted, leading to power struggles and possible resistance to policy implementation (Anderson & Cohen, 2015). The perceptions of ITLs need to be presented to illustrate what exists beyond traditional

educational leadership paradigms and to support the development of a body of literature that is inclusive of varying leadership perspectives (Washbush, 1998). As Washbush (1989) suggests, teacher leadership challenges traditional notions of hierarchical structured leadership to recognize that leadership “is not simply a ‘function of the executive,’ and can be exerted not only down, but also up and across the organization” (p. 337). Interestingly, most teacher leaders do not see themselves as leaders (Brosky, 2011; Clarke, 2009; Katzenmeyer & Moller, 2009), and prefer to use the designation of “leader” in conjunction with those who hold formal positions (Angelle & DeHart, 2011). Yet, teachers’ individual and collaborative work has a direct impact on student learning (Nasser-Abu Alhija & Fresko, 2010; Nieto, 2007), a possible indirect impact on student learning (Bae et al., 2016; Scott-Williams et al., 2015), and an impact on their colleagues’ instructional practices (Brown & Medway, 2007; Fairman & Mackenzie, 2014). This impact takes time, trust, and experience to cultivate (Melville et al., 2013).

Despite the benefits of teacher leadership, little has been done to explore informal teacher leadership, leaving a gap in understanding and therefore an under-noticed value in the education system (Bai et al., 2016). Teacher leaders often struggle while “working outside the traditional bureaucratic cultures and structures to which they are accustomed” and a reluctance to “break solidarity with colleagues by assuming authority that their colleagues do not have” (Ryan, 2007, p. 101). The strength of the norm for teachers to be “equal” and not to lead is also a notion that has little exploration in the literature. Initial teacher leadership research explores how formal teacher leaders lead from within their classrooms (Stein, 2014) and beyond their classrooms (Gabriel, 2005; Killion & Harrison, 2006); however, research does not explore the extent to which ITLs leverage their expertise or influence to effect

positive changes in teaching and learning both within and beyond the walls of the classroom. Teacher leadership is a political act (Jacobs, Beck, & Crowell, 2014)—one that often goes unrecognized as such, but that needs to be addressed through analysis of the micropolitics of schools (Neumann, Jones, & Webb, 2012). There is little research exploring how teacher leaders as a whole navigate the complex micro-political settings of schools and the strategies they use to influence others outside of research by Brosky (2011) and to a lesser extent, Blase (1989). These navigational experiences indicate a need for political skill, “the exercise of influence through persuasion, manipulation and negotiation” (Mintzberg, 1983, as cited in Brosky, 2011, p. 3). Lambert (1998) notes that all teachers have the right to enact leadership and that this demonstrates active democratic values in action through engagement in decision-making. Therefore, it is the intention of this research to give voice to ITLs and to uncover the processes and political skill they use as they work collaboratively to improve classroom assessment practices in Ontario. As such, ITLs’ perceived experiences when collaborating on classroom assessment policies and practices are explored to bring focus to how improvements to teaching and learning require political astuteness.

Assessment Literacy

This study explores the perceptions of informal secondary school teacher leaders as they collaboratively construct and implement classroom assessment policy and practice. Much of the practice stems from attempts to implement the Ontario Ministry of Education’s (OME, 2010a) *Growing Success: Assessment, Evaluation and Reporting in Ontario’s Schools*. Although this policy is now 8 years old, and ready for a revision, many Ontario educators continue to struggle with understanding and executing the policy along with making their policy-aligned and informed assessment practices visible within their teaching

(Reid, Drake, & Beckett, 2011). Educators in Ontario can access assessment support materials that have been released gradually by the OME via the EduGains website (<http://www.edugains.ca>). At the secondary level, the policy's implementation was supported with pamphlets from the Ontario Secondary School Teachers' Federation (OSSTF) and individual district PL opportunities. Districts have also supported implementation through board-generated support structures, PL, and materials. Lastly, schools also have autonomy to make some site-based decisions regarding assessment, evaluation, and reporting, yet are required to uphold the seven principles of assessment outlined in the policy. *Growing Success* (OME, 2010a) articulates various purposes and processes to be used in assessment and it frames these practices as assessment as, for, and of learning. It is because of the complexity of the intersection between teacher leadership and assessment literacy that this study has such value.

Ontario's Ministry of Education has been evolving and developing more research-based and student-centred assessment policy. In each reform over the last 25 years, assessment, evaluation, and reporting have been addressed, beginning with *Ontario Schools: Intermediate and Senior* in 1983 (Earl et al., 2010). This initial policy statement, which introduced the terms formative and summative assessment, was followed by *Program Planning and Assessment, the Ontario Curriculum, Grades 9-12* (OME, 2000). *Program Planning and Assessment* initiated discussion of, and a step away from, negative assessment tactics, which evaluated behaviours as opposed to determining student achievement in relation to standards outlined as curriculum expectations. The identification of learning skills and work habits (i.e., behavioural look-fors), and the separation of these from curriculum expectations, divided achievement data between standards-based and behaviour data.

Program Planning and Assessment (OME, 2000) also outlined performance standards in the form of an achievement chart that teachers are required to use to develop a balanced approach to assessment. Ontario continues to be the only province or territory in Canada with mandated performance standards (Cooper, personal communication, 2015). These performance standards require a balance of representation of evidence of learning set into four categories: knowledge and understanding, thinking, application and making connections, and communication. More specific achievement charts are included in content-based curriculum documents. Regardless of the existence of performance standards for over 17 years, educators continue to struggle with implementing these standards with consistency, as is evident after reviewing Google search findings and Pinterest boards for assessment supports in Ontario which yielded a wide breadth of interpretation.

According to Earl (1995), assessment is a “critical element of school reform and teachers are encouraged to improve their assessment procedures and to align their instruction and assessment with the stated outcomes and standards” (p. 50). At the root of the challenges with classroom assessment is a “poverty of practice” (Black & Wiliam, 1998, p. 4) or the varying degrees of assessment literacy among educators (Popham, 2009a; Volante & Cherubini, 2011). Assessment literacy, as defined by Volante and Cherubini (2011), includes “an understanding of the principles and practices of sound assessment” (p. 161). Willis, Adie, and Klenowski (2013) extend this definition and present assessment literacy as “a dynamic context dependent social practice that involves teachers articulating and negotiating classroom and cultural knowledges with one another and with learners, in the initiation, development and practice of assessment to achieve the learning goals of students” (p. 242). As the construct of assessment literacy evolves, teachers across the globe are challenged to

implement these changes in practice (Leong, 2014), particularly as teachers need multiple assessment literacies to deal with the complexity of current policy and the increased requirements for a diverse assessment repertoire to help meet the needs of all students (Willis et al., 2013). These assessment challenges are not currently explored in the literature, particularly in Ontario.

Despite the global interest in assessment literacy, there remains a significant gap in the literature, particularly in Ontario and Canada (Reid et al., 2011). There has been some critique of the level of support or focus from the OME for effective assessment practices (Klinger, Volante, & DeLuca, 2012). There was initial support from teacher unions and continued support for elementary educators; however, the OSSTF has not updated its assessment support materials posted to its provincial website. Teachers remain stressed by a system that requires them to report grades, but purports a focus on assessment for learning. Stiggins (2004) openly faults teacher preparation programs for their lack of assessment content and more recent research by DeLuca and Klinger (2010) suggests that there is the limited access to assessment content in teacher education programs. Lastly, but most importantly, in their research on early implementation of assessment reform in Ontario secondary schools, Earl et al. (2010) explained that “in a few cases, there was interest in engaging in more intensive collaborative activities and going deeper into the [assessment] issues, sometimes with the input of an outside expert” (p. 28). This interest in collaboratively developing assessment literacy merits further exploration.

Other factors interfere with the development of assessment literacy such as conflicting school and board priorities which often place other initiatives above assessment literacy, as is evidenced by the recent push in Ontario toward a numeracy agenda (Rushowy,

2014). Teachers have not been provided with sufficient time to unpack their current assessment practices to effectively implement and update assessment practices aligned with *Growing Success* (OME, 2010a). As such, teachers may require direct instruction to develop assessment literacy (DeLuca & Klinger, 2010), they may lack the language required for assessment collaboration (Black, Harrison, Hodgen, Marshall, & Serret, 2010; Willis et al., 2013), and they may be overly challenged by top-down, mandated assessment policy (Koh, 2011). Additionally, the focus on Assessment for Learning (AfL) as emphasized in *Growing Success* requires a rethinking of traditional assessment practices, leading to dissonance and frustration among educators. Guskey (2015) suggests that without a common understanding of the purpose of assessment, change in teachers' classroom assessment practices will continue to be elusive.

Growing Success (OME, 2010a), the provincial policy document, articulates a shift in focus from grading to learning, when it states, "The primary purpose of assessment and evaluation is to improve student learning" (p. 6). Although the OME has stated that improvement of student learning is the "new" purpose of assessment, many teachers continue to feel unsupported as they shift their current assessment practices while dealing with administrator, parent, and colleague distrust of the policy. Again, it must be noted that the clarity of assessment policy and practice in Ontario for educators and parents has been under-researched. As Volante and Fazio (2009) note, educators can make great gains with a practice based on formative assessment, yet for secondary educators in their study, the focus remains on traditional assessment, including AoL. Educators struggle to focus on student learning when policy like *Growing Success* sends conflicting messages about assessing and reporting. Educators are expected to use achievement standards to assess and describe student learning,

but report using percentage grades. The resulting confusion affects teachers, students, and parents.

Some of these feelings of discomfort around assessment literacy may result from a lack of assessment leadership in schools. Assessment leadership is often an assumed element of instructional leadership (Reubling et al., 2004). However, this assumption is misguided, as assessment literacy is a noted area of need for many school administrators (Hellsten, Noonan, Preston, & Prytula, 2013; Reubling et al., 2004) and teacher leaders (Koh, 2011; Moss, 2013). Additionally, the research exploring administrators' curricular understanding and assessment literacy indicates that a general lack of assessment knowledge and understanding of students' levels of performance is further compounded by their inability to guide teachers' improvement in assessment practices (Reubling et al., 2004). Surfacing this gap in assessment literacy and leadership among administrators leads to questions about the pedagogical knowledge required to effectively support student learning and the impact this level of knowledge has when administrators are in positions of power and influence. Further questions arise about administrators' ability to monitor school effectiveness plans and evaluate teachers given their own pedagogical limitations related to assessment literacy.

In his work exploring power, Foucault aimed to interrogate the construct of power and its connection to knowledge and wanted to “effect a transformation in how we view power and the production of knowledge” (Allen, 2014, p. 2). Foucault (1983) stated, “It is not possible for power to be exercised without knowledge, it is impossible for knowledge not to engender power” (p. 52). There is a lack of clarity between the notions of power, informal power, influence, and voice. Yukl (1998) suggests that power is the ability to influence others and that “influence is the essence of leadership (p. 198). Brosky (2011) presents a

narrower perspective on power that differentiates between those who have formal power, or authority, and those who have informal power, or influence. This is a different perspective from Foucault (1983), who argues that an understanding and analysis of power needs to follow ongoing conceptualization, as power is rooted in relationships, not specific individuals (p. 198). To add to this discourse around power, an exploration of micropolitics will surface contextual elements not often raised for teacher leaders. Achinstein (2002) says that “Micropolitical theories instead spotlight individual differences, goal diversity, conflict, uses of informal power, and the negotiated and interpretive nature of organizations” (p. 423). These notions of power, influence, and micropolitics need to be explored and co-constructed from a teacher leader lens as there is insufficient research exploring the power and influence struggles within the micropolitics of schools as it relates to teacher leaders. This begs the connection of power to the work of teacher leaders. As they develop their own understandings of assessment, where is their power to influence policy and practice? As teachers work toward understanding and implementing *Growing Success* (OME, 2010a), a discussion of who has a voice or influence in facilitating assessment literacy and who can outline implementation practices that are best for students needs to take priority. This notion of differentiating influence and power is significant. Jackson and Marriot (2012) contend that leadership is influence and therefore, because teacher leaders have knowledge, they can influence.

Background and Statement of the Problem

To date, ITLs’ attempts to improve classroom assessment practices that support increased student learning have been largely omitted from the leadership discourse, yet teachers do make positive changes to classroom assessment practices (Chow & Leung, 2011;

Lieberman & Miller, 2004; Volante & Beckett, 2011). In her study exploring the implementation of AfL practices in a secondary school, Roberts (2007) found that teachers who embraced AfL focused more on student learning, networked with colleagues, and increased their sense of empowerment as teachers and learners. Similarly, Koh (2011) found that individual teachers' assessment literacy could be significantly improved through a focus on authentic assessment, yet the aforementioned study was not specifically examining ITLs, but instead singular teachers with shifting assessment practices.

As a secondary school educator, I have held several formal and informal teacher leadership roles. The exploration of teacher leadership stems from my own frustration with limitations placed on teachers' influence and the joys that I experienced while collaborating with my colleagues to improve learning, student engagement, and professional discourse. As a social science department head and a novice educator, I was challenged by the ambiguity of my role and the conflicting priorities within my department and school. I was often caught up in the micropolitics of the school, with conflicting views and beliefs around the purpose of assessment. Flessa (2009) defines micropolitics as "the study of politics within the school... sometimes understood as the study of how things *really work*, not how an organizational chart or a principal's action plan would like them to work" (p. 331). Getting access to the essential knowledge of how things really work was challenging. Like the teachers cited in Yow's (2007) research, I too was aware of who held power and authority, based on their relationships, and understood that the school was also part of a larger organization with its own dynamics. Yet, I was limited by my novice leadership skills and the time required to build trusting relationships that would lead to shared decision-making and collaboration. Beyond my personal and professional interest in teacher leaders' roles in policy

implementation, I am also motivated by shortcomings in the current literature. My analyses of the current state of teacher leadership and assessment research have led me to four reasons for pursuing this topic; the first three reasons deal with gaps in the current literature, and the fourth deals with an inconsistency in current teacher leadership research and frameworks.

First, secondary school teacher leaders are often seen as subject specific and are assigned formal positions of responsibility, such as department heads or curricular leads based on subject designation (Aubrey-Hopkins & James, 2002; Glover & Miller, 1999; Kerry, 2005; Yow, 2007). While there is research on informal teacher leadership at the elementary level that focuses on cross-curricular and whole-school pedagogical realities, such as assessment, there is limited research exploring such roles at the secondary level. Already in some literature, the practices of teacher leaders' are questioned (Anderson, 2004; Bae et al., 2016). One of the many different definitions of teacher leadership describes teacher leaders as those who continue their work from within their classrooms and connect their own learning to instructional and assessment practices (Danielson, 2006). Therefore, voice must be given to the ITLs who make their classroom assessment practices visible to students and colleagues and who co-create their understanding of policy-aligned and or research-informed assessment practices. By ensuring that these voices are heard, this study will deepen current micropolitical understandings of the contexts within which ITLs navigate and how they work with and influence colleagues within the complex dynamics of schools.

Second, there is limited research exploring how teacher leaders affect policy implementation. Flessa (2009) cites Hoyle (1982) who states that the micropolitics in schools are strongly aligned with coalitions of people, strategies, influence, and knowledge. Flessa contends that micropolitics are more about influence than power but attention must be paid to

managerial power as this can impact a teacher leader's ability to influence policy. As such, when policy is implemented in schools, teacher leaders, and ITLs specifically, are often left out of the analysis, despite their ability to align policy to practice and navigate school settings. Ignoring ITLs' ability to interpret and implement policy will result in the loss of "some of the best leadership that is right in front of us" (Nieto, 2007, p. 308). In her study of the micropolitics of formal teacher leadership, Yow (2007) found that teachers who change schools and "do not conform quickly to the dominant culture and wish to make policy changes must do so strategically and quietly" (p. 205). This perspective of teacher leadership and policy implementation leaves out the voices of ITLs and those who decide to avoid or openly object to policy, as a political act or an act of resistance.

Research is beginning to explore the importance of teacher involvement in policy making. Bangs and Frost (2012) suggest there should be policies which establish teachers' "right to be heard and to be influential at all levels of policy making including the content and structure of the curriculum" (p. 40). In their exploration of policy actors, Ball, Maguire, Braun, and Hoskins (2011) explored how educators hold a variety of roles to support and explore the use of policy in schools. In particular, they note how teachers can be entrepreneurs, enthusiasts, translators, and critics with regard to policy implementation. Beachum and Dentith (2004) also contend that teachers need to engage in conversations about policy and how it is operationalized; however, for the most part, they do not. This reinforces Dyer's (1999) findings that suggest involving teachers in policy development through the use of a backward mapping process facilitates engagement and participation in change efforts. Similarly, teachers act as leaders and researchers in translating reform policies into the reality of "best" practices within their own school cultures (Peckover, Peterson, Christiansen, & Covert, 2006, p. 1). Providing ITLs with an opportunity to share

their experiences would ensure that a more diverse range of voices is heard in policy development and implementation. Teachers' participation in policy development will illustrate how educational organizations are rooted in the democratic belief of "self-determinism of teachers in their work and the enfranchisement of teachers in educational administration" (Weise & Murphy, as cited in Smylie, Conley, & Marks, 2002, p. 164). Therefore, extending the current literature to explore how ITLs influence policy implementation will provide a positive contribution to the body of literature, while exploring how these ITLs navigate the complex contexts in schools.

Third, the effects of teacher leadership, in the form of influence on colleagues, merits exploration (Brown & Medway, 2007; Clarke, 2009; Fairman & Mackenzie, 2014). Angelle and DeHart (2011) note that "perceptions of the components of teacher leadership in school contexts by teachers themselves have largely been lacking in the literature" (p. 142). Struyve et al. (2014) state that "Teacher leadership blurs the traditional division between teaching and leading and forces teacher leaders to revise the conceptions they hold of themselves as a professional by asking questions such as: who am I?; how well am I doing?; and what is my task?" (p. 207). Therefore, exploring not only ITLs' but also their colleagues' perceptions of their role will help develop a more collaboratively constructed view of informal teacher leadership. Increasingly, research indicates that leadership is the responsibility of all teachers (Barth, 2001; Washbush, 1998); however, this contention neglects to explore the power dynamics that exist in schools whereby some teachers, although not in formal positions of responsibility, do exert more influence over others based on their relationships. Therefore, giving voice to ITLs will begin to fill this gap in research.

Fourth, teacher leadership needs to be explored from the context of reciprocal relationships (Anderson, 2004) and collaboration (Liu & Tsai, 2017). It cannot be

oversimplified as the work of one individual because of the complex and interwoven nature of schools and the current political climate of educational settings (Frost, 2014; Yow, 2007). Struyve et al. (2014) highlight the importance of recognizing the micropolitical perspective and understanding the social-professional relations that exist to establish working conditions that allow teacher leaders to influence one another. Current research on teacher leadership is often limited to the actions of the individual teacher leader (Muijs & Harris, 2006). This could be compared to the ideals of the heroic leader from our past and our recognition of the post-heroic ideas that are reflected in non-traditional or shared forms of school leadership (Boone, 2015; Gronn, 2008; McCrimmon, 2010). However, when teacher leadership becomes a part of school culture, teacher leaders need to explore their sense of professional identity and learn how to navigate between seeing themselves as teacher leaders and maintaining collegial and professional relationships (Struyve et al., 2014). It is challenging for teachers to move from being collegial to collaborative (Little, 1990). Without addressing the larger school culture and examining the intertwining roles of leadership at large in schools, one cannot understand the effects of teacher leadership.

Distributed leadership is more recently being linked to teacher leadership. Distributed leadership, according to Timperley (2005), is a process of distributing activities and interactions across a network of interconnected and interdependent people to promote and sustain conditions for success and learning. Critiques have recently been levied at distributed leadership (Gronn, 2008). Therefore, a triangulated approach to informal teacher leadership that explores not only the perceptions of the individual teacher leader but others who engage with that individual and the evidence of their assessment literacy is a necessary next step to understanding teacher leadership in all its complexity.

Purpose and Research Questions

This qualitative research study explored how secondary school teacher leaders and their colleagues collaboratively construct understandings of informal teacher leadership, how ITLs navigate their organizational conditions to engage in collaborative work, and how ITLs leverage specific strategies to collectively construct and implement classroom assessment practices and policies. The research explored the perceptions of 11 ITLs from a large suburban school district in southern Ontario. Each ITL was self-grouped with two to six colleagues with whom they collaborated and constructed assessment literacy. Each ITL was individually interviewed (at least once) and then collectively interviewed along with his or her colleagues. Additionally, I observed three assessment planning meetings and analyzed relevant documents developed and shared by several groups or partnerships. Qualitative research afforded flexibility in data collection and allowed participants to inform the research process.

The main question was: What are informal secondary school teacher leaders' perceptions of how they collaboratively construct and implement classroom assessment policies and practices? This question will be more fully explored through three subsidiary questions presented in Table 1.

Subsidiary Research Question 1

The first subsidiary research question sought to identify the perceived purpose and nature of ITLs' roles when constructed by teacher leaders and their teacher colleagues. Teacher leaders have significant roles to play in schools as their work focuses primarily on classroom instruction and student learning. However, many teacher leaders do not recognize their work as "leadership" as it is often coupled with unexpected managerial and administrative duties (Angelle & DeHart, 2011; Clarke, 2009; Glover & Miller, 1999).

Table 1

Subsidiary Research Questions and Data Sources

Subsidiary research questions	Data sources
1. What is the perceived purpose and nature of ITLs' roles when constructed by teacher leaders and their teacher colleagues?	– Semi-structured individual and group interviews
2. How do ITLs navigate the organizational factors and conditions as they engage in collaborative work related to classroom assessment policies and practices?	– Meeting observations – Document analysis – Researcher's ongoing memo writing
3. How do ITLs leverage specific strategies to collaboratively support and implement classroom assessment policies and practices?	

This complexity leads to ambiguity and role confusion for many (Aubrey-Hopkins & James, 2002; Mayers & Zepeda, 2002; Schmidt, 2000). Similarly, despite increasing dependence on teacher leaders by administrators, perceptions of teacher leaders' roles remain unclear (Little, 2002; Struyve et al., 2014). Colleagues play integral roles in the exchange of pedagogical knowledge and skill often through collaborative efforts with teacher leaders. Yet, teachers have difficulty defining teacher leadership as it is contextually based (Angelle & DeHart, 2011; Clarke, 2009). Although there is some research exploring administrators' (Boyd, 2011) and colleagues' (Struyve et al., 2014; Zimmerman, 2006) perceptions of teacher leadership, research on ITLs remain thin at the secondary level, therefore necessitating exploration of this facet of teacher leadership.

Subsidiary Research Question 2

The second subsidiary research question sought to identify how ITLs navigate the organizational factors and conditions as they engage in collaborative work related to classroom assessment policies and practices. This aspect of the study explored how teacher leaders are often faced with external and internal factors and conditions that affect their roles. These complex contextual factors often pose barriers for teacher leaders (Turner, 1996). Berry, Norton, and Byrd (2007) recommend that more space be made at decision-making tables for teachers so that school improvement goals can be realistically set and met, yet they do not explore how to navigate the micropolitics of schools. Teachers are often reluctant to deprivatize their practice, particularly as it relates to assessment, but there is little research available to explain why. As such, developing a deeper understanding of how ITLs work within school dynamics will shed light on the complexities of teaching and learning with emphasis on assessment policy and practice.

Subsidiary Research Question 3

The third subsidiary research question sought to identify how ITLs leverage specific strategies to collaboratively support and implement classroom assessment policies and practices. This aspect of the study investigated teacher leaders' varied influence on colleagues, administrators, and policy implementation. Assessment and evaluation are noted as areas of inadequate knowledge among educators (Popham, 2009a) and additional training and exploration focused on assessment literacy may bridge the existing gap between theory and practice. Moss (2013) states that "Researchers consistently suggest collaborative experiences with assessment as a way to narrow the gap between teacher perceptions of their assessment knowledge and skill and their actual assessment competence" (p. 237). However, it is unclear in the Ontario context where the exact assessment literacy gaps are, as it seems to be contextually based. For informal teacher leadership to foster policy implementation, traditional school hierarchies needed to be flattened to allow more opportunity for teacher influence (Coyle, 1997). To navigate these complex contexts, teacher leaders often employed strategies such as fostering collaborative environments, communicating effectively, and acting as and providing resources for colleagues (Clarke, 2009). Formal teacher leaders often employ these strategies; however, there is a gap in the literature about the strategies that ITLs employ. More specifically, there is also a dearth of literature on best assessment practices for teachers to informally support and co-create assessment literacy.

Theoretical Perspective/Conceptual Framework

Constructivist leadership frames this study. This section presents an overview of constructivist leadership and its connection to teacher leadership. Constructivist leadership emphasizes the co-construction of meaning while recognizing the mutual influence between

educators within an educational setting. Constructivist leadership (Walker & Lambert, 1995) within an educational setting is greatly influenced by social constructivism, and as such, feeds into the theoretical underpinning of this study. Constructivist leaders influence the understanding of school improvement by leading through learning and enacting humanist and democratic approaches focused more directly on the needs of students (Shapiro & Koren, 2007). As with constructivist education, which focuses on teachers' ability to facilitate learning, constructivist leadership focuses on the ability of leaders to facilitate collaborative learning and knowledge mobilization. Therefore, teacher leadership can be explored through a constructivist lens as this power-laden construct is best interpreted by those who enact the role.

Constructivist leadership aims to reframe and reform roles and relationships within schools while focusing on democratizing organizations and breaking down traditional school hierarchies, unlike transformational leadership which aims to reform organizations based on the vision of the school administrator. Constructivist leaders seek to collaborate with diverse people representing multiple perspectives to better examine issues and make meaning. Desautels, Garrison, and Fleury (1998) observe that in schools, "a critical-constructivist pedagogy does not rank forms of knowledge, but rather promotes a pluralistic epistemological democracy which favors the enrichment of the field of possibilities for the student through their participation in different knowledge games" (p. 259). Lambert (1995) also emphasized that diversity is "a fundamental complexity in relationships and perceptions" (p. xiii) and that constructivism both embraces and supports diversity with the goal of better serving our professional communities and students. Constructivist leaders hold similar beliefs. This reframing of organizational structures also moves the leadership discourse away from "trait" leadership and hierarchy to one that involves PL communities

(Beauchum & Dentith, 2004) and collaborative inquiry (Donahoo, 2013). When leaders build collaborative relationships, they create opportunities for authentic relationships, risk-taking, community-established norms, and collegiality (Lambert, 1998). Constructivist leadership's engagement with the democratization of organization is often coupled with PL to bridge elements of constructivist leadership, shared leadership, and teacher leadership (Lambert, Zimmerman, & Gardner, 2016).

Constructivist leadership encompasses the co-construction of meaning via PL and inquiry practices. Lieberman and Miller (2004) attest to the importance of bridging knowledge through learning in the field as a way to create more understanding of teaching and learning. Professional development (PD) is necessary for constructivist teacher leaders to support their own learning needs (Gabriel, 2005; Murphy, 2005; Reeves, 2008). Recently, Campbell, Osmond-Johnson, Faubert, Zeichner, and Hobbs-Johnson (2017) made the following statement about PD and learning in Canada: "The purpose of professional development is to support PL through both internal reflection and individual knowledge development, and also engaging in professional interaction, collaborative inquiry, and co-development of knowledge" (p. 11). Many teacher leaders describe on-the-job learning where they learned about their roles while working (Clarke, 2009). This constructivist approach to learning is important, but at times frustrating because of the absence of clarity or process (Clarke, 2009). Peckover et al. (2006) found that a PD program focused on a constructivist pathway to teacher leadership benefits those involved in several ways: it fosters an awareness of context as a place for inquiry; it empowers and gives voice to teachers and other stakeholders; it allows educators to find commonalities and build on their understanding of diversity; and it emphasizes the importance of feedback. In their study of

external coaches, Mayer, Grenier, Warhol, and Donaldson (2013) described the importance of a supportive learning program in addition to coaching for the leaders. However, as in classrooms, all learning and therefore PD, must be differentiated for learners and the context. There is no current research available that indicates when or how PL is differentiated for teacher leaders or ITLs.

Similarly, Lambert (1998) suggested that school improvement is predicated on a constructivist approach of building a culture of inquiry that fosters “the reciprocal processes of leadership—reflection, inquiry, dialogue, and action” (p. 82). Hickey and Harris (2005) extend the focus on inquiry and identify practitioner research as a grassroots approach with an underpinning in democratic values, which produces knowledge and affects educational and social change. This practitioner research and the use of other teacher inquiry models illustrate a shift away from Taylorist approaches to management and PD, which focus on achievement results, to an approach that leverages teacher inquiry to focus on students’ learning. In the United States, job-embedded PL that focuses on immediate student needs and is conducted through an inquiry stance has become a goal (Calvert, 2016). Similarly, in Canada, Campbell, Lieberman, and Yashkina (2016) found that PL and inquiry are valued by educators when they are job-embedded, collaborative, and differentiated. Closer to home, in Ontario, Donahoo (2013) describes and supports the use of teacher professional collaborative inquiry. This approach to PL is driven by student needs and contextualized by collaborative teams of teachers. Collaborative inquiry promotes ownership and autonomy in PL when teachers are engaged in a problem of practice rooted in the realities of their students’ learning, and empowers educators to make contextually informed decisions that reflect a democratized stance (Campbell et al., 2016; OME, 2010).

A shift from the development of a leader's individual knowledge to the development of collective knowledge and to inquiry-based leadership is also emerging (Lieberman & Miller, 2004) and aligns with the tenets of constructivist leadership. Several research studies attest to the significance of teacher-led research as a leadership initiative (Barth, 2001; Fullan, 2002; Lambert, 2002). A new construct for teacher leadership includes teacher research as leadership, allowing teacher leader-researchers to situate themselves in their learning contexts (Murphy, 2005). Rooting teacher leadership in a constructivist approach to inquiry fosters discussion among groups of educators and personal reflection yet does not address the need for whole-school consensus building that is required to effect scalable change. Although DeLuca et al. (2015) address challenges in collaborative inquiry, they do not reference the notion of scaling up from a collaborative inquiry; this clearly needs to be further explored in the literature.

Constructivist leadership involves collaborative learning, which often occurs in highly focused PL that is sustained and supported over time. Killion and Harrison (2006) claim that educators focused on improving student success cannot assume that formal teacher education programs at the university level will either adequately prepare them to understand the breadth of educational expertise required for teaching or deal with the required pressures to increase instructional effectiveness. In their research examining constructivist PD programs, Goos, Dole, and Makar (2007) describe how PLCs are developed in professional cultures characterized by a strong vision of learning, shared responsibility for making learning happen, and deprivatization of practice through collegiality (p. 41). PL programs must be multilayered and must provide ongoing support for leaders; one-off sessions do not sustain engagement, nor do they promote deep reflection, collaboration, or collective

capacity building (Loucks-Horsley, 2003). Loucks-Horsley (2003) also noted that leadership development goes beyond existing leaders and emphasizes informal teacher leadership, where positive leadership experiences manifest as opportunities for self-learning. Despite the multifaceted aspects of constructivist leadership, this leadership lens has had limited use in the exploration of how teachers' learning needs are differentiated and sustained (DeLuca et al., 2015).

Constructivist leaders also make effective use of collaboration, which often leads to shared meaning-making, the use of frameworks to study problems, and the strategies to deepen understandings (Lambert, 2006). In Peckover et al.'s (2006) study of constructivist teacher leadership programs, one foundational element was that "teachers need to develop their capacity to use reciprocity in problem solving as collaborative inquirers" (p. 1). This reinforces the need for teachers to navigate problems collectively, to develop more democratic approaches, and to implement collaborative inquiry, or practitioner research. Campbell et al. (2016) found that teacher leaders in the TLLP program benefitted from the ability to collaboratively set their own learning needs, but still needed system support. This statement suggests that tensions and complexities exist for teacher leaders as they navigate policy driven education systems while working toward meeting the needs of students. In their research exploring constructivist teachers' communication patterns within a secondary school biology department, Judson and Lawson (2007) found that constructivist teachers are perceived as leaders by their peers; they explored how constructivist teacher qualities, such as their abilities to use inquiry to drive PL, facilitate learning conversation, and collaborate with colleagues, also reinforce teacher leadership qualities.

Teachers engaged in constructivist leadership also make use of reflective practices

and focus on their own learning (Lieberman & Friedrich, 2010; Walker & Lambert, 1995). Reflective practices can emerge because of collaborative work or as an individual self-reflection (Hall & Simeral, 2015; Schön, 1995). A reflective practice forces a rethinking of isolationist, privatized teaching habits (Hall & Simeral, 2015). Dewey suggested in the early part of the 20th century that learners' prior experiences and values inform their current perspectives; so too, should teachers' experiences. He is famously quoted as saying, "It's not the doing that matters; it's the thinking about the doing" (as cited in Hall & Simeral, 2015, p. 14). So, to enrich reflective practices, teachers can engage in collaborative reflective processes. Lieberman, Saxl, and Miles (2006) contend that reflection must be a part of teacher leadership processes; having time to think about actions and implications are significant to effecting change. However, Foster and St. Hillaire (2004) and Clarke (2009) found that teachers do not discuss their leadership work and lack time to engage in reflection. This is problematic, as privatized practice in education does not support organizational improvement. The absence of time to engage in reflection is common and Desautels et al. (1998) question whether current reflective practices are used as they are intended (that is, to extend understanding) and whether they are used as deeply as they should be. This indicates that a need for ongoing reflection is necessary, but also that reflection must be supported with PL and dialogue, which explains the purpose, the process, and the possible outcomes of reflection.

Overall, constructivist leadership places importance on philosophically grounding one's own work, understanding the connection between research and practice, and fostering caring and interdependent communities of educators. Although a powerful leadership framework, constructivist leadership has noted weaknesses, including lack of attention to

whole-school engagement, insufficient focus on teachers' individual learning needs, and a missing focus on diversity and equity in decision-making and policy implementation. Yet, constructivist leadership reflects the six assumptions of constructivism (explained fully in chapter 2), as does a constructivist approach to teacher leadership.

Conclusion

As educational institutions move further into the 21st century, explorations of teacher leadership continue to shift and change. The literature suggests a move away from Taylorist and traditional hierarchical views of school leadership to more distributed, decentralized, site-based leadership models (Dolph, 2017). Yet some studies continue to note the persistence of traditional models, with a heavy emphasis on the principal as controller and manager (Schreiber & Carley, 2006), despite the pockets of progressive educational leadership (Harris & DeFlaminis, 2016). As teacher leaders—both formal and informal—continue to influence policy implementation despite existing barriers, more examples and models of teacher leadership will surface. It is becoming resoundingly clear that “teachers should shape their own professional lives in schools, and that their professional voice should be heard both individually and collectively” (Bangs & Frost, 2012, p. 39). Furthermore, the recent Ontario *Policy/Program Memorandum 159 (PPM 159)* states that “A culture of collaborative professionalism is grounded in recognition of and building on the strengths of all individuals to support professional growth” (OME, 2016b, p. 2). It is evident, therefore that there is no single leadership or learning model. Recognizing the micropolitical implications of the diversity in teacher leader experiences allows for deeper understanding of the influence that these leaders have and their impact on student learning. Each community

and school will construct its understanding of leadership based on its own conditions and factors.

Thesis Organization

This chapter outlined the study context. It summarized current literature on educational leadership, specifically constructivist and teacher leadership, and assessment literacy. It then presented the problem statement that sparked this study along with the study's purpose. This chapter articulated the research questions that have resulted in the conceptualization and execution of this study. It concluded with an outline of the dissertation. Chapter 2 includes a synthesis of literature related to the three facets of this research: teacher leadership, collaboration, and assessment literacy. It presents the conceptual framework of constructivist leadership. The literature further contextualizes the research questions and further clarifies the conceptual framework for the study. Chapter 3 presents a detailed overview of the qualitative research methodology used for this study and rationale for these choices. Elements of the research design such as data sampling parameters and population, data sources and instrumentation, interview protocol, and analysis strategies are presented. Chapter 4 articulates the research findings derived from the research questions and chapter 5 presents recommendations, implications, and next steps for exploration related to informal teacher leadership and assessment implementation.

CHAPTER TWO: LITERATURE REVIEW

This chapter provides an overview of the literature in the key facets of this research: teacher leadership, collaboration, and enacting practices that model assessment literacy. The first section contextualizes teacher leadership within the broader research on educational leadership. It explores the six facets and forms of teacher leadership and surfaces the benefits along with the conditions and obstacles affecting it. Within this discussion, an overview of teacher collaboration with emphasis on forms of PL as conditions for teacher leadership are presented. The last section explores the most recent assessment research, its connections to Ontario's assessment policy context, and the realities of teachers' assessment practices in classrooms. The purpose of assessment policy and a brief history of assessment policy and practice in Ontario are also outlined. An overview of *Growing Success* (OME, 2010a), the most recent assessment policy, is presented and critiqued. Next, the conditions that exist for shifts in assessment practices through collaboration with trusted colleagues that lead to greater assessment literacy are shared. This chapter finishes with a look at what assessment realities need further exploration in the global and Ontario contexts. These sections present the research-based foundation for this study.

Teacher Leadership

Teacher leadership is a growing educational leadership movement that is no longer just a theoretical construct but also a much-desired leadership model. Teacher leadership is often defined as an individual and collective reflective process (Clark, 2012; Pounder, 2006) of leading teachers through change (Fullan, 2002), which positively affects and supports student learning (Aubrey-Hopkins & James, 2002), teacher sense of self (Stewart, 2012), and collective efficacy (Angelle & Teague, 2014). Scribner and Bradley-Levine (2010) note how

teacher leadership is an evolving contextually and culturally defined construct. Ryan (2007) extends this notion to further suggest that it is also a part of the sociocultural context of school. Anderson (2008) contends that organizations with shared or distributed leadership processes in place include reciprocal influence between teachers and principals. This influence transpires because of the three “transformational shifts” that Lieberman and Miller (2004) present as the social realities of teaching and leading. These involve moving from individualism to professional community, from teaching at the centre, to learning at the centre, and from technical and managed work, to inquiry and leadership (Lieberman & Miller, 2004). These transformational shifts support a powerful new approach to school leadership with teacher leadership as a significant and valued component. Unfortunately, little research exists from the Canadian context exploring teacher leadership on its own and more specifically as it relates to how informal teacher leadership is constructed and enacted in diverse learning environments.

Engaging multiple stakeholders as a way to augment teachers’ collective capacity in school leadership is increasingly being seen as fundamental to student success and a catalyst for educational change (Campbell et al., 2016; Struyve et al., 2014). In turn, teacher participation in leadership allows for a ground level perspective on pedagogy, decision-making, and policy interpretation and should play a pivotal role in leadership practices (Katzenmeyer & Moller, 2009). The belief that devolving power and engaging teacher leaders in decision-making will benefit educators and students is growing; fewer educators harken back to the days of traditional hierarchies in schools where leadership was the sole purview of principals and rooted to the concept of the hero-leader (Boone, 2015; Camburn, Rowan, & Taylor, 2003; Murphy, 2005).

As teacher leadership grows, recognition of its impact on policy increases, yet there is still a gap in the literature around the influence of teacher leaders in the Ontario context. In Ontario, educational policy is developed centrally through the Ministry of Education with input provided from stakeholders such as educators and parents. For example, *PPM 119: Developing and Implementing Equity and Inclusive Education Policies in Ontario Schools* clearly requires teachers to be a part of the development of equity policy at the board and school levels (OME, 2013b). Similarly, *PPM 155: Diagnostic Assessment in Support of Student Learning* requires teachers to use their professional judgment when selecting and using diagnostic assessment tools (OME, 2013c). For the most part, policy is interpreted at the department, school, and district levels, with teacher leaders engaged in these conversations to varying degrees. In addition to the PL from the Ministry of Education and coaching from the district, teacher leaders engage colleagues in co-learning around priorities and policies in education. Despite the existing literature on teacher leadership, little research clearly explores the interconnection of informal teacher leadership and teachers' assessment literacy and leadership. This study aims to fill and bridge these two gaps while exploring how ITLs collaboratively construct and enact their role and work toward interpreting and implementing assessment practices while navigating secondary schools.

Where Is Teacher Leadership Surfacing?

As teaching becomes increasingly professionalized and as decision-making becomes more decentralized, teacher leadership has grown to include its own programs and organizations (Mangin, 2007). A review of Internet search results reveals that faculties of education, districts, and governments are placing interest in teacher leadership. Furthermore, formal non-school based networks for teacher leaders have begun to flourish. In the United

States, the Center for Teaching Quality (2018) has housed a teacher leadership initiative for over a decade, and both Temple University (2013) and Oxford University (Department of Education, University of Oxford, n.d.) have initiatives to support teacher leaders. No formal Canadian teacher leadership organizations exist that can be located via Internet searches, but many informal and smaller networks are assumed to exist because of the Ontario government funded New Teacher Induction Program (NTIP), which connects new teachers with experienced teacher leaders and mentors (Molitor, 2014) and the Teacher Learning and Leadership Program (OME, 2018). As such, there is an urgency to explore and develop teacher leadership in the Ontario.

There is a growing body of literature on teacher leadership, which demystifies how teachers positively influence colleagues and whole-schools. Teacher leaders work toward improving teaching and learning through an increase in power in areas where they traditionally have held little (Ryan, 2007). Despite this growth of interest in the impact of teacher leadership, the literature is often based on small-scale studies (Foster & St. Hilaire, 2004; Muijs & Harris, 2006), studies specific to certain regions or districts (Clarke, 2009; Hewitt, Denny, & Pijanowski, 2011; Muijs, 2008), studies focusing on specific subject areas (Goos et al., 2007; Klentschy, 2008; Koustelios, Theodorolus, & Goulmaris, 2004; Lomos, Hofman, & Bosker, 2011), or studies that are a part of a larger research project (Andrews & Crowther, 2002; Peckover et al., 2006; Rutherford, 2006). No current Canadian studies explore teacher leadership through an assessment leadership lens. Regardless of the type of study, it is now evident that teacher leaders play a significant leadership role both inside and outside of the classroom and that their influence merits further exploration, particularly as it pertains to classroom assessment practices and policy implementation.

When teacher leaders are actively engaged in leadership, school-based power and influence are restructured, with power being pulled away from the principal (Muijs & Harris, 2006). Often associated with distributed leadership, teacher leadership can be understood as a tool to support change. However, distributed leadership has been interrogated, leaving Anderson (2011) to question whether this leadership construct empowers educators or simply provides educators with additional duties as assigned with little influence. Similarly, Flessa (2009) queries the lack of recognition of the impact of micropolitics when exploring distributed leadership. Lumby (2013) uses the phrase “inclusivity lite” (p. 583) to critique the distributed leadership literature for skirting issues of power. She suggests that distributed leadership provides the appearance of sharing power, but only shares power with a few, therefore further limiting and centralizing power. Linking teacher leadership to distributed leadership requires recognition of the limitations of that leadership construct, and the need to define teacher leadership independently of that body of literature.

Teacher leadership is often connected with other forms of positive leadership such as shared leadership (Lambert, 2002), parallel leadership (Andrews & Crowther, 2002), and authentic leadership (Pielstick, 2000). Andrews and Crowther (2002) differentiate parallel leadership and distributed leadership by stating “the leadership functions of teacher leaders are equivalent in value to those of principals” (p. 155). To deepen this definition, Crowther, Ferguson, and Hann (2009) state that parallel leadership “is a process whereby teacher leaders and their principals engage in collective action to build school capacity. It embodies three distinct qualities—mutual trust, shared purpose, and allowance for individual expression” (p. 53). Teacher leadership is also often associated with authentic leadership. Authentic leadership, like teacher leadership, surfaces community as an aspect of organizational culture and sees teacher leaders acting with altruism, honesty, integrity, and

humility (Pielstick, 2000, p. 111). To explore the construct of authentic leadership, Walumbwa, Avolio, Gardner, Wernsing, and Peterson, (2007) developed a theory based measure or assessment tool to determine this construct. They wished to further explore authentic leadership by examining how leaders empower their followers to be change agents with additional focus on exploring the concept of collective authentic leadership. It is important to note that studies such as the one conducted by Banks, McCauley, Gardner, and Guler (2015) indicate overlap between authentic leadership and transformational leadership. Avolio and Gardner (2005), more specifically note how authentic leadership can envelope charismatic, servant, and spiritual leadership as well. Even within the leadership frameworks, the focus on solid pedagogy and classroom practice must be clear. Often, the literature on shared, parallel and authentic leadership do not delve deeply into pedagogy. The connections between teacher leadership and other leadership constructs that challenge traditional hierarchies exist and merit further exploration.

What Is Teacher Leadership?

Definitions of teacher leadership abound and have been changing for over twenty years. The evolution of the teacher leadership construct is unfolding. It began with Barth's (2001) foundational description of teacher leadership that relies on an action-oriented definition and outlines fundamental leadership tasks that teacher leaders can complete. Then it moved toward Andrews and Crowther's (2002) more behavioural approach, where they describe teacher leadership as "behaviour that facilitates principled pedagogical action toward whole-school success" (p. 154). In their influential meta-analysis of teacher leadership, York-Barr and Duke (2004) define teacher leadership as "the process by which teachers, individually or collectively, influence either colleagues, principals, and other members of school communities to improve teaching and learning practices with the aim of

increased student learning and achievement” (pp. 287-288). This definition resonates because it situates teacher leadership within the realm of instructional, pedagogical, and collaborative practices (Neumerski, 2012).

More recent teacher leadership research is exploring how teacher leadership fosters democratic ideals within schools (de Villiers & Pretorius, 2010) and social awareness and equity (Jacobs et al., 2014; Larrabee & Morehead, 2010; Rottmann, 2011). This is a shift from Ryan’s (2007) belief that much of the research on teacher leadership forgoes an exploration of equity and democratic practices to emphasize the procedural aspects of teaching. However, in Ontario, the understanding of teacher leadership and its implications for furthering an equity stance to teaching and learning remains somewhat vague because it is an evolving construct emerging in many schools, districts, and the province. Ontario’s Equity and Inclusive Education Strategy (OME, 2014) identifies “shared and committed leadership” as an area of focus. The OME’s (2013b) *PPM 119: Developing and Implementing Equity and Inclusive Education Policies in Ontario Schools* also refers to shared and committed leadership. However, neither of these documents clearly articulates a definition or plan for increasing teacher leadership as a component of shared leadership. Rigby and Tredway (2012) explain how an equity approach to leadership is “a key lever to achieve educational opportunity that focuses on fairness, inclusion, and justice” (p. 8).

A constructivist approach to education allows for the differentiation of education and recognizes students’ ability to construct meaning individually and collectively. A call for a more democratic approach to educational administration came in the early 1990s (Smylie et al., 2002) and continues to be reflected in current thinking, in particular those perspectives that emphasize a social justice lens for leadership. Weise and Murphy (1995) contend that schools could not “promote a democratic society if they were not democratic communities

themselves” (as cited in Smylie et al., 2002, p. 163). Researchers and educational leaders continue to be interested in investigating school improvement, and they have found that school administration and teacher leadership are key to navigating the complexity of learning organizations (Foster & St. Hilaire, 2004). However, it must be noted that teacher leadership pushes teacher individualism aside for a collective approach, contradicting well-established norms of teacher autonomy, privacy, and isolation (Lieberman & Miller, 2004). Grounding leadership and decision-making in teachers’ experiences provides a ground-up constructivist approach, which should reflect a better understanding of the contextual needs of each school (Dyer, 1999). The shift toward the increased use of democratic processes in schools influences existing teaching norms and often result in tension within schools. Additionally, teacher leadership is often noted as a moral obligation of teachers; as educators, they have a responsibility to model the way that schools engage with young people and they also have the responsibility to act in accordance with their own morals (Ryan, 2007).

The Six Facets of Teachers’ Engagement in Leadership

After exploring the myriad definitions and interpretations of teacher leadership, the literature has been distilled to one synthesized definition of teacher leadership with six outlined facets that illustrate in more depth, the realities and complexities of this leadership construct. For the purpose of this dissertation, the following working definition will be used: Teacher leadership is an individual and collaborative reflective process (Clark, 2012; Pounder, 2006) of leading teachers through change (Fullan, 2002), which positively affects and supports student learning (Aubrey-Hopkins & James, 2002) and teacher sense of self (Stewart, 2012) and collective efficacy (Angelle & Teague, 2014). It is uncontested that teachers have adapted to the changing climate in education by modifying their instructional practices and their roles outside of the classroom (Vallie & Buese, 2007). Although formal

leadership roles illustrate teacher leadership (Melville et al., 2013), more current understandings of teacher leadership explore the construct not specifically from a role perspective, but also through the characteristics of the work and processes they use, which can be informal as well (Firestone & Martinez, 2007). Figure 1 identifies six facets of teacher leadership that recur in the literature. These six facets are as follows and are outlined in the next section: (a) modelling pedagogical knowledge and skill; (b) influencing through communication and collaboration; (c) learning (professional and student); (d) engaging in reflective practices; (e) adapting and risk-taking, and finally, (f) making decisions and interpreting policy.

Modelling Pedagogical Knowledge and Skill

Teacher leaders are noted for their pedagogical exceptionality. They are often remarkable educators who effectively navigate the “binding of education” where educational goals, resources, and strategies are increasingly becoming prescribed and scripted, but do so by subverting the system through excellence (Hattie, 2003). Their expertise exists in a combination of areas and includes, but is not limited to, subject knowledge, pedagogical knowledge (Bennett, Newton, Wise, Woods, & Economou, 2003; Clarke, 2009; Lomos et al., 2011; Weller, 2001), action research (Lee, Sachs, & Wheeler, 2014; Smeets & Ponte, 2009), research based-knowledge (Quinn, 2003), practical knowledge, assessment knowledge and data skill (The Alberta Teachers’ Association, 2008; Firestone & Martinez, 2007; Gilad, 2014), and increasingly technological knowledge and action on social justice issues (Gates & Robinson, 2009; Jacobs et al., 2014; Larrabee & Morehead, 2010). Teacher leaders use their knowledge and skill in the aforementioned areas to improve student learning (Harris & Townsend, 2007) and positively impact school climate (de Lima, 2008). They do this through effective communication, collaboration, coaching, and mentorship.

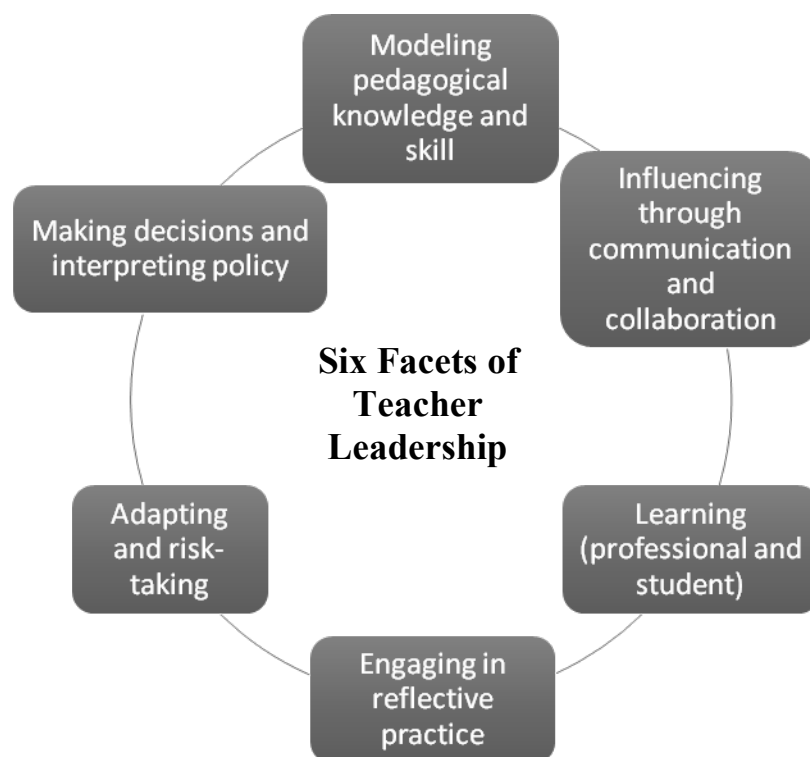


Figure 1. Six facets of teacher leadership.

Influencing Through Communication and Collaboration

Notably, teacher leadership, like other leadership constructs, is dynamic; teacher leaders are both influencing and influenced at different times (Jackson & Marriott, 2012). This is only supportive when the leader has effective communication habits (Turner, 1996) and collaborative working and learning patterns (Mayrowetz, Murphy, Seashore Louis, & Smylie, 2007). However, as Zoltners Sherer (2008) noted in her research exploring leadership, influence is often reciprocal with followers steering leadership practices as well. Teacher leaders extend positive influence beyond their classrooms to improve teaching and learning within their schools (Danielson, 2006; Darling-Hammond, Bullmaster, & Cobb, 1995). Their influence is not limited to their individual leadership actions, but it is “best understood as a distributed or organizational practice that is “stretched over” varieties of artifacts, tools, language, people and relationships” (Ryan, 2007, p. 105). Some research indicates that teacher leadership has more influence than administrator leadership on student engagement and achievement (Harris & Townsend, 2007). The crux of the influence that teacher leaders have is rooted in their ability to engage in positive interpersonal relationships. As teachers work more collaboratively, they deprivatize their practice and situate themselves in a “unique position to make change happen” (Lieberman & Miller, 2004, p. 12). This deprivatization and opening of classroom doors allows them to have impact beyond their classrooms through communication and collaboration with colleagues about pedagogy.

The purpose of influence is to bring about change. However, there are many reasons educators resist change; these include the failure to see the need, previous habits, poor past experiences with change, fear of the unknown, threats to personal expertise, threats to existing power and social relationships, and changes to resource allocation (Zimmerman,

2006). Teacher leaders are faced with the systemic barriers that exist within education and that have not significantly shifted with the discussion of teacher leadership. As Lumby (2013) notes, “What is not fully acknowledged or theorized is the relationship between power and inequalities, and the degree of tension that may lie submerged beneath the dominant normative narrative” (p. 584). Returning to Foucault’s ideas of power and recognizing that traditional notions of power, for example, the hierarchical nature of instructional leadership needs to be interrogated and exposed as a problematic construct so that teacher leadership can create its own space in educational leadership.

With so many reasons to avoid change, it is easy to see how important positive and supportive influence is, particularly when leaders are attempting to overcome teacher blocking. Blocking occurs when colleagues purposefully or unintentionally challenge teacher leaders so as to avoid change. Staw’s (1976) psychological research indicates that regardless of the evidence, it is very difficult to get individuals who have determined a course of action or a position on issues to change. Supporting colleagues with normative pressure (experienced through collaboration) as opposed to regulatory pressure (experienced through accountability measures) has proven to be effective (Abbott, Macdonald, Hay, & McCuiag, 2011). As such, teacher leaders have a difficult, yet rewarding role to play in schools, if they are to engage colleagues in movement toward change and unlearning previous practice. Along with influence, the development of trust is necessary when moving collaboratively toward changing practice. Seashore Louis (2007) describes how schools that exhibit a high degree of trust among the staff and administration are able to work more effectively toward improving student learning. As such, in addition to influence, teacher leaders must develop trust among colleagues and focus on student success to develop positive school climate.

Teacher leaders act as valuable mentors to colleagues (Godt, 2010; Kent, Green, & Feldman, 2012) and perceive mentoring new teachers as part of their professional responsibility (de Villiers & Pretorius, 2010; Molitor, 2014). Research indicates that exemplary mentors think and behave as leaders across varied contexts; they demonstrate the ability to “empower, promote autonomy, raise motivation and encourage reflection” (Orland-Barak & Hasin, 2010, p. 434). However, mentorship is challenging when colleagues’ practices are unsatisfactory in some way (Aubrey-Hopkins & James, 2002) and the responsibility lies with teacher leaders to counsel and support change in teaching practices. Regardless, teacher leaders’ mentorship of others empowers teachers and contributes to school improvement initiatives (Muijs & Harris, 2006). Similarly, instructional coaching is emerging as a new way of mentoring and supporting instructional practices through a process of job embedded support and PL (Denton & Hasbrouck, 2009). Mayer et al. (2013) describe the experiences of three coaches supporting the implementation of an urban education initiative through a community of practice model. They note how coaches were change agents who fostered trust in process and groups to make improvements to their teaching practice. The researchers described the importance of coaches’ ability to broker information between various school levels and building effective relationships. They also note the necessity of an effective support network and professional training for coaches along with administrator support. Teachers’ expertise and confidence in their ability to effectively scaffold instruction is another benefit of coaching (Gibson, 2011).

Far from what Hargreaves (2010) calls the first way of Venus when teacher autonomy reigned, and an educator could improve her or his practice through intuition and improvisation, educators in the 21st century are required to collaborate while innovating in a

time-sensitive technologically advanced environment (Darling-Hammond, 2006). The shift in educational leadership research clearly outlines a move away from traditional models to more shared and collaborative models. Effective collaboration often leads to shared meaning-making, the use of frameworks to study problems, and the implementation of thought mosaics to deepen shared understandings (Lambert, 2006). Change can take place when teacher leaders engage in capacity building, maintain a consistent emphasis on a common goal or vision, are consistent in their messaging, and develop collaborative working environments (Hickey & Harris, 2005; Klentschy, 2008). Although Lomos et al. (2011) found little evidence of collaboration affecting student success in their study of PL communities within math departments, they suggest that the effects are more likely than not, indirect. Nonetheless, Wiliam and Leahy (2015) identified a significant impact of PL communities on the implementation of formative assessment strategies. Lambert (2002, 2006) extends the notion of teacher learning communities to include vertical learning communities, with participants from a variety of roles, within or across schools, all working toward the same goal. These collaborative efforts are purposeful, with the additional benefits of increased self-efficacy and learning among teachers (Harris & Muijs, 2002). Dauksas (2010) suggests that professional and personal relationships are sparked by collaboration and lead to a decrease in feelings of isolation. Regardless of whether PL, and subsequently collaboration, are tightly organized or more organic, significant interpersonal gains can be met (Wahlstrom & Seashore Louis, 2008).

Learning (Professional and Student)

Teacher leaders ground themselves in their own PL, both individually and collaboratively, as well as students' learning. Learning and leading are intertwined and arise

from basic human understanding (Lambert, 2003). For teacher leaders, their role is “inextricably linked to teacher learning” (Darling-Hammond et al., 1995), p. 89. Although the link between PL and sustained school improvement is uncertain (Andrews & Crowther, 2002), teacher leaders note increased satisfaction from engaging in ongoing collaborative learning with colleagues (Hannay, Smeltzer Erb, & Ross, 2001; Turner, 1996). Learning can be informal, through teacher sharing (Barth, 2001) or more formal through PD and structured collaborative inquiry (Donahoo, 2013). Teacher leaders often engage colleagues in developing a growth mindset (Dweck, 2010) and implementing new pedagogical and instructional practices and assessment strategies.

PD and learning are recognized as a necessity for teachers and support learning about pedagogy, content, assessment, and a myriad of other relevant education-related topics. No longer is PD considered necessary only for newly qualified teachers; it is commonplace to see educators engage in PL throughout their careers. Nevertheless, the quality and appropriateness of PD varies. Schools are highly programmed work places where time is allotted with specificity. Ryan (2007) suggests that time must be scheduled for teacher leaders to engage in PD. More specifically, he notes that PD that allows teacher leaders to understand problem-solving and decision making will be best suited to their needs. Research indicates that moving away from one-off workshops and other decontextualized learning is positive and a move toward self-directed, adult learner models where follow-up and time for implementation, collaboration, and reflection are built into the learning program is essential (Campbell et al., 2016; Goos et al., 2007; Loucks-Horsley, 2003).

PL is both a cause and an outcome of teacher leadership (Poekert, 2012). As such, effective PL can lead teachers to more student-focused practices that promote learning and

equity (Gates & Robinson, 2009). In Wiliam's (2011) exploration of the effect of formative assessment, he cites Leigh's (2010) research which identifies a statistically significant relationship between student learning and teacher experience, therefore concluding that "more, and better, professional development" is necessary for teachers (pp. 27-28). PL is critical for teacher retention and it must be multilayered and provide ongoing support for leaders and educators (Dauksas, 2010). PL must develop capacity around not only curriculum and pedagogical knowledge, but also leadership understanding and skills as well. Loucks-Horsley (2003) also notes that leadership development goes beyond existing formal leaders and emphasizes informal teacher leadership, where positive aspects manifest themselves as opportunity and self-learning, and disadvantages are presented as teacher burnout and role confusion. PL can also be supportive of teacher learning goals and needs, particularly when it is differentiated. Peckover et al. (2006) found that a program focusing on a constructivist pathway to teacher leadership benefited those involved in several ways: it fostered an awareness of context as a place for inquiry; it empowered and gave voice to teachers and other stakeholders; it allowed educators to find commonalities and build on their understanding of diversity; and it emphasized the importance of feedback. However, as in classrooms, all learning and therefore PL, must be personalized and differentiated for the learners and the context.

Teacher leaders often differentiate themselves from others based on their interest in and use of research (Gilad, 2014). PL and the co-construction of meaning for teacher leaders often surfaces via inquiry practices as illustrated through practitioner research or action research (Cochran-Smith & Stern, 2015; Smylie, 1997). Practitioner research is a grassroots research approach with an underpinning in democratic processes that produces knowledge

and affects educational and social change (Hickey & Harris, 2005). Hickey and Harris's (2005) exploration of practitioner research found that school based PL that uses the intellectual talent (which is often left untapped in schools) is positive for both teachers who engage in the PL and the teachers who lead the PL.

Action research is a way of bridging knowledge through learning to create more understanding of teaching and learning (Lieberman & Miller, 2004). This knowledge in turn can put research into practice, resulting in “a new kind of professional teaching role, one grounded in collaboration, critical inquiry and a conception of teacher as a decision-maker and designer of practice” (Darling-Hammond, 1994, as cited in Darling-Hammond et al., 1995, p. 88). Andrews and Crowther (2002) found that schools that engaged in teacher inquiry established ways to develop and align the school's vision to improve pedagogical practices. Lambert (1998) suggests that building a culture of teacher inquiry fosters “the reciprocal processes of leadership—reflection, inquiry, dialogue and action” (p. 82) which are necessary for school improvement. Peckover et al. (2006) emphasize the importance of supporting action research because “collaboration should not be an option for teachers, but a professional responsibility” (p. 13). Practitioner research and the use of inquiry models illustrate a shift away from Taylor's technical rational approach to management, which focuses on results, to an approach that focuses on students. It also shifts power from research conducted by outside agencies to inquiry engaged in learning environments. In their 2-year study focusing on the development of teacher leadership through action research, Smeets and Ponte (2009) found that action research not only improves teachers' classroom practices, but extends to others in the school when positive conditions are in place. Additionally, Poekert

(2012) suggests that teacher leader engagement in PD and inquiry leads to a cycle of learning and sharing with colleagues.

In Ontario, the Ministry of Education has underscored the importance of using a collaborative inquiry framework to support teacher learning. Teachers using a collaborative inquiry framework rely on their ability to identify a strategy that will have positive impact on student learning. This framework supports the context-based examination of student work to determine instructional next steps. “Through collaborative inquiry, teachers integrate new knowledge and understanding of student learning and classroom instruction into their existing knowledge of professional practice” (The Literacy and Numeracy Secretariat, 2010, p. 1). While working together, teachers identify an area of need to explore what is important to their students’ learning and they collaboratively identify and implement strategies to bridge the learning gap and continue to explore teaching and learning in an inquiry cycle. In Peckover et al.’s (2006) study of constructivist teacher leadership programs, one foundational element was that “teachers need to develop their capacity to use reciprocity in problem solving as collaborative inquirers” (p. 1). This reinforces the need for teachers to navigate problems collectively, to develop more democratic approaches, and to implement action research through collaborative inquiry models rooted in the tenets of PL communities.

The goal of any teacher leader should be to help students learn by increasing student engagement and promoting student achievement (Anderson, 2008) in a respectful and equitable manner. Lambert’s (2006) study of the effects of shared leadership in 15 American and Canadian schools found that strides were made in student achievement and that professional dialogue among teachers and leaders led to a more inclusive school culture. Andrews and Crowther (2002) also found that “The total amount of leadership found in

schools correlates positively with school performance” (p. 153). Additionally, both Fitzgerald and Gunter (2006) and Brown, Rutherford, and Boyle (2000) note that teacher leadership, as evidenced in the role of department head, was pivotal to improved student learning and student achievement. However, there is a need for research focusing specifically on the correlation between teacher leadership and student achievement; research is clear on the connection between high quality teaching and student achievement (Hattie, 2003), and Weisse and Zentner (2015) confirm the positive impact on student learning, but research that explores this more specifically is needed.

Many of the research projects making connection between teacher leadership and student learning were focused on a larger research issue, with tenuous conclusions being made about the connections between teacher leadership and student achievement. Furthermore, additional research connecting teacher leadership and the promotion of equity within the school needs to be explored beyond specific social justice issues. Larrabee and Morehead (2010) explored the intersection of LGB issues and teacher leadership; however, the research was conducted with teacher candidates, therefore omitting sustained work in schools. Lieberman (2015) noted that teacher leaders in the New Teacher Center project focused on equity in the classroom for one day but there was no clarity around the content of the focus or its impact. Generally, we need to explore how teacher leaders are using equity as a tool for opening practices and a stance to shift thinking. By recognizing that teacher work is shifting from an isolationist to collaborative practice, a clear need for further research exploring its impact on student learning surfaces.

While teacher leadership is beneficial as an important organizational factor, teachers and their leadership also play a purposeful role in student learning. Frost (2011) notes that

although no data gathered directly indicated an impact on student achievement, teachers in his project reported and provided portfolio evidence to suggest that increased student learning occurred. Williams, Lakin, and Kensler (2015) found similar results indicating an indirect relationship between teacher leadership and student achievement. Beyond improving student achievement, teacher leadership can also lead to increased social awareness within schools with regards to equity issues (Bascia, 1996). Students learn more in environments where equity and respect are part of the culture of the school.

Teacher leadership can be seen as walking the path toward a more democratic and inclusive leadership framework that promotes equity and social justice. In a globalized context it can improve existing education systems, where all previously underserved students will be better accommodated (Collay, 2006; Smylie et al., 2002). Schools where administrative teams neglect to engage in discussions on the issues of social justice, equity, and diversity can lead to disempowerment of both teachers and students (Pinto et al., 2012). However, teacher leaders have a positive effect on school equity efforts (Bascia, 1996). They do this through connections made to the school community at large, in an effort to better understand and support the needs of students (Beachum & Dentith, 2004). Teacher leaders work to reinforce equity and develop socially just practices in schools as a move toward more democratic schools.

Engaging in Reflective Practice

Teacher leaders can demonstrate their critical and creative thinking skills when they engage in reflective practices independently and collectively. In his study of informal teacher leadership, Pielstick (2000) found that teacher leaders often engage more frequently in critical and reflective thinking and make use of reflective practices to focus their own

learning. Reflective practice forces a rethinking of teacher metacognitive practices (Schön, 1995). So, to enrich the reflective practices, teachers should engage in collaborative reflective processes. Lieberman et al. (2006) contend that reflection must be a part of teacher leadership processes; having time to think about actions and implications are significant to effecting change. However, Foster and St. Hilaire (2004) and Clarke (2009) found that not all teachers discuss their leadership work, recognize their work as leadership, or engage in reflection. This is problematic, as privatized practice in education does not support organizational improvement. Reflection and deprivatization leads to change in action. The absence of time to engage in reflection is common. Further, collaboration needs to be supported and encouraged by administrators to continuously support the improvement of teacher quality (Sterrett, 2015). This indicates that ongoing reflection is necessary, but also that reflection must be supported with time along with PD that explains the purpose, process, and possible outcomes of personal and collective reflection.

Adapting and Risk-Taking

Teacher leaders are owners of change (Klentschy, 2008). Meredith (2007) states that teacher leaders are risk-takers who “relish challenges and pursue professional growth for their own satisfaction and to increase student achievement” (p. 4). Risk-taking is a natural part of the work of a teacher leader (Buckner & McDowelle, 2000) and needs to be supported by administrators (Birky, Shelton, & Headley, 2006). Teacher leaders are comfortable with innovation and adapt to new conditions despite the challenge of working with those who resist (Zimmerman, 2006). Teacher leaders are often risk-takers who open themselves up to ridicule by peers when working beyond the confines of their classrooms (Beachum & Dentith, 2004; Buckner & McDowelle, 2000). They demonstrate risk-taking by offering to

engage others in learning, share best practices or take initiative, and interpret policy. They also demonstrate courage as they balk at the traditional and outdated ideas of school hierarchies (Andrews & Crowther, 2002; Pounder, 2006) and attempt to navigate ambiguous roles within their schools (Adduci, Woods-Houston, & Webb, 1990; Mayers & Zepeda, 2002). What sets teacher leaders who are risk takers apart from others is their willingness to try new strategies that will improve teaching and learning for students, regardless of possible outcomes on self.

Some teachers illustrate their risk-taking by acting as resistors to change. Although little is written in the literature to suggest that risk-taking is mislabeled as resistance, not all resistors do so out of a need to challenge authority or maintain status quo (Zimmerman, 2006). Starr (2011) notes how some resistors do so out of a complex process deeply rooted to the “micropolitics of power and agency” (p. 648). Change resistors often do so because of their reluctance to lose control, cognitive rigidity, lack of psychological resilience, intolerance to adjustment periods, preference for low levels of stimulation, and/or their reluctance to give up old habits (Oreg, 2003; Zimmerman, 2006). These individuals pose significant obstacles to change and as such, leaders need to understand teachers’ attitudes and behaviours so as to engage others more fully in change initiatives (Zimmerman, 2006). Supports must be in place because teachers will avoid risk-taking if they think their personal relationships with colleagues will be hindered (Zembylas & Bulmahn Barker, 2007).

Making Decisions and Interpreting Policy

Teacher leaders not only take risks in their teaching but are also willing to make decisions around department, school, board, and ministry-based practices and policy. In Emira’s (2010) study of Egyptian teachers, all participating teacher leaders expressed a

desire to engage in decision-making and to collect input from colleagues. Emira continues to explore how decision-making can reside within and outside the classroom, with many teachers more comfortable with inside class decision-making. Aspects of inside classroom decision-making include managing the teaching process by working with students. Aspects of outside the classroom decision-making include ongoing learning, problem solving, fostering positive relationships, and additional tasks as assigned. Emira did not delve deeply into the impact that teachers have on policy development. In their exploration of teacher decision-making, Ingram, Seashore Louis, and Schroeder (2004) identified the importance of data, anecdotes, intuition, and experience. They also noted the precarious and sometimes political conditions in which data are derived and interpreted and the struggles that teachers face when making decisions given such data.

In addition to making instructional and school-based decisions, teacher leaders often are required to interpret policy. Having multiple perspectives when interpreting policy will increase the likelihood of implementation and engage teachers in professional discourse. Teachers' responses to policy differ from teacher to teacher and are often based on their previous connection to the ideas in the policy (Coburn, 2005). Often teachers do not have the power to influence policy directly, but they develop and implement political strategies to quietly move conversations (Yow, 2007). Both Danielson (2006) and Lambert (2003) identify the importance of having teacher leaders at the table for policy interpretation, whether it be curriculum or standards, equity based policy or assessment policy. However, it must be noted that teachers' sense of powerlessness does impede their ability to interpret and implement policy (Brooks, Hughes, & Brooks, 2008). Teacher leaders influence change to policy and how the policy is interpreted. They do this through communication, joint decision-

making, and sharing best practices (Aubrey-Hopkins & James, 2002). Beachum and Dentith (2004) found that teachers need to engage in conversations about policy and how it is operationalized; however, for the most part, they do not. This reinforces Dyer's (1999) findings that emphasize the importance of teacher involvement in policy development. Similarly, Peckover et al. (2006) explore the role that teachers should play as leaders and researchers in translating reform policies into the reality of "best" practices within their own school cultures (p. 1). Scribner and Bradley-Levine (2010) also note that "Teachers *translate* reform models and policies into practices that make sense in the particular cultural context of their school" (p. 487). Teacher leaders engage in critical thinking to promote increased student learning and engagement. They work to access, understand, and interpret policy for their school communities. This critical thinking sets teacher leaders apart from colleagues, as those individuals who can be relied on for support with interpretation and implementation of policy and bridging to best practice. Engaging teacher leaders in decision-making and policy interpretation leads to empowered teachers who are willing to take risks and build others' capacity.

Types of Teacher Leadership Roles

Teachers' leadership is based on their ability to shift their own and others' practice while focusing on student learning; there is a notable difference between types of teacher leaders. Teacher leadership roles can be both formal (e.g., department head, curricular lead) and informal—for example, teacher leading an inquiry (Emira, 2010; Katzenmeyer & Moller, 2009; Muijs & Harris, 2007; Ryan, 2007). Pielstick (2000) studied informal leading in organizations, a little explored area. He noted significant and important differences among formal and informal leaders:

Informal leaders are perceived by others as showing higher levels of leading than formal leaders overall, as well as in each of the six themes of shared vision, communication, relationships, community, guidance, and character shown to be important to authentic leading independent of formal and informal leadership. (p. 111)

Clearly, as the roles and responsibilities of teachers and teacher leaders expand, they must do so with intentionality and authenticity. As Hattie (2003) notes, “We need to identify, esteem, and grow those (teachers) who have powerful influences on student learning” (p. 4). Therefore, research exploring teachers who gain influence among colleagues, yet do not see themselves as a leader yet and teachers who exert influence among colleagues and perceive themselves as leaders must be undertaken. To support teacher leadership, Hickey and Harris (2005) suggest providing leadership opportunities for teachers within their schools. By allowing teacher leaders to lead PD and support others’ PL goals, their own sense of self-efficacy increases (Cooper, Kintz, & Miness, 2016). These suggestions seem to indicate a need for more formal teacher leadership roles. However, Darling-Hammond et al. (1995) suggest that formal leadership roles within the school have limited impact on teachers (as cited in Scribner & Bradley-Levine, 2010) and at times can hinder informal teacher leadership (Anderson, 2004).

Formal Teacher Leadership Roles

In secondary school, teachers are hired to enact formal teacher leadership roles so that they can assist administrators with the support and implement of school vision (Barth, 2001; Beachum, & Dentith, 2004; Lambert, 2002). Formal teacher leadership roles often stem from informal leadership roles and then flow into an administrative leadership pipeline, reflecting

traditional and hierarchical models of leadership (Anderson, 2008; Ryan, 2007; Searby & Shaddix, 2008). Because of the broad expectations for secondary administrators, formal teacher leaders provide an additional level of instructional leadership and managerial support and enact a role such as department head, curriculum lead, or course chairs with positional power (Barth, 2001). Emira (2010) notes one of the key requirements for formal leadership is motivation—formal leaders need to prioritize teacher engagement and create enthusiastic learning environments. Weller (2001) contends that department heads are valuable to schools and that no other position has more potential to increase school effectiveness; these formal teacher leaders enjoy “the unequaled opportunity to direct daily contact with teachers and students” (p. 74). It is important to note, though, that in their study of science department heads, Melville and Peacock (2017) found that the individual school context has a significant impact on the leadership practices and outcomes of a department head.

Informal Teacher Leadership Roles

Many other teacher leadership roles are informal and are built upon the notion that leadership exists within a school culture and is not reliant on a title (Ackerman & Mackenzie, 2006). This informal leadership power illustrates Yukl’s (1999) other domain of leadership power: personal power. Informal roles exist where teacher leaders’ source of personal power is the major thrust of their work. These “non-positional roles” (Frost, 2011) do not rely on a formal position of authority, but on the notion that leadership exists within a system and within social-professional relationships. Examples of roles deemed as informal leadership positions derive power from the teacher leader’s function, not their title (Darling-Hammond et al., 1995). Jackson and Marriott (2012) contend that leadership is “inherent in and throughout school organizations and not tied to specific functions or roles within the school”

(p. 231). An illustration of the change from the traditional ideas of role taking, to role making (Hart, 1994) and role creation is presented in Anderson's (2008) research where he describes schools without formal teacher leadership roles and explores how teachers in these schools created their own roles and opportunities "based on a mixture of the schools' need as well as personal agency" (p. 11). This illustration is evidence of informal teacher leadership roles with a clear and rationalized exclusion of formal teacher leadership roles. Anderson contends that department heads and other formal teacher leadership roles reflect traditional and hierarchical models of leadership like administration and therefore impede other forms of teacher leadership. Emira (2010) suggests that ITLs take the initiative to make new suggestions and share thoughts as well as communicating their experiences with others to extend influence and build collaborative relationships. As the literature on informal teacher leadership is grounded in teachers' ability to influence pedagogical and instructional practices, the body of literature that focuses on teacher instructional leadership would also dovetail into this area (Neumerski, 2012). However, a deeper understanding of the breadth of this role is just beginning to emerge in the literature.

Individual, Professional, and Organizational Benefits

Teacher leadership exists for many reasons, some of which are indicative of the values held by individual leaders and some being the result of external factors and conditions. One of these external factors is the professionalization of teaching (Smylie et al., 2002). In recent history, teacher leadership can be interpreted as a reaction to the second wave of school improvement in the 1980s (Smylie et al., 2002). At that time, a postmodern lens was being used in the study of educational administration, and as such, more emphasis was being placed on socially just practices in schools (Brooke & Miles, 2006). Then, as now,

teachers were encouraged to support school improvement plans with the intended outcome of increased student achievement. Yet there remains conflicting research on the effects of teacher leadership. Teacher leaders influence decision-making and policy development. However, Lieberman and Miller (2004) describe how teachers' influence on decision-making is strangled by the "competing and confining policy directions" that reinforce teachers' personal rather than shared sense of goals and expectations (p. 10). This postmodern lens challenges teachers to engage in a way that deprivatizes their work and leads to more progressive and professional approaches to teacher leadership. Weisse and Zentner (2015) outline how teacher leadership has positive impact on students, colleagues and community. However, a more detailed analysis of the impact needs to be explored through research.

The organizational benefits of teacher leadership are diverse and far-reaching. It is commonly known that teachers have the most impact on student learning (Hattie, 2003). Danielson (2006) and Birky et al. (2006) describe how teacher leaders support colleagues and administrators, along with students. This research indicates that school principals have a complex role that can have direct, indirect, and reciprocal effects on student achievement (Witziers, Bosker, & Kruger, 2003). Yet, teacher leaders also help formulate relational structures in schools where colleagues work and learn together. This "lateral leadership capacity" can lead to increased school improvement, teacher collaboration, and trust among educators (Harris & Townsend, 2007). Additionally, teacher leadership, as an organizational factor, is regarded as offering "distinct, core contributions that teachers can and even should, some argue, make to the leading of a school" (Jackson & Marriott, 2012, p. 231).

Collective efficacy, trust, and teacher leadership were found to have a strong positive relationship to organizational stability in Angelle, Nixon, Norton, and Niles's (2011) research

conducted in two school districts in the U.S. Research conducted by Beachum and Dentith (2004) in the U.S. also found that teacher leaders who were decision-makers were more likely to engage in school and organizational policy discussions. The authors recommend moving away from the discourse around trait leadership and hierarchy to a discourse that involves the use of PL communities, mutual vision setting, and a constructivist approach. These findings reinforce Dyer's (1999) recommendation to involve Canadian teachers in the discussion of policy development.

While working collaboratively and in research teams, teacher leaders develop their own skills and others' (Danielson, 2006; Lieberman, Campbell, & Yashkina, 2017). This reciprocal relationship bolsters trust and self-efficacy. In their research on collective leadership, Leithwood and Mascal (2008) found that teachers working within a less hierarchical school structure have a greater chance of benefiting from colleagues' strengths. In addition to curricular knowledge and skill, Olivier and Hipp (2006) found that "sharing power and authority with teachers through decision making and shared leadership increases leadership capacity and builds a belief in the school's collective ability to affect student learning" (p. 517). Hence, teacher leaders help to develop others' leadership abilities while working and co-learning.

The goal of building capacity among teachers and teacher leaders is not only to increase the quality of education, but to also fill foreseeable gaps in formal leadership positions and increase teacher engagement. Some teacher leadership focused PD places teachers on career ladders, provides career development strategies, and builds capacity, leading teachers into administrative positions and easing the challenges of succession planning for leaving administrators. Teacher leaders' PD can still be way to build a pool of

future administrators, as was evidenced by Searby and Shaddix's (2008) research in a district that was expecting a gap in leadership and needed to maintain leadership continuity.

However, one must be cautious of teacher leadership PD that emphasizes the distribution of tasks or participation in a career ladder program, rather than one that focuses on pedagogical responsibility or decision-making. Distribution of tasks does not necessarily foster leadership, whether teacher leadership or distributed leadership (Lumby, 2013). It may simply be a way of delegating duties that are assigned from within the traditional hierarchy.

Conditions for Teacher Leadership

Teacher leadership requires supportive conditions for it to effect change in schools and lead toward more collaborative teaching and learning environments. The primary support for teacher leadership is received from administrators (Birky et al., 2006; Gigante & Firestone, 2008) with additional supports in the form of collaborative cultures and PD (Lieberman et al., 2017). A supportive work/school culture is necessary where a commitment to ongoing professional growth is combined with supportive structures, recognition, collaboration, and focuses on improvement efforts (Akert & Martin, 2012; Muijs & Harris, 2007). Furthermore, Gigante and Firestone (2008) warn that without the provision of time, administrative support, and training, teacher leaders will struggle with the goal of facilitating colleagues' learning. These supports are at times tangible, in the form of resources (Mangin, 2007), time (Akert & Martin, 2012), or access to individuals, or more intangible, such as emotional (Rigby & Tredway, 2012) and professional support. Support from superintendents (Wells, Maxfield, Klocko, & Feun, 2010), mentors (Sanocki, 2013) and other leaders is also helpful. The required support for each individual teacher leader will vary, but consistent opportunities to assist them will promote teacher leadership.

Strong Leadership From Multiple Sources

Strong supervisory leadership is key for teacher leadership to thrive. Research conducted by Wells et al. (2010) and Wells (2012) found that principals perceive a positive effect on teacher leadership when it is supported by superintendents. Similarly, Katzenmeyer and Moller (2009) note the necessity of support from superintendents and other school district leaders for teacher leadership. Most importantly, though, is the role of principal. There is no denying the impact of the administrative team and the principal, in particular, on teacher leadership (Barth, 2001; MacTavish & Kolb, 2006; Reeves, 2008; Ringler, O'Neal, Rawls, & Cumiskey, 2013). Supportive principals are those who understand teacher leadership roles and have engaged in meaningful discussions about their roles and responsibilities (Mangin, 2007; Pankake & Moller, 2007). Part of strong leadership includes a clear and inspiring mission and vision (MacTavish & Kolb, 2006) that teachers have co-created with the leadership team. This leadership and open dialogue foster a deeper understanding of the school's vision and the opportunity for teacher leaders co-create this vision.

Principals and teachers who are willing to work toward a joint understanding of contextual, school-based issues and to share power have a greater chance of increasing teacher leadership (Ryan, 2007). As such, administrative leadership that recognizes the importance of improving student learning through the development of positive and equitable school practices is imperative and in turn will support teacher leadership. Teacher leadership is bolstered by recognition and reward (Muijs & Harris, 2006). MacTavish and Kolb (2006) also noted that teacher leaders must be recognized by the principal for their innovations and efforts leading to pedagogical excellence. However, Wallace, Parker, and Wildy (1995)

address how motivation for teacher involvement in change initiatives is based on intrinsic rewards, such as commitment to colleagues. As such, the research on the impact of recognition and reward on teachers' motivation to lead appears somewhat inconclusive and merits further investigation. As one condition for teacher leadership, strong leadership from multiple sources should be coupled with additional conditions, such as a culture of learning.

Culture of Learning Based on Trusting Relationships and Mentorship

The literature strongly suggests that supportive school culture manifests in different ways; it may be through a whole-school focus, departmental engagement, or small-group inquiry (Beachum & Dentith, 2004; Yusof, Al-Hafiz Osman, & Mohd Noor, 2016).

However, the crux of a positive school culture is a focus on supporting teaching and learning in a respectful and responsible manner. Before school cultures can change, collective and individual teacher ideas must change (Sergiovanni, 2005). Frost (2011) notes that a key challenge for teacher leadership is the cultivation a climate of innovation. To have such a climate, trust between teachers and administrators is necessary (Beachum & Dentith, 2004; Zembylas & Bulmahn Barker, 2007).

Trust is a variable that leads to teacher empowerment and teacher efficacy (Seashore Louis, 2007). Trust between teachers must exist along with trust between teachers and administrators. However, trust is often coupled with distrust in the same relationship, adding to the complexity of interpersonal relationships (Mayrowetz et al., 2007). Trust is often demonstrated through offers of shared decision-making from school administration to teachers. However, as Angelle et al. (2011) note, it is often reciprocal with teachers increasing their trust in administration in response to increased participation in school decision-making and direction setting. In the schools where teacher leadership flourished, the

relationship between teachers and principals included mutual trust and respect, a sense of shared direction, and an allowance for individual expression (Angelle et al., 2011, p. 154). Shared-decision making not only leads to trust within the school and the semblance of a supportive teaching and learning culture, but also to increased feelings of power. In their 2-year study of secondary school teacher alienation during reform, Brooks et al. (2008) found a positive correlation between the distance teachers went from their classroom and their feelings of powerlessness. They also found that teachers felt more in control when their instructional decision-making was grounded in evidence of student learning and kept within their immediate domain. They reported feeling a stronger sense of power within their classroom setting than when they were involved in whole-school decision-making because they could not control for all the diverse factors and the complex needs of the school.

In their work on subject leaders, Aubrey-Hopkins and James (2002) established that a culture of collaboration using formal and informal means of communication, joint decision-making, policy creation and development, and sharing of good practices must be part of the school climate. Building within a distributed leadership framework, a culture of collaboration can emerge and support teacher leadership (Ackerman & Mackenzie, 2006; Barth, 2001; Muijs, 2008). Yet, teacher leaders still struggle to support colleagues who need mentorship and guidance (Aubrey-Hopkins & James, 2002). As such, a culture of collaboration is necessary for teacher leaders to mentor and engage colleagues (Ackerman & Mackenzie, 2006; Barth, 2001; MacTavish & Kolb, 2006). Not only do teacher leaders mentor others, but they also require mentorship as they navigate the complexities of modern schools (MacTavish & Kolb, 2006). Mentorship is required to support teacher leaders' development of management and leadership skills and also to improve the quality of education and to

bolster more socially just practices in schools. Furthermore, if teacher leaders are being accessed as a pool for future administrators, they require mentorship as they prepare to move into the role of vice principal or any formal leadership role such as department head, coach, or consultant (Shumate, Munoz, & Winter, 2005). Similarly, ITLs need mentorship and coaching as they develop their skills in their amorphous roles. Fostering an environment where teacher leaders recognize and understand their role within the school community leads to feelings of significance, competence, and power. This understanding of teacher leader authority within the school allows teachers to be more creative and spontaneous, to take risks, and to work towards goals (Hunzicker, Lukowiak, Huffman, & Johnson, 2009).

Obstacles to Teacher Leadership

Despite the increase in teacher leadership in schools, it remains quite a daunting challenge for many with both external and internal obstacles (Hart, 1994; Mangin, 2007). External obstacles include aspects of their experiences and or working conditions that hinder teachers' ability to effect positive changes within their schools that lead to improved student achievement and more collaborative teaching and learning environments. These external obstacles include the lack of resources, increased accountability measures, insufficient PD and access to research, increased role expectations, and pressures to move into administrative posts (Barth, 2001; Clarke, 2009; Murphy, 2005; York-Barr & Duke, 2004). Teacher leaders face additional obstacles that include insufficient skills, lack of role definition, increased policy without time and or support for implementation, and the challenges involved in navigating unionized environments as a professional.

Insufficient Skills

An analysis and review of the literature indicates that many teacher leaders are

limited by their underdeveloped leadership, facilitation, interpersonal, and or problem-solving skills which leaves them struggling to influence others and be change agents. One reason for this obstacle was noted by Schmidt (2000) who found gaps in the support for developing formal teacher leadership; little PD is offered to new department heads and leadership is not a significant topic of student in pre-service education programs.

Organizational awareness and specifically, struggles with power dynamics, the ability to work beyond feelings of isolation, the ability to deal with ethical concerns and changing work boundaries are confounding issues for teacher leaders (Buckner & McDowelle, 2000). Many teacher leaders describe on-the-job learning, without any formal leadership training (Clarke, 2009). Increasingly, teachers are required to use data to make informed decisions. However, teachers find the analytic skills required to interpret data—finding, analyzing, synthesizing, and applying data to one's own or colleagues' contexts— are often insufficient and attempts at using them result in discomfort (Ingram et al., 2004).

Furthermore, in order for teacher leaders to effect positive change, they must “have or develop both process and content skills...” so that they can “adapt to different contexts and different situations” (Lieberman et al., 2006, p. 404). Klentschy's (2008) study of developing teacher leaders in science outlines the extensive types of work that teacher leaders do and the experiences they have, (i.e., deepening content and pedagogy, adult development, problem solving, collaboration, decision-making, building vision, conducting/organizing PD, developing team building skills, conflict resolution, and providing opportunities for leadership and time for collaboration). Teacher leaders who have weak organizational, managerial (Mayers & Zepeda, 2002), and leadership skills will struggle to effect change among their colleagues.

Role Definition

For teachers, taking on any role outside the cultural norms established for classroom teachers can cause conflict or confusion, leading to lower job satisfaction, and stress (Koustelios et al., 2004). As such, role conflict and confusion are significant obstacles for teacher leaders (Ackerman, & Mackenzie, 2006; Adduci et al., 1990; Mayers & Zepeda, 2002; Schmidt, 2000; Verchota, 1971; Weller, 2001). Koustelios et al. (2004) describe role confusion as a construct wherein different groups of people or individuals hold conflicting ideas about one person's work related behavior. In their research exploring role ambiguity, role conflict, and job satisfaction among Greek physical education teachers Koustelios et al. (2004) found that lack of clarity around one's role decreases job satisfaction. Role ambiguity exists "when organizational members' expectations about a teacher's behavior are unclear;" or "when they are excessive", and role conflict exists "when meeting one set of expectations makes it more difficult to meet other expectations" (p. 87). Role conflict and role ambiguity impact both individual and organizational outcomes and as such, clear frameworks for the specific leadership roles and accompanying definitions are required (Smylie & Denny, 1990). However, when teacher leadership roles are informal and not bound by contractual obligation, but by interest and a moral purpose, clear communication around the purpose of the work is still beneficial, but challenging. A deeper exploration of role confusion for formal and ITLs would help systems better understand the role of co-constructing roles and setting job descriptions for leaders.

Many teacher leaders experience feelings of stress, isolation, and rejection due to the lack of support from colleagues who mistrust their motivation or who object to their movement away from traditional teaching roles stemming also in part from role ambiguity

(Barth, 2001; Wallace et al., 1995). In her research with 29 department heads in Canada, Schmidt (2000) identified stress and isolation as key obstacles to the formal leadership roles. This is problematic as there is very little assistance for new department heads during their transition from teacher to leader and once they are in the position, they can no longer wholly identify themselves with either teachers or administrators. The department heads in Schmidt's study experienced a lack of confidence and structural power along with feelings of insecurity and anxiety. Teacher colleagues who assume these leaders are looking to move to administrative positions often question the motivation of department heads and ITLs alike. This may indicate a misunderstanding or lack of collaborative cultures in schools. These negative emotional responses to teacher leadership can be deterrents for those to continue in their roles.

Lack of Resources

For change to take effect, there is often a need for resources (Poekert, 2012) and time to collaborate (Barth, 2001; Ryan, 2007). Resources may be physical, such as books, technology, space or other equipment, or they may be time used to collaboratively extend pedagogical practice (Zembylas & Bulmahn Barker, 2007). Resources may be lacking because the required resource does not align with system goals or because of general lack of funding. Teachers' roles expand due to leadership responsibilities, but tension ensues due to increased time commitments. Teachers and teacher leaders note the absence of time to consider and fully implement new pedagogical or content-based ideas in their classrooms (Clarke, 2009). Additionally, they lack the time to have reflective and collaborative discussions with colleagues about policy implementation. As such, time is often unequally divided among conflicting priorities, of which students and colleagues can be at opposing ends. Furthermore, time is required for teacher leader-principal collaboration (Birky et al., 2006) and, engagement in PD and inquiry.

Increased Policy Demands

Not all policies are valued equally by those who develop and or implement them (Abbott et al., 2011). Engaging teacher leaders in the work of policy development and implementation is complex and can at times put teacher leaders at loggerheads with the traditional work of classroom teachers (Abbott et al., 2011). Unfortunately, policy can be largely ineffectual when it comes to improving student learning, particularly when educators take a stance of avoidance or indifference (Ball et al., 2011). This is further complicated by the myriad of ways that schools and districts interpret and implement policy. Policy needs to be pedagogized; it needs to be made real and applicable to each teacher's context (Abbott et al., 2011, p. 616). At times, non-system actors, such as policy facilitators can be supportive to teachers. However, teachers often resist policy and may reject even the best-intentioned program due to additional pressures that negatively impact teacher moral (Zimmerman, 2006). Despite the stress of policy, teacher leaders engage with policy to ensure that critical and practical minds are involved in its interpretation and implementation in a responsive and contextualized manner.

Unions

According to Bascia (2001), unions can, and do, have a positive influence on change and teacher improvement. They provide advice to policy makers and teachers on policy implementation, they bargain for improved conditions to support quality teaching, they provide PD, and they sponsor educational program innovations. Unions generally support teacher PD and in turn, support teacher leadership (Bangs & Frost, 2012). In their research exploring teacher leadership, Beachum and Dentith (2004) found that teachers perceive union activism as a form of teacher leadership. Lieberman (2015) describes the effective

relationship between the Ministry of Education and the Ontario Teachers' Federation on the development and continued work of the Teacher Leadership and Learning Program (TLLP).

However, unions are also noted as being obstacles to teacher leadership (Clarke, 2009; Smylie & Denny, 1990; Wells, 2012). Teacher leaders are also union members and members are not permitted to evaluate one another. This notion falls under Section II.C.1 on Professional Relationships of the *Teaching Profession Act* (Ontario Teachers' Federation, 2012): "That member(s) refrain from personal deprecation of other member(s)." As such, teacher leaders are in a precarious position as their comments to mentees and fellow collaborators can be intimidated by the fear of grievances (Clarke, 2009). This fear of grievance can result in surface collegiality instead of thoughtful and constructive collaboration. Liu and Tsai (2017) found surface collaboration in their study where they discovered three specific phenomena "1). the tasks of teaching teams were experience-sharing only in information exchanges of educational works, 2). the processes in teacher collaborations were uncoordinated, and 3). the perceptions for teaching teams did not involve deep discussions and reflections on pedagogical knowledge" (p. 162). Due to constant downloading of workload from administration to teachers and union unrest, teachers are often reluctant to take on additional responsibilities that may jeopardize their place in the norm of the workforce within their school's context. It is clear the literature in this area needs to be further extended, particularly in the context of secondary educators in Ontario. The review of the literature revealed a lack of studies investigating how teacher unions support formal and informal leaders. Additionally, research connecting teacher leadership, union unrest, and assessment policy and practice was not explored in the literature.

Assessment Policy and Practice

The implementation of effective classroom assessment practice lags behind assessment policy. Educators struggle to acknowledge (Erkens, 2008; Timperley, 2010) and reconcile a know–do gap in assessment literacy (Popham, 2009a; Wiliam, 2011), and a required change to their philosophical stance (Earl et al., 2010; Stiggins & Chappuis, 2008). As assessment practices fall under the umbrella of pedagogy, teachers are engaged with classroom assessment on a moment-to-moment basis, or, more specifically, 24-33% of their time (Stiggins, 2014). Classroom assessment “involves a complex set of processes through which teachers make decisions about how well their students are learning, and how they can help them learn more and better” (Earl et al., 2010, p. 9). Extending an understanding of assessment practices is often referred to as developing assessment literacy (Stiggins, 1991). Assessment literacy is knowledge and competence in assessment practices, including the design of tasks and tools with a focus on student learning and the use of the data that results from assessment to make instructional decisions (Erkens, 2008; Popham, 2009a). Assessment literacy is necessary for both educators and students (Smith, Worsfold, Davies, Fisher, & McPhail, 2013). To help understand and navigate these assessment literacy complexities, Ontario’s assessment policy, *Growing Success* (OME, 2010a), sets out an ambitious and forward-thinking strategy for educators that is focused on using assessment to support student learning.

Growing Success, a 159-page policy document, opens with the following statement: “The primary purpose of assessment and evaluation is to improve student learning” (OME, 2010a, p. 6). This shift in philosophical stance or belief toward classroom assessment with a focus on formative assessment, or Assessment for Learning (AfL), as opposed to

summative assessment or Assessment of Learning (AoL; Earl & Katz, 2006; Gulikers, Biemans, Wesselink, & van der Wel, 2013; Timperley, 2010) has been a challenge for many Ontario educators (Earl, 2006; Earl et al., 2010). Some educators question the viability of AfL (Volante & Earl, 2012); however, assessment policy has resulted in tangible changes and successes within assessment practices in Ontario (Deluca et al., 2015; Earl et al., 2010, Reid et al., 2011) and in other jurisdictions (Smith et al., 2013). The reality is, many educators adopt some aspects and elements of the evidence-based assessment strategies and processes outlined in *Growing Success*, but do not fully implement the policy. Marshall and Drummond (2006) articulate this disconnect as enacting the “letter” of assessment for learning, but not the “spirit.” One teacher may be setting learning goals (Davies, 2007) in her classroom, but not co-creating success criteria (Gregory, Cameron, & Davies, 1997), and another might be engaging students in AfL, but not assessment as learning (AaL). Volante and Earl (2012) note this challenge in moving forward with AfL.

Additionally, in their research exploring the alignment of formative and summative assessment practices, Gulikers et al. (2013) found that teachers continue to see “formative assessment as a product (i.e., content and structure), with no reflection on its purpose” (p. 122), illustrating a limited notion of formative assessment as a task and tool oriented assessment practice, not one which requires teachers to adjust instruction and provide feedback to students. Similarly, Vlachou (2015) contends that many educators focus on monitoring student learning, but do not use the evidence of learning as data to shift their instructional practice. Therefore, a jagged front exists for the implementation of *Growing Success* (Reid et al., 2011) as well as other assessment policies (Black, 2015).

Assessment Policy

Assessment policy exists as a tool to support consistency and equity across schools and districts. Black and Wiliam (2010) contend that it is policy makers who need to take the lead on assessment practices. Vlachou (2015) and Gordon et al. (2014) support this stance by proposing that policy makers focus more on classroom assessment policy, with its grounding in teaching and learning, while deemphasizing accountability and standards. The intentions of policy are to support the implementation and promotion of research-based and evidence-based practices. As Browning (2014) noted, changing assessment policy had a significant impact on teachers' ideas of the purposes of assessment. Yet, a gap still exists between assessment policy and practice. Hayward (2015) suggests that there is no perfect assessment policy because of the complexity of the purpose and context of assessment. Earl et al. (2010) state that "the focus in educational policy has been on preparing all students for tomorrow's world, and the expectations for students have increased in breadth and depth" (p. 5), resulting in a need to adjust policy to reflect 21st century realities of the unknown. Assessment policy implementation has encountered challenges across the globe and remains highly politicized (Webber, Scott, Lupart, Aitken, & Scott, 2013). Vlachou (2015) states that in England, AfL policy has yet to result in gains in learning, but has begun to shift thinking away from test scores. It would be naïve to think that only policy can shift practice. Stiggins (2014) contends that it is an administrator's responsibility to model and support assessment literacy and leadership. The absence of teachers' voices in the assessment policy discourse is a noted gap in the literature.

International assessment policy and shifts. Although standardized tests and assessments continue, classroom assessment practices have changed. There has been a global

shift in assessment policy to focus more precisely on formative assessment and AfL and a move away from the traditional quiz-quiz-test model of evaluation rooted in summative tasks and AoL. Birenbaum et al. (2015) describe the global trends toward AfL in Australia, Canada, Ireland, Israel, New Zealand, Norway, and the USA. Much of these shifts are due to the noted benefits of AfL in research (Black & Wiliam, 1998; Hattie & Timperley, 2007; Marzano, 2010), more and more jurisdictions are adjusting their policies and encouraging shifts in practice with the purpose of seeing the gains in student achievement. An early adopter to the promising research on assessment reform, Scotland established their national policy, Assessment is for Learning (AifL) in 2001, “to build a national assessment system bringing together assessment for, as and of learning and to reconcile this with assessment for purposes of accountability” (Hayward, 2015, p. p. 28. It is important to note that there has been criticism of some assessment policy implementation practices and the lack of research indicating the desired impact on student learning (Black, 2015) and research of formative assessment (both individual studies and meta-analyses; Bennett, 2011).

Despite the research on the benefits of AfL, it is often juxtaposed with large scale assessment, such as the Educational Quality and Accountability office (EQAO) tests and international tests like the PISA. The purpose of these assessments is different; the purpose of AfL is to inform instructional practice and provide student feedback, and the purpose of large scale assessment is to inform system level decision making (Popham, 2011b; Stiggins, 2014). This clearly indicates how education continues to distrust classroom assessment practices and favour large scale data (e.g., Organisation for Economic Co-operation and Development, 2016). Again, the voice of teachers and their assessment practices are not evident in the literature.

Canadian assessment policy and practice. Although Canada does not have a federal policy on education, more and more provinces and territories have clearly defined assessment policies (Council of Ministers of Education, Canada, 2015; Klinger & Saab, 2012). Earl and Katz (2006) identified assessment statements made by the provinces and territories involved in the Western and Northern Canadian Protocol for Collaboration in Education (WNCP) along with other jurisdictions. Although these statements vary in depth and breadth, Canadian jurisdictions are heeding the research on assessment and moving away from traditional assessment approaches to a more student-centred approach. Additionally, Canadian jurisdictions are using the language of AfL and AaL to present assessment related constructs to educators (Klinger & Saab, 2012). Alberta has often led the way in assessment with a clear focus on improving teacher practice supported by the Alberta Assessment Consortium. Similarly, and more recently, New Brunswick has developed clear and purposeful statements about the purpose of assessment (New Brunswick Department of Education and Early Childhood Development, 2011). Other provinces such as Nova Scotia and Prince Edward Island include assessment support through online learning videos and resources and in their curriculum documents.

Ontario's assessment practices and policy. Currently, there is a twofold assessment policy in Ontario. First, there is policy that addresses the large-scale assessment programs in place, which are administered by an arm's-length agency of the Ministry of Education—the Education Quality and Accountability Office (EQAO). Its mandate is as follows:

The agency is dedicated to enhancing the quality and accountability of the education system in Ontario and to work with the education community. This will be achieved through student assessments that produce objective, reliable information, through the

public release of this information and through the profiling of the value and use of EQAO data across the province. (EQAO, 2017, para. 1)

The assessments developed and administered through the EQAO have been in place for over a decade and are the initial and continued push toward data-driven decision-making in many schools and districts (Volante, 2007), yet these assessments remain divisive (Klinger & Rogers, 2011). Educators continue to feel the pressure of teaching to these tests and administrators continue to rely on the data, sometimes as the only point of reflection, when planning for school success. For these reasons, EQAO assessments remain controversial for educators. Additionally, the EQAO has come under scrutiny for its relevance for modern, diverse learners (Pinto, 2016; Rogers, 2014).

Second, Ontario has a structured classroom assessment, evaluation, and reporting policy: *Growing Success* (OME, 2010a). Due to the pressures to hold decision-making to valid-data and the need to return to core competencies in curriculum, there has been global pressure to follow a standards-based model of classroom assessment of curriculum (Volante, 2012). Additionally, assessment literacy is a noted gap in educators' experiences and as such, assessment policy is a way to move toward deeper understanding of assessment practices leading to better student learning (Hayward, 2015; Stiggins, 2014). The seminal work of Black and Wiliam (1998), which synthesized research indicating the impact of assessment for learning practices on student learning clearly influenced Ontario's assessment policy. *Growing Success* states "Assessment for the purpose of improving student learning is seen as both 'assessment *for* learning' and 'assessment *as* learning'" (OME, 2010a, p. 28). This iteration of assessment philosophy hoped to usher in a culture of AfL where teachers would gather and interpret assessment data to determine next instructional steps, provide feedback

for students, and extend the learning as opposed to simply filling columns in their grade books. This AfL culture would engage students in the assessment process and help them understand the process of learning (Vlachou, 2015). As both Vlachou (2015) and Jakicic (2008) note, a balanced assessment program reflects AfL (formative assessment) and AoL (summative assessment) while leveraging these assessments with purpose in mind. In addition to balance, Gulikers et al. (2013) also require proper alignment between assessments to ensure student learning and quality of assessment. With *Growing Success* (OME, 2010a) teachers are required to engage students to be active participants in their learning and in the learning of their peers. Students are to participate in peer and self-assessment along with goal setting through assessment *as* learning strategies. Of course, grades are still in use in Ontario schools (with the exception of the kindergarten program) and AoL occurs at the end of teacher determined learning periods. Yet grades are determined by reviewing data (evidence of learning) that is gathered through observations, conversations, and products that are reported on the provincial report card, not simply tests, assignments and projects. However, as Bennett and Armstrong (2012) state,

If assessment is intended to improve student learning, then educators must see grading within a broader context of documenting and communicating what has been learned to date and what further learning is required, rather than using grading to simply perform a sorting and selecting function. (p. 275)

This is a noted challenge for educators in Ontario.

This shift in assessment practice has reinforced the importance of effective, fair assessment, criterion-referencing and the power that teachers wield to elicit evidence of student learning. Brookhart et al. (2016) state that “teachers believe it is important to grade

fairly. Views of fairness included using multiple sources of information, incorporating effort, and making it clear to students what is assessed and how they will be graded” (p. 825).

Despite this intention, as Klinger et al. (2012) note, “teachers rarely have the opportunity to deeply explore their own assessment practices, share their experiences with colleagues, and develop their expertise in collecting and using assessment data over a sustained period of time” (p. 1). Additionally, implementation of the assessment policy varies. Earl et al. (2010) describe how Ontario secondary teachers experienced tension and inconsistencies around assessment policy implementation at the time that *Growing Success* was published. More specifically, teachers were struggling with the varying purposes of assessment and grading practices. Last, there is a disconnect between the assessment practices of the K-12 system and postsecondary, which continues to remain traditional in its stance toward assessment. This places stress on educators as they attempt to support students in their classes and prepare them for transitions to future learning environments.

As a way to articulate the shift from traditional assessment and evaluation practices and those outlined in the assessment policy, *Growing Success* (OME, 2010a) is rooted in seven foundational principles. These foundational principles are not directly connected to teacher leadership, but more influential when collaboratively interpreted and implemented. The primary focus in the principles lies in practices and procedures that “are fair, transparent, and equitable for all students” (OME, 2010a, p. 5). For these practices and procedures to be equitable, students’ diverse identities and learning must be considered along with the materials used to support learning. Transparency is expected using clear learning goals that are clearly communicated to students. Grounding these principles is clear communication, including feedback, with all learning stakeholders and fair evaluations. One goal is to support

students as they develop their own sense of themselves as learners—this is done through the development of self-assessment skills. These principles are often an entry point into discussions around assessment. Teachers engage with the principles, the connection to their personal teaching philosophy and how these principles surface in their classrooms. Perhaps because of the clear articulation of the purpose and principles of assessment, Reid et al. (2011) note that some teachers and administrators are exploring AfL strategies, but that these same educators feel push-back from colleagues because of a disconnect to the philosophical grounding of these principles. Although *Growing Success* necessitates collaboration between teacher and students, there is no reference to leadership or to teacher collaboration. The policy does not mention collaborative assessment planning and therefore, implementation of the policy has been slow and fragmented.

Shifts in assessment policy and practice pose adaptive challenges (Heifetz, Grashow, & Linsky, 2009) or wicked problems (Rittel & Webber, 1973, as cited in Jordan, Kleinsasser, & Roe, 2014; Sweeney, 2015). Earl et al. (2010) note the significance of these challenges for secondary educators when they state,

Making sense of the changes in assessment encompasses shifts not only in teachers' practices but also in their beliefs and knowledge, as they move from perceiving assessment information as something separate from teaching and learning processes to seeing the information as an integral part of it for both themselves and their students. (p. 99)

Donahoo (2013) notes, with an example of grading as of one of these adaptive challenges, that teachers require new learning and a disruption to previous practices. Volante and Earl (2012) state that educators need to see the change in the purpose of assessment as well the

different relationship required between teacher and students.

Assessment for Learning (AfL). Assessment for learning, as articulated by Earl and Katz (2006) holds teachers to certain tasks that include using “assessment as an investigative tool to find out as much as they can about what their students know and can do, and what confusions, preconceptions, or gaps they might have” (p. 29). AfL is synonymous with formative assessment and is seen as a series of tactics or strategies whereby student learning can be made visible. Popham (2009b) defines formative assessment as “a planned process in which assessment-elicited evidence of students’ status is used by teachers to adjust their ongoing instructional procedures or by students to adjust their current learning tactics” (p. 34). Popham differentiates his idea of formative assessment from other possibly misconceived ideas of formative assessment by stating that it is not a task, but is a part of an assessment process. Therefore, a quiz cannot be formative assessment, but a part of the process. Wiliam (2011) also notes how formative assessment is a process, not just a series of strategies or tactics, whereas Jakicic (2008) refers to small assessments tasks as curriculum-embedded assessments that make up part of the regular teaching and learning and lead to instructional decision-making. The varying definitions of AfL cause concern to both researchers and practitioners (Vlachou, 2015). Working through these varying definitions can be challenging, but *Growing Success* (OME, 2010a) establishes some basic parameters when it states “Assessment for learning is the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go, and how best to get there” (Assessment Reform Group, 2002, p. 2).

Popham (2009b) and Stiggins (2014) believe that assessment *for* learning only truly exists when instructional shifts are made based on the evidence of student learning. This

belief challenges those who are engaging in rich assessment for learning practices by offering students opportunity to demonstrate their learning, but not using that evidence as data to inform next instructional steps and descriptive feedback. Teachers dig deep into curriculum to deconstruct expectations (Bennett & Armstrong, 2012; Cameron & Gregory, 2014; Wiggins & McTighe, 2005) and then reflect on their students' learning needs (OME, 2013a) to establish clear learning goals and to co-create success criteria to guide the learners' experiences as appropriate (Marshall, 2008). These learning goals are then monitored and scaffolded for students so that teachers can understand where and why students are struggling (Jakici, 2008). Additionally, teachers provide descriptive feedback and coaching for improvement (OME, 2010), and differentiate instruction, resources and assessment based on identified student needs.

Feedback is one of the five central steps in the formative assessment process (Black & Wiliam, 1998; Hattie & Timperley, 2007; Sadler, 1989) and narrative feedback (Barnes, 2015) or effective feedback (Brookhart, 2008) can have a significant impact on focusing on learning, not just grades. *Growing Success* (OME, 2010a) has clear statements about teacher use of descriptive feedback. Hattie and Timperley (2007) articulate that for teacher feedback to be effective it should be a descriptive comment on student work or the processes used in the development of student work. Hattie and Jaeger (1998) also explain that feedback is also what and how students engage with learning and set next steps. This is why AfL and AaL are connected under the umbrella of formative assessment. Proponents of feedback such as Kohn (2011) note how grades and even feedback with grades, reduce students interest in learning and willingness to take risks. Brookhart (2011) identifies the ability to provide effective feedback as an essential aspect of knowledge and skill required by teachers. Butler and

Winne (1995) found that math students saw more academic achievement gains with only descriptive feedback as opposed to evaluative feedback in the form of grades. However, more recently, Dann (2014) suggests that teachers “may need to consider less about focused and directive feedback, but more about how learners interpret and understand feedback from their self-regulatory and self-productive identities and how vocabularies for assessment can be more collaboratively shared in learning contexts” (p. 149). Like many policy documents, *Growing Success* leaves how to enact the changes up to districts, schools and teachers.

Assessment as Learning (AaL). Although *Growing Success* (OME, 2010a) identifies Assessment as Learning (AaL) as a separate entity, it can also be interpreted as a component of Assessment for Learning and formative assessment and focuses on supporting student self-regulation (Dann, 2014; Earl et al., 2010). Earl and Katz (2006) contend that AaL is a process of metacognition which supports students to develop their identities as learners. Furthermore, Earl (2004) explains that AaL is of primary importance and as such, the balance of assessments should focus on AaL. More specifically, Dann (2014) believes that further definition of AaL needs to include student understanding of the feedback they receive and their own learning needs along with a facility to explore and use the vocabularies of assessment. She also contends that advanced work into defining AaL needs to take place, as, similar to AfL, varying interpretations exist, which frustrates educators (Dann, 2014).

Clearly articulating AaL, its strategies and tactics, is particularly important in light of Frankland’s (2007) findings, which state that students’ learning is driven by their perceptions of assessment and, as a result, students will focus more on how they are being assessed than on the actual learning. To mitigate this possible negative condition, educators need to involve students in the learning and assessment process and to support understanding of how they are

interconnected and can be adjusted to support learning. Earl et al. (2010) explain how “Assessment *as* learning adds a dimension to the role of assessment *for* learning because it suggests that assessment is not just the purview of teachers, but also a critical tool that allows students to take responsibility for their own learning” (p. 48). Smith et al. (2013) articulate this as supporting students’ assessment literacy and in their research conducted with Australian undergraduate students, they found that “helping students to develop their ability to judge their own and others’ work will likely enhance their learning outcomes” (p. 58). Ontario policy supports this notion of AaL and requires educators to act on this. “Helping all students develop their capacity to be independent, autonomous learners who are able to set individual goals, monitor their own progress, determine next steps, and reflect on their thinking and learning” are the teacher practices involved in AaL and outlined in *Growing Success* (OME, 2010a, p. 28). The purpose of AaL is for students to engage in learning, self-assess, see themselves as learners and to be able to plan their own learning as they move forward.

Again, *Growing Success* (OME, 2010a) cites the Western and Northern Canadian Protocol (2006) which provides guidance around this concept when it states, “Assessment as learning focuses on the explicit fostering of students’ capacity over time to be their own best assessors, but teachers need to start by presenting and modelling external, structured opportunities for students to assess themselves” (p. 42). Understanding how to offer student AaL strategies and how to motivate students to engage in these opportunities is a challenge for many educators who cite time constraints (Reid et al., 2011) and overloaded curriculum as impediments (Ferriter, 2008; Popham, 2009b). Where *Growing Success* falls short is in its lack of recognition of the importance of teacher collaboration to ensure fair and equitable

practices for all students in all classes with a consistent messaging around assessment for, as and of learning. Furthermore, without supporting the development of assessment literacy, a deep understanding of AaL will continue to lag.

Assessment of Learning (AoL), grading, and reporting. Assessment of learning is connected to summative assessment. These summative assessment opportunities surface at the end of a learning period, when a teacher can gather evidence of learning to make a judgment based on both curricular and performance standards (Harlen, 2004). Bennett and Armstrong (2012) argue that “When students have been properly prepared through student-engaged instruction and formative assessment, summative assessment is an opportunity to celebrate student performance focused on what has been learned” (p. 265). This non-punitive and philosophical approach to assessment of learning is one that needs to be strongly supported for students to feel engaged in assessment, as opposed to being judged unfairly during learning. In their research exploring teachers’ beliefs and practices related to classroom summative assessment, McMillan and Nash (2000) concluded that teachers experience tension between their beliefs around summative assessment and the realities that are presented in their classrooms, resulting in feelings of pressure and isolation. Furthermore, after noting a gap in assessment literacy as it pertains to grading, Simon et al. (2010) also highlight “the need for ongoing support for teachers to develop the knowledge and understanding of grading principles and policies that should inform their professional judgment” (p. 548). Assessment literacy can and should be developed collaboratively and with the support of a reflective assessment leaders; however, neither *Growing Success* (OME, 2010a), nor any other provincial policy document put forth this assertion.

In Ontario, teachers use a standards-based grading model to connect evidence of

student learning to criteria that are based on expectations outlined in the curriculum and to performance standards presented in achievement charts. Performance indicators are currently grouped into updated achievement chart categories of knowledge and understanding, thinking, communicating and application. Despite the emphasis on AfL and a clear stance in policy that AfL data not be used in determining grades, teachers remain at times frustrated with policy that promotes growth over time and progress but requires a final percentage (grades 9-12) or a letter or level (grades 1-8). This frustration is illustrated in the literature where Popham (2009b) contends that many educators continue to collect numerical data for grading purposes only.

Reporting student achievement in Ontario is a standardized process with direction posted in both *Growing Success* (OME, 2010a) and *Reporting Student Learning: Guidelines for Effective Teacher-Parent-Student Communication* (OME, 2010b). Report cards are written based on student strengths and present overviews of learning, examples that illustrate that learning and possible next steps for students to continue their learning. Parents and teachers often note the limitations of the standard report card issued in the province of Ontario, yet teachers often go beyond these requirements to communicate more fully about student learning (Porter, 2015a, 2015b). Reporting grades is consistently an assessment task that teachers find challenging (Brookhart, 2015). Educators who engage in collaborative practices such as moderated marking with a focus on achievement and criteria, often find grading and reporting less onerous (Brookhart, 2015; Guskey, 2009). Developing a culture of collaboration around reporting and extending the culture to include communicating learning has been a challenge.

Challenges to Assessment Policy Implementation

Many challenges exist with any policy implementation, but with regard to classroom

assessment, two of the main obstacles are the evolving use of assessment language and the misunderstanding of assessment concepts, both of which often result in conceptual and definitional disputes (Popham, 2009b; McMillan, 2007b). Brookhart (2004) suggests that “classroom assessment sits at intersections in both theory and practice and that the resulting array of relevant practical and theoretical material creates tensions for those who try to chart this territory” (p. 429). These challenges could be mitigated with a culture of collaboration, teacher inquiry, and assessment leadership. As educators have had little time to collaboratively deconstruct the literature on assessment and co-construct their assessment literacy, practice lags behind policy.

Much of the literature from the United Kingdom and the United States uses the terms formative and summative assessment—terms used to contrast two purposes of assessment with the former being primarily non-evaluative and the latter being evaluative (Popham, 2009b). This language was first introduced to Ontario educators in 1983 with the release of *Ontario Schools: Intermediate and Senior* (OME, 1984). However, Stiggins introduced the parlance of assessment as, for, and of learning as it relates to classroom assessment as a way to focus on the purpose of the assessment as opposed to the task. The terms formative and summative are often discouraged because of their dichotomous connotations (Cech, 2007, as cited in Bennett, 2011, p. 6). The use of AfL, AoL and AaL was picked up by Earl and other Canadians and this language is used most frequently in the Canadian assessment literature. Even more recently, Valchou (2015) presents the ideas from the Third International Conference on Assessment for Learning (2009) which further shift the construct of AfL from assessment to evidence of learning, emphasizing “the role of the teacher, student, and peers in the assessment process to enhance ongoing learning and learning autonomy” (p. 101).

Therefore, as all these terms and ideas are used in the literature and with varying definitions, it is challenging to the classroom educator to move through the language to the practice, despite the definition and exploration of all terms in *Growing Success* (OME, 2010a). For many educators working to understand more impactful assessment practices, the language of assessment is confusing, even with pages of explanation in policy documents and support materials. Due to the disjointed roll out of *Growing Success*, the necessary collaborative conversations led by assessment leaders did not sufficiently take place (Earl et al., 2010).

Just when educators became comfortable with the use of the terms formative and summative as terms that indicated purpose of assessment, the literature clarified that formative and summative are terms also used to describe assessment processes, with assessment as, for and of as learning to be used as terms to describe assessment purpose. As such, the language of assessment is constantly intermingled with purpose and process, with a stronger emphasis on purpose, rather than process, as is seen with teachers who implement AfL strategies, but do not always use the data to adjust instruction and provide meaningful and timely descriptive feedback to students (Popham, 2011a). However, Hayward (2015) distills the issue when she states:

Prepositions that link assessment to learning—as, for and of—can be useful if they focus attention on different purposes for assessment. There is, however, a danger that these prepositions turn into an unreflective mantra drawing attention away from the key construct—assessment is learning. (p. 38)

This statement reminds educators to focus on learning and to deepen their conceptual and philosophical understanding of assessment along with their strategic assessment moves.

District and school assessment policy implementation. As in other places in the world (see Hayward, 2015, for Scottish context and Vlachou, 2015, for English context), implementation of AfL and other assessment practices and strategies outlined in *Growing Success* (OME, 2010a) have been as slow and variable. Consistently, lack of time for collaboration and interest in shifting assessment practices has surfaced as an obstacle (Brookhart et al., 2016). In a phenomenological study of the implementation of formative assessment strategies in a Swedish physics class, researchers found five areas of discomfort. These areas of discomfort included resistance from the students, teachers' traditional and formal roles, need to sacrifice to bring about change, aversion to teacher risk-taking, and concerns over colleagues' opinions (Levinsson, Hallström, & Claesson, 2013). Similar concerns were identified during research conducted by Reid et al. (2011) and Black and Wiliam (1998). These discomforts can be eased by supporting an authentic collaborative culture where teachers have voice and where their actions are connected to improved student learning.

Highfield and Robertson (2015) connect the struggle to move assessment practices forward with specific policy to overburdened and complex education systems with too many initiatives in place. Earl et al. (2010) suggest that there was a lack of support and time for teachers and administrators to collaboratively develop an understanding of *Growing Success* (OME, 2010a) and to also develop implementation plans. *Growing Success* required changes to assessment practices. Klinger et al. (2012) contend that there is a continued need to further develop assessment literacy in Ontario. Although more support is now available through the Ontario Ministry of Education website, the information and resources came slowly, leaving many educators to interpret policy with limited or vague guidance (Earl et al., 2010).

Districts have interpreted *Growing Success* and created their own assessment policies. The intention of such district assessment policy is to further support teachers and create transparency for teachers, students, and parents. Nonetheless, this additional level of policy is often vague and without the direction or specificity that some teachers request. The complexities of assessment and an awareness of teacher responsibilities, has led educators to regularly express apprehensions about student assessment practices and policy (Earl et al., 2010). The policy also has implications for parents and guardians as well. The current assessment practices are vastly different from those experienced prior to 2000 in Ontario and in contrast to many policies that currently exist in other jurisdictions and countries.

District and school level challenges. Numerous obstacles exist to the implementation of assessment policies at the district level. Popham (2009b) identifies six stumbling blocks related to assessment that affect school success, including the undervaluing of classroom assessment, a pre-occupation with instruction as opposed to assessment processes, a lack of affective assessment, and weak assessment literacy. As Popham explores obstacles, he omits to focus on the socio-political climate that exists within systems that act to hinder effective assessment literacy and teacher leadership. By not recognizing the impact of traditional leadership models in schools and the challenges that teacher leaders experience to share their curiosities, he omits delving deeply into the reasons for the slow uptake on non-traditional assessment practices. Hollingworth (2012) indicates that an absence of assessment leadership within systems is also a significant block to moving assessment practices forward. At the school level, where educators are inundated with responsibility and at times conflicting mandates and goals, Simon et al. (2010) suggest that research continue to be conducted to better understand how teachers and school leaders implement changing

assessment policies and practices to ensure supportive implementation. A deeper exploration of how assessment leadership and teacher leadership intersect and develop through collaboration around assessment practices needs to take place.

Teacher and teacher-leader challenges. Classroom educators are the front-line professionals challenged with implementing and interpreting assessment policy, therefore, support for teachers needs to include celebrating their successes along with providing guidance. Timperley (2010) contends that “many teachers’ previous training and approaches to teaching practice did not require them to interpret and use evidence because assessment information was about labelling and categorizing students, not about guiding and directing teaching practice” (p. 5). This need for guidance can extend back to pre-service teacher education programs where DeLuca and Klinger (2010) note a need for supporting assessment literacy.

In their research exploring the impact of assessment PD conducted by Wormeli on grading practices, Nweke and Elliot (2014) found that although all respondents from their post-PD survey stated that they had learned a new assessment strategy, only 63% had actually implemented a strategy. This clearly indicates a know–do gap in assessment literacy and practice. Interestingly, the participants also noted lack of administrator support to move their practice forward and to share their learning with colleagues. Furthermore, Barth (2001) notes that colleagues are at times an impediment to teachers taking on innovative opportunities or risk-taking, yet he also recognizes that leadership can be modelled by following others and engaging in collaborative teamwork. For Ontario educators, when dealing with assessment policy, whether it is from the ministry, board, school, or at the secondary level, the department, educators implement policy by making adjustments to their

practice and understanding of assessment (Earl et al., 2010). Similarly, Reid et al. (2011) suggest that to ameliorate tension in assessment policy uptake, consideration must be paid to educators' beliefs and values.

Some educators continue to remain resistant to assessment changes because of the complexity of the issue and the challenges to their personal values and belief systems. Gulikers et al. (2013) note, "In the context of changing assessment practices, teachers' assessment conceptions can hinder implementation of assessment innovations if their conceptions are not changed along with the underlying ideas of the educational innovation" (p. 1). Nweke and Elliot (2014) also note that tradition, lack of time for making changes to existing program and practices, and resistance to change remain forceful impediments to shifts in assessment practices. To alleviate these challenges, Hollingworth (2012) suggests that "built in time for reflection and teacher conversation in PL communities" is an integral aspect of changing educator practice (p. 377).

Supports and Success in Assessment Policy and Practice

In their review of assessment policy uptake and assessment literacy, Scott, Webber, Lupart, Aitken, and Scott (2012) make clear the detrimental impact that school assessment policies and practices can have on students, and in particular, those who already face challenges in the education system. As a way to ensure assessment is fair and reliable, educators are exploring new and innovative ways to assess while increasing efficiency and efficacy (Ghrayeb, Damodaran, & Vohra, 2011). To be able to move forward with fair and equitable practices, educators need support in the form of PL and assessment leadership (Hollingworth, 2012; Moss, Brookhart, & Long, 2013).

PL and practice. PL and active practice of new skills is widely recognized as

essential to shift educator thinking and practice, while also providing ‘learning dividends’ for teachers and students (Popham, 2009a). To compensate for teacher deficit in knowledge of assessment, previous studies, such as the review of assessment practices in Alberta, note that effectively structured assessment PL and teacher education can lead to high self-efficacy, increased internal loci of control, and personal resilience among teachers (Scott et al., 2012). PL opportunities need to be thoughtfully constructed to meet the needs of teachers while in a practical and realistic manner as opposed to a theoretical approach (Popham, 2009a). Wiliam and Leahy (2015) suggest that an effective strategy to develop collective assessment literacy is to be clear about the goals and success criteria of teams’ work and to embed this practice within an approach called Keeping Learning on Track (KLT). To do this, during PL, teachers need to replicate and engage in assessment practices and processes that they are working toward in their own classrooms. This practice was also uncovered by DeLuca et al. (2015) who noted its effectiveness in the Ontario context. In their research conducted in the Dutch Agricultural Vocational Education system, Gulikers et al. (2013) found success with PL structured as action research because it “shows the usefulness of starting with structured bottom-up activities that stimulate practitioners to explicate and compare their assessment practices, after which various top-down input is brought in alternated again with bottom-up reflections and adjustments in several rounds” (p. 123). *Growing Success* (OME, 2010a) states that teachers are:

encouraged to take an “assessment *for* learning and *as* learning” approach to their own PL—identifying specific goals for implementing the practices outlined above with their students, developing criteria for successful implementation, working collaboratively with peers to receive and provide feedback, and reflecting on their

progress towards achieving their goals. (p. 36)

Furthermore, teachers with a growth mindset (Dweck, 2010) and those who practice risk-taking, will allow for the acquisition and transference of new assessment strategies into their instructional habits (Webber et al., 2013).

PL that is rooted in collaborative learning or collaborative inquiry leads to deeper reflection on educational practice. Popham (2009b) describes the effectiveness of both teacher learning communities and PL communities as vehicles to collaboratively move assessment practices forward. Vlachou (2015) argues that collaboration on AfL practices strongly underpins effective teachers' practice. Donahoo (2013) explains that collaborative inquiry teams "work together to ask questions, develop theories of action, determine action steps, and gather and analyze evidence to assess the impact of their actions" (p. 2). The idea of the teacher as inquirer or researcher into student learning is one that often surfaces in the literature (Katz, Earl, & Ben Jaafar, 2009; Reeves, 2008). Loughran (2002) identifies how "teacher-researchers can be characterized as those practitioners who attempt to better understand their practice, and its impact on their students, by researching the relationship between teaching and learning in their world" (p. 3). A powerful model for teacher inquiry is presented by Timperley (2010). This model, similar to collaborative inquiry used in Ontario (The Literacy and Numeracy Secretariat, 2000), supports both teacher and student learning and acquisition of new skills. Finally, as Hayward (2015) outlines, a "cycle of continuous learning is essential for sustainable innovation" (p. 38).

Administrator support. Assessment leadership and support from administrators is key to keeping assessment on the agenda of educators. *Growing Success* (OME, 2010a) suggests that administrators should "champion the importance of assessment for learning by

ensuring a consistent and continuous school-wide focus on student learning and by using classroom, school, and system data to monitor progress” (p. 36). Administrators can serve as catalysts for changes in assessment practice by enacting instructional leadership and rooting themselves in “the research and pedagogical goals of assessment for learning” (Hollingworth, 2012, p. 377). Volante and Earl (2012) call for leadership that promotes a culture of inquiry and is rooted in an understanding of “their school, including the beliefs and values that are held by the community, the students, and the staff” (p. 256). Similarly, Timperley (2010) identifies that administrators need to not only develop “school wide systematic, evidence informed cycles of inquiry that build the relevant knowledge and skill,” but that they also need to interpret and use evidence of learning to improve teacher and their own practice (p. 2).

More specifically, assessment leadership will surface when administrators support teachers to be lead learners, share and co-construct leadership with teacher leaders, and or shift planning time to accommodate professional dialogue (Hollingworth, 2012).

Hollingworth (2012) continues to describe how administrative support is necessary, but that support in the form of time, encouragement of PL communities, money for new curriculum and training are also significant. Deluca et al. (2015) made similar comments based on their research and additionally noted that school leaders who were effective at building an AfL culture were also able to better align with system approaches to AfL.

Teacher leadership. Teacher leaders have a significant role to play in the implementation of policy in general and in particular, assessment policy. It is well noted in the literature that teacher leaders can navigate complex school organizations to interpret, change and impact policy (Manno & Firestone, 2008; York-Barr & Duke; 2004). Silva, Gimbert, and Nolan (2000) also found learning and shifting practice when teachers and

teacher leaders were co-learners. In their research exploring the impact of teacher leaders on a shift in mathematics and science, Lord, Cress, and Miller (2008) found that teacher leaders provided support and context for on the job learning that lead to achievement of broad instructional improvement. Additionally, in her research exploring the implementation of formative assessment practices in a secondary school in the U.S., Hollingworth (2012) found that a climate for learning and effective teacher leaders who were capable of developing meaningful collegial relationships were able to support teacher shift in assessment thinking while remaining student focused.

Closer to home, Deluca et al. (2015) note the significant role of teacher leaders in their work to support AfL. They attest to the fact that not only were teacher leaders able to support the shift in AfL practices, but they were also able to build a collaborative culture where they could diffuse and distribute leadership to colleagues, therefore, further empowering teachers as assessment leaders.

Triangulation of evidence. One issue of particular interest in Ontario is the notion of triangulation of evidence of student learning that is captured through observation, conversation, and products. This strategy for collecting evidence of student learning is rooted in the work of Lincoln and Guba (1986) and prioritizes the use and interpretation of accurate tools and tasks for assessment to surface evidence of learning with regards to a specific learning target or expectation. Ghrayeb et al. (2011) define triangulation as “a strategy used for the purpose of assessing and improving the validity of research findings” (p. 96). Triangulation of evidence can be collected both formally, within planned assessment experiences, and informally. Timperley (2010) has noted “informal evidence collected by

teachers as they observe students and mark their work can be just as powerful in this process as formal assessments” (p. 4).

From a classroom assessment perspective, the belief is that several measures and methods are used to collect assessment data and that when these data converge, one will have a strong conclusion about student learning (Ghrayeb et al. 2011). Canadian assessment guru Damien Cooper (2010) identified three categories or strategies for collecting triangulated evidence of learning. These include, oral communication (e.g., conference, discussion, questioning), performance assessment (e.g., skill demonstration, media production, presentation, simulation, role play) and written response (e.g., test, quiz, graphic organizer, essay, review, journal, portfolio). This practice of triangulating evidence of learning is new for Ontario educators and challenges the notion of assessment to move beyond paper and pencil evidence.

Summary

This chapter reviewed the existing literature on teacher leadership and focused on the study’s guiding question: What are informal secondary school teacher leaders’ perceptions of how they collaboratively construct and implement classroom assessment policies and practices? It began with an overview of current and historical research on the nature of teacher leadership and the types of teacher leadership roles. Neither the role of teacher as assessment leader, nor informal teacher leadership is well explored in the literature and merits further study. Next, it presented the literature on the benefits of teacher leadership and the conditions affecting teacher leaders. This was followed by an analysis of teacher leaders’ relationship with assessment policy interpretation and implementation. The literature identified the following for exploration. First, the notion that teacher leaders are working not

only to improve student learning, but that they do so through the implementation of fair and transparent assessment practices merits exploration. Additionally, interrogating the notion of informal teacher leadership seems to stem effortlessly from this idea of teacher leaders working with students and communities to better support their learning needs. The need for meaningful and appropriate PL and inquiry opportunities, supported by colleagues and administration is also imperative. Lastly, sustained focus on assessment and policy interpretation is also required. As teachers and leaders continue to co-construct meaning, benefits to school culture will ensue. These positive opportunities will continue to bolster collaboration and possibly lead to a new construct of teacher-leader, particularly around assessment literacy. Last, the literature also addressed assessment policy and practice in Ontario and globally while articulating challenges, success, and next steps for assessment policy implementation. The next chapter focuses on the methodological perspective and procedures that guided this research.

CHAPTER THREE: METHODOLOGY

This qualitative study explored informal secondary school teacher leaders' perceptions of how they collaboratively construct and implement classroom assessment policies and practices. This chapter begins by situating this qualitative research within a constructivist paradigm and proceeds with an overview of the qualitative research design, the methodological assumptions, and the intersection with constructivist inquiry. Next, research procedures, site selection, sample population, and data sources and instrumentation are presented. Additionally, the process for data analysis is outlined along with strengths, scope, and limitations of the research. Finally, this chapter defines the ethical considerations that were made during the planning and the course of this study.

Methodological Perspectives

Educational research strives to add to knowledge, improve practice, and inform policy (Creswell, 2012). Research allows problems to be explored and provides strategies to resolve these problems through the identification of explanations or solutions. Creswell (2012) defines research in its simple form as a three-step process used to collect and analyze information so that a topic can be better understood. Social science research narrows this definition by focusing on the contextualized and lived experiences of people and the development of an understanding of human judgements and actions (Somekh et al., 2005). To understand people, one must understand their individual and contextual diversity. Yet only recently has qualitative research, currently in its ninth moment, begun to recognize that research is still moving toward the idea of decolonization and inclusion and that this process will take a while—with the future looking increasingly complex and diverse (Lincoln & Denzin, 2005a). To be able to understand the complexity of ITLs' assessment practices, the

researcher must ensure that teacher voice is accessed and that it is respected. Birks, Chapman, and Francis (2008) stipulate that qualitative researchers must adopt a reflexive stance to be able to engage with the various research parameters, which include the context and the participants in a given study. Research, according to Denzin and Lincoln (2005b), “provides the foundation for reports about and representations of “the Other” (p. 1) and qualitative research, “is a situated activity that locates the observer in the world” (p. 3). All qualitative research is based on “the view that reality is constructed by individuals interacting with their social worlds” (Merriam, 2001, p. 6). Explorations of these realities must begin with a clear research question. An effective research question drives the research and extends new ideas into the body of literature.

This study sought to surface and value ITLs’ narratives of their lived experiences related to their assessment practices and to do so in a way that recognizes the complexity of their undefined roles through a constructivist lens. By using a qualitative approach in this research, as Miles, Huberman, and Saldaña (2014) assert, a rich narrative that is appealing to researchers, policymakers, and practitioners will emerge and engage stakeholders more than static pages of summarized numbers. Adding to the body of knowledge around teacher leadership will support the building of a coherent body of literature that will inform and facilitate the development and implementation of these informal teacher leadership roles (Mangin & Stoelinga, 2008). Similarly, a better understanding of how educators interpret and implement classroom assessment policy individually and collectively allows educators to move forward in their own evolving assessment practice. Sandberg and Alvesson (2011) found that gap-spotting is the primary way that researchers identify research questions, but that problematizing the research also leads to effective questions. The development of the

questions which guide this research were indeed formulated because of gaps in the informal teacher leadership and classroom assessment literature and also because of the little understanding of how ITLs influence assessment policy implementation and collaboratively construct practice. Therefore, this research was guided by the following primary question: What are informal secondary school teacher leaders' perceptions of how they collaboratively construct and implement classroom assessment policies and practices? The three subsidiary questions are as follows:

1. What is the perceived purpose and nature of ITLs' roles when constructed by teacher leaders and their teacher colleagues?
2. How do ITLs navigate the organizational factors and conditions as they engage in collaborative work related to classroom assessment policies and practices?
3. How do ITLs leverage specific strategies to collectively support and implement progressive classroom assessment policies and practices?

Constructivist Paradigm

Nominating a paradigm is the first step in any research and must be done prior to defining methodology, methods, literature, or research design (Mackenzie & Knipe, 2006). A paradigm must also match with the researcher's beliefs about the nature of reality (Mills, Bonner, & Francis, 2006), knowing that this epistemological view will eventually guide the researcher's decisions regarding methodology (Kemp, 2012). As such, this research is well situated within a constructivist paradigm.

The constructivist paradigm is often aligned with the interpretive paradigm, which is focused on understanding "the world as it is, to understand the fundamental nature of the social world and the level of subjective experience" (Burrell & Morgan, 1979, p. 28).

According to Creswell (2012), qualitative research is interpretive research. As researchers strive to understand data, they reflect their own perceptions and role within the research and its process. Burrell and Morgan (1979) describe and connect the origins of the interpretative paradigm to Kant and his philosophical approach to understanding, which is rooted in *a priori* knowledge, or a type of instinct, mindset, or base attitude used to construct meaning along with realities. Ontologically, Burrell and Morgan describe the interpretive paradigm as nominalist, voluntarist, and anti-positivist. Mir and Watson (2000) also note that constructivism exists in the realm on ontological realism and epistemological relativism.

Mir and Watson (2000) suggest that the constructivist paradigm is rooted in six assumptions. They assert that within the constructivist paradigm, knowledge is theory driven and needs to be sculpted, as opposed to the realist paradigm, which asserts that knowledge can be mined. Building on this idea, they also contend that theory and practice are inseparable, as is the researcher and the research. Due to this intertwining, researchers cannot be objective, in the positivist sense, because of how research exists within a community. Lastly, they explore the overlap between the constructivist paradigm and the use of constructivism as a methodology. Appleton (1997) argues that “the constructivist paradigm is developing as a leading player in research inquiry” (p. 13) and that it goes beyond reflecting on reality, but co-constructing reality with research participants (Rodwell & Byers, 1997). As such, a constructivist paradigm, which allows the researcher to make his or her own meaning, will be used as this research intends to focus on qualitative data.

Wellington (2000) defines methodology as the “activity or business of choosing, reflecting upon, evaluating and justifying the methods (researchers) use” (p. 22). An organic approach to qualitative research methodologies aligns with the key tenets of constructivism

as a methodology. All qualitative research has common characteristics (Merriam, 2001), with some additional characteristics for constructivist inquiry. First, qualitative research is focused on the *emic*, or the participants' perspectives with the researcher as the primary tool for data collection and analysis. Next, qualitative research normally includes fieldwork and uses an inductive approach to research. Finally, qualitative research is descriptive. This constructivist inquiry will result in thick and authentic descriptions of ITLs' collaborative experiences of assessment policy interpretation and implementation.

As an orientation to educational research, constructivist research is "considered to be a process and school is a lived experience" (Merriam, 2001, p. 4). Constructivist research has been gaining in potential and in application (Mir & Watson, 2000). As teachers collaboratively work in schools, this paradigm recognizes the multiple realities used to socially construct an understanding of education phenomena. To illustrate the connection between educational research, one needs to emphasize that ontologically, teachers' experiences are products of individual and collective consciousness and that the labels they assign to these experiences are creations. As Kemp (2012) notes, "epistemological assumptions guide the researcher's judgement of the appropriateness of different methodological choices in an inquiry" (p. 119). Although researchers observe teacher behaviours, situating themselves within the research and experiencing phenomena helps create clarity and aligns with a constructivist approach to research. As Guba (1990) suggests, the research participants and their knowledge cannot be separated because together they construct reality. Mills et al. (2006) describe constructivist theory as positioning "the researcher as the author of a reconstruction of experience and meaning" (p. 2). This ontological grounding in relativism, as opposed to realism, allows for multiple interpretations

of the realities that exist in schools and supports the notion of researchers as craftsmen (Mir & Watson, 2000) or bricoleurs (Denzin & Lincoln, 2005a).

Constructivist inquiry, also known as naturalistic inquiry, is based on the work of Guba (1978) and Guba and Lincoln (1985) and later Charmaz (2006). Naturalist inquiry is strongly informed by the ideas of fieldwork. Norris and Walker (2005) cite the work of Hughes, who describes fieldwork as a way to observe people in their places of being, where the researcher can stay with them unobtrusively to notice and report in a scientific manner. Lincoln and Guba (1986) assert that the goal of naturalist inquiry is to produce clear hypotheses and knowledge that is contextually rooted. Inquiry should be conducted, not in a laboratory or some other artificially constructed circumstance or the library armchair (Norris & Walker, 2005), but in a natural setting, so that detailed description of the phenomena can be captured and interpreted. There are five principles associated with the constructivist paradigm as outlined by Guba and Lincoln (1989) which also reflect the six facets presented by Mir and Watson (2000). These include the following: the belief that multiple social realities exist; researcher and research participant interactions create the understanding of phenomena; research findings can be applied to new yet similar contexts, not generalization; causal relationships are more likely inseparable; and finally, values saturate constructivist research.

Constructivist inquiry uses criteria for trustworthiness and authenticity to address quality and rigour (Manning, 1997). To ensure quality in the research, constructivist inquiry must be focused on the perceptions and beliefs that the research participants have with regards to the topic (Creswell, 2005). Charmaz (2006) describes how constructivist inquiry recognizes the multiple realities that exist and that the researchers must be cognizant of these realities, as well as their own. As a researcher and practitioner in this area, I was familiar

with some the research participants. I have occasionally supported some of the participants with their assessment literacy and leadership. Finally, as an instructional coordinator for assessment in this board, I have access to educators working to build their assessment literacy and leadership. Daily, I co-construct and facilitate an understanding of *Growing Success* (OME, 2010a) and assessment practice with educators. My ongoing work builds on a theory of action that supports assessment literacy and leadership from kindergarten to grade 12. Theories of action are if-then statements that educators make to guide their actions and are intended to close a learning gap (City, Elmore, Fiarman, & Teitel, 2011). My theory of action is as follows: “If I provide access to effective and differentiated PL and resources related to assessment so that teachers and administrators will build their assessment literacy and leadership, then more equitable assessment practices will be in place along with alignment to *Growing Success*.”

Appleton (1997) contends “the inquiry process must be as complex as the human process under study if it is to achieve verstehen or understanding at the level of human meaning making” (p. 112). This constructivist inquiry will address such complex human processes by exploring ITLs’ perceptions of the purpose and nature of their roles, how they navigate organizational factors and conditions to engage in collaborative work around classroom assessment and how they leverage strategies to support and implement classroom assessment practices.

Research Procedures

Site Selection

A large suburban school district in southern Ontario was the selected site for this research. Because of the diversity of programming and the population in this district, its

focus on assessment, and accessibility to the researcher, it was selected as an optimal location to conduct research into informal teacher leadership and classroom assessment practices. This district is the second largest school district in Canada and continues to grow because of immigration and a young population. More than 50% of the population in this district are visible minorities, with 49% of these individuals identifying as immigrants, making it one of the most diverse regions in Ontario and Canada. The district includes approximately 40 secondary schools with 40,000 secondary students. A wide variety of programming exists in these schools from Specialist High Skills Major programs, to International Baccalaureate programming, to vocational training and more. Over 2,000 secondary students are in immersion or extended French programs and over 8,000 students are engaged in special education programming. The diversity in this educational environment made this site a suitable location where evidence of informal teacher leadership and collaborative classroom assessment work could be captured. This district does not track data pertaining to the number of ITLs, nor does it have any written policies related to informal teacher leadership or teacher collaboration.

Additionally, the district has a clear focus on improving classroom assessment practices. Several references to assessment practices are explicitly stated in the board improvement plan for student achievement and in more recently renewed mathematics strategy and a modern learning initiative. These statements refer to a focus on improving practice through key assessment and instruction strategies. Specifically, the board is focused on four aspects of assessment: (a) Assessment for learning—success criteria, descriptive feedback, teacher moderation, learning goals; (b) Assessment as learning—digital portfolios; (c) Assessment of learning—personalized report card comments,

triangulation of evidence (conversations, observations, products); and (d) Differentiated instruction/assessment—personalized accommodations and or modifications based on student learning needs. This clearly indicates an assessment priority for the board and therefore situates the topic as fundamental to the work of educators within the research site.

Sample Population

The sample population involved in this research reflects the diversity in a multicultural suburban school board in southern Ontario. Purposeful sampling techniques (Miles & Huberman, 1994) were employed to identify participants after approval from the university and school board was granted in accordance with Research Ethics Board (REB) regulations. This process informed the selection of participants and ensured that they would be able to provide rich description of their assessment practices and their involvement with informal teacher leadership. Merriam (1998) states that, “purposeful sampling is based on the assumption that the investigator wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned” (p. 61). In accordance with Miles et al. (2014), sampling includes decisions regarding settings, people, events and social processes, and is done to focus on the research question at hand. In this qualitative research, as in others, the purpose of the research is to deeply explore a phenomenon, not generalize to a population and as such, a purposeful sampling techniques were employed (Creswell, 2012). For this research, sampling parameters were addressed prior to the research and adjusted to reflect participants’ interests in participating in a focused study of ITLs nested in their educational environments.

To recruit research participants, a public notice was posted on the school board’s website inviting ITLs who were interested in participating in the study to contact the

researcher (Appendix A). This led to maximum variation sampling, wherein even a smaller sample of diverse participants results in data that can lead to a deeper understanding of the process being explored (Creswell, 2012; Merriam, 1998). The sampling method employed aimed to outline the data collection processes that focused on the participants' assessment practices and informal teacher leadership roles. The goal was to develop a teacher leadership framework that cast light on the experiences of these educators in Ontario. When the ITLs contacted me, I responded by calling and using the initial contact script (Appendix B) and they were then sent the letter of invitation (Appendix C) and asked to invite collaborative colleagues to also contact me. Interest in the research was also piqued by word of mouth, resulting in a snowball effect (Flick, 2009). Table 2 provides a list and an overview of all participants in this study.

The sample for this research aimed to represent the breadth of teacher experience and identities from one large suburban district in southern Ontario. As Guba and Lincoln (1989) suggest, all groups should have access to participate in research; this study invited participation from all secondary teachers in a school district with over 2,000 secondary teacher and ensured varied representation. Four participants also volunteered after hearing about the research via word of mouth. Sampling parameters must be clearly set prior to research and one must recognize that samples are representative segments of a larger group. Both theoretical and empirical considerations must be considered to ensure that the sample selected will support the purpose of the research and add to a body of knowledge (Mason, 2002).

Table 2

Research Participants

Collaborative team no.	Role	Pseudonym	Grade/subject	Years of experience	Age	Gender	Racialized
1	Informal TL	Diana	Geography, Business	+ 20	40s	F	No
	Collaborator	Kestra	Geography, Special Ed	+ 20	40s	F	No
2	Informal TL	Katherine	Math, Science	10	30s	F	No
	Collaborator	Paula	English, ESL	+15	40s	F	No
	Collaborator	Gabriella	English, ESL	+15	40s	F	No
	Collaborator	Dinusha	FSL, Social Science	7	30s	F	No
	Collaborator	Dean	English, ESL	+20	40s	M	No
	Collaborator	Glen	Science	+20	40s	M	Chinese Canadian
	Collaborator	Tim	Social Science, History, Geography	+ 10	30s	M	No
3	Informal TL	Vivien	English	15	40s	F	No
	Collaborator	Jacqueline	English, Special Ed	19	40s	F	No
	Collaborator	Krissy	English	12	40s	F	No
4	Informal TL	John	English	15	40s	M	South Asian
	Collaborator	Kate	English, Math Instructional Coach	+20	40s	F	No
5	Informal TL	Susan	Math	+ 20		F	No
	Collaborator	Frankie	English Instructional Coach	+ 10		F	No
6	Informal TL	Harpreet	Math	12	30s	F	South Asian
	Collaborator	Sonya	Math	+15	40s	F	No
7	Informal TL	Gus	Science, Special Ed	20	40s	M	No
	Collaborator	Mike	Science, Math, Instructional Coach	16	40s	M	No
8	Informal TL	Victoria	Arts	+5	30s	F	No
	Collaborator	Amara	Student Success, English	10	30s	F	South Asian

Table 2

Research Participants (cont'd)

Collaborative team no.	Role	Pseudonym	Grade/subject	Years of experience	Age	Gender	Racialized
9	Informal TL	Eesha	Student Success	+20	40s	F	South Asian
	Collaborator	Rachel	Special Ed, Science	18	40s	F	No
10	Informal TL	Scout	Science, English	<5	20s	F	Japanese
	Collaborator	Mashelle	Science	<5	20s	F	Indian
11	Informal TL	Monica	Science	+15	40s	F	Black
	Collaborator	Philomena	Science	+15	40s	F	Persian

Eleven ITLs who were collaborating with colleagues on classroom assessment practices at the secondary school level were invited to participate in the study along with 17 of their collaborators. Three additional ITLs expressed willingness to participate and completed the initial questionnaire, but their collaborators did not agree to participate. Their data were destroyed. Twelve other teacher collaborators expressed interest, but did not respond to follow-up email queries by the researcher. Anecdotal reasons for discontinued interest or participation were lack of colleagues' agreement to participate, distrust due to recent political unrest for teachers, and lack of release time for interviews.

Permission was sought for informal teacher leader participation via a letter of consent (Appendix D) along with the permission of two or more of their immediate teacher colleagues. This collection of individuals formed one group of study. Six pairs or groups were sought and located. Increased interest in participating in this research led to a request to extend the size of the sample to eleven informal teacher leader participants. All research participants—teacher colleagues and ITLs—completed an initial questionnaire (Appendix E) that focused on their personal biographical information with the intention of collecting a diverse group of individuals. Two men and nine women were included in this informal teacher leader sample along with their seventeen colleagues (13 women and seven men). The participants represented a variety of ethnoracial backgrounds, ages, teachable subjects, and years of experience; this reflects the variety of experiences and perspectives from this district. Additionally, the research participants had a variety of professional experiences and a focus or interest in classroom assessment.

Data Sources and Instrumentation

Triangulating evidence of qualitative research is necessary to ensure a depth of understanding of the phenomena. Qualitative research often uses multiple methods or

triangulation to provide an in-depth understanding of phenomena (Denzin & Lincoln, 2005b, p. 5). Denzin and Lincoln (2005b) describe Flick's (2002) articulation of triangulation as an alternative to validation and a strategy "that adds rigor, breadth, complexity, richness and depth to any inquiry" (Flick, 2002, p. 229). Triangulating research can include using multiple investigators, multiple sources of data or multiple methods to confirm the emerging findings (Merriam, 2001, p. 204). This research aligned with two of Denzin's (2001) distinctions within triangulation: data source triangulation and method. Triangulation by data source includes seeking sources from varying people, places, or times. Varying triangulation by method includes observations, interview, and focus groups. Mason (2002) suggests that triangulation does not necessarily result in more valid results, but does add to its confirmability.

In this constructivist inquiry, data were collected from three sources: face-to-face interviews, observations, and documents. Documents include district policies, provincial policies, teacher shared classroom materials, and teacher co-constructed PL materials. In addition, to ensure "holistic understanding" of the situation (Mathieson, 1988, as cited in Merriam, 2001), other steps were taken. Creswell (2012) suggests that researchers "check the accuracy of their reported findings by viewing a summary of findings and by asking participants (through member checking) to comment on the quotes in the study" (p. 261). As such, member checks were done throughout the research process to engage research participants in the collection and analysis of data and to ensure accuracy of reporting. Norris and Walker (2005) assert the importance of face-to-face forms of data collection so that the researcher can be sensitive to the context of lived experiences and so that time can be taken to develop a deep understanding of these situations, empathize with people, and theorize *with* them instead of *about* them. Additionally, ongoing memo-writing acted as a data source. All

these data collection approaches are noted by Creswell (2012) as being acceptable strategies for deepening understanding of a phenomenon in an educational setting. Piloting research instruments is a crucial step in the research process and must be undertaken with purpose and rigor (Barbour & Schostak, 2005; Wilkinson & Birmingham, 2003). Questionnaire, interview, and observation instruments were piloted to ensure clarity and accessibility along with alignment to the focus on informal teacher leadership and classroom assessment practices.

Interviews

Although interviewing is fraught with challenges, accessing the words and ideas of others in a specific context contributes significantly to understanding of phenomena. The relationship between researcher and research participant often illustrates power differences (Manning, 1997) and therefore, interviewing is considered a power-laden act. Mitigating the perceived power, social status, and knowledge of the researcher for the research participants is necessary (Barbour & Schostak, 2005). This research aimed to give voice to ITLs. Fontana and Frey (2005) explore this idea more fully when they state that interviews are not a neutral exchange, but that they lead to collaborative creation of ideas, particularly when an empathetic approach is used. This was particularly important in this study because of the political climate during which the research was conducted. Immediately prior to the research, Ontario secondary teachers in the district where this research was conducted were on strike and had been informed by their union leaders to be wary of system wide PL and to utilize more professional judgment in their assessments as outlined by *Growing Success* (OME, 2010a). As such, there was a climate of anxiety and distrust. These conditions were considered prior to interview and attempts were made to build trust.

Wilkinson and Birmingham (2003) suggest the importance of creating and using comforting and accepting cues with research participants to indicate understanding and encouragement. During interviews, appropriate eye contact, nodding, and smiling were cues used to encourage participants to share and to foster an environment of safety and trust. Participants were provided with the interview questions during the interviews and questions were rephrased upon request. I personally conducted all the interviews and digitally recorded all the interviews which were later transcribed to ensure accuracy.

For this research, open-ended questions were used to elicit unrestrained responses from ITLs and their collaborators, yet the researcher controlled the questions (Creswell, 2012). Merriam (2009) suggests that in a qualitative study, the semi-structured interview is acceptable. The interview protocols were developed based on a review of the literature. Semi-structured interviews were conducted to allow for flexibility in capturing participants' ideas and thoughts. Although interviews have many benefits, interview data also may be "deceptive and provide the perspective the interviewee wants the researcher to hear" (Creswell, 2012, p. 218). To ensure that interviewees spoke freely, questions were reframed when necessary and follow-up probes were asked. The research data were collected with an intention of honouring the lived experiences and narratives of the participants.

Two types of interviews were conducted for each collaborative team. First, ITLs were individually interviewed once using semi-structured interviews based on the interview protocol (Appendix F). Each participant was also invited to participate in individual follow-up interviews based on themes arising from their initial interview. In addition, focus groups comprising informal teachers leaders with their respective collaborators were conducted using semi-structured interviews based on the group interview protocol (Appendix G). Use of

protocols and clarifying and elaborating probes facilitated and structured the interviews (Creswell, 2012). Focus groups are collective conversations or group interviews that allow for an exploration of complex issues and surface insight into critical and real world problems (Kamberelis & Dimitriadis, 2005). Consistent with Barbour and Schostak's (2005) recommendations, the focus groups in this study were used to engage with participants, invite exploration and reflection, and understand how participants co-construct meaning for themselves in their specific contexts. Ideal focus groups share common and important characteristics. In this research, the key component was that the ITLs collectively collaborated on classroom assessment that aligned with policy, specifically *Growing Success* (OME, 2010a). As these collaborative teams often worked together and have positive interactions with each other, conversation yielded fruitful information and description of experiences as suggested by Creswell (2012) and allowed participants to voice opinions and share ideas (Wilkinson & Birmingham, 2003). Despite their benefits, focus group studies also have challenges which include logistics, influence of gatekeepers, and ensuring confidentiality (Barbour & Schostak, 2005) and the social dynamics of small groups and groupthink (Hollander, 2004). Follow-up one-on-one interviews were conducted with five ITLs and collaborators who were open to the further sharing of ideas and were comfortable in describing their experiences. These follow-up interviews took place after the focus groups in a variety of locations, but mostly in participants' respective schools.

Observations

The second data set was collected via observation. The intention of collecting observation data was to confirm and expand on the understanding of informal teacher leadership and classroom assessment practices. Jones and Somekh (2005) contend that

observation is “one of the most important methods of data collection” (p. 138) and that unstructured observation, an approach where the researcher observes and makes notes, can be an effective, holistic method that allows the researcher to experience and see through the lens of the participants. The benefits of observations include the chance to collect data in its natural setting from people involved in the issue being explored (Creswell, 2012). Miles et al. (2014) suggest that thoughtful observation includes attention to parameters such as events and processes. As such, three observations of group meetings and planning sessions were made of the collaborative teams while they were interpreting and implementing assessment policy and practice. Not all teams agreed to observation, citing time limitations and the often-unplanned nature of their collaborative work.

Norris and Walker (2005) recognize that participant observation is “interventive, overt and reactive” (p. 132). To mediate the possible negative impact of the researcher in the room, observations were conducted after the individual and group interviews were completed so that a level of research participant–researcher trust could be established. Prior to the observations, research participants were reminded of how the data gathered would be used and its purpose. Observation tools were shared with the research participants and even my clothing was selected to align with style of participants in order to reduce distraction (Jones & Somekh, 2005). The original observational role taken was one of nonparticipant observer, where the observer acts as an outsider and remains on the outside watching and recording events (Creswell, 2012). Later, the observational role morphed from a strictly observational, which a participant noted felt “weird,” to a more conversational role, where the participants asked questions and invited input into the discussion related to assessment.

Field notes were collected via an observation tool (Appendix H) structured around

Creswell's (2012) example and included descriptive fieldnotes and reflective fieldnotes. Similar to Shields's (2010) research exploring transformative leadership, observations were conducted to confirm or disconfirm research participants' perceptions retrieved from interviews and group interviews. This unstructured text data (Creswell, 2012) was later analysed along with interview data. The observation tool was also used to analyse meeting agendas or emails shared prior to the session. This tool was implemented to mediate the perceived subjectivity of researcher (Jones & Somekh, 2005) and to align with the purpose of the research.

Document Analysis

To better understand the thinking of ITLs and their colleagues, eight copies of documents were collected from working teams as they collaborated on classroom assessment issues. These included learning maps, assessment tools, blog posts, and assessment tasks. Creswell (2012) contends that documents are a solid source of data for qualitative studies and that these ready to analyse pieces in the language of the participants, will help researchers understand phenomena (p. 223). However, Mason (2002) suggests that researchers need to clearly reflect on what counts as data in documents and whether one should read the documents literally, interpretively, or reflexively (p. 115). Wilkinson and Birmingham (2003) extend this idea by stating that content analysis "is based on the assumption that an analysis of language in use can reveal meanings, priorities and understandings, and ways of organising and seeing the world" (p. 68). Documents are often coupled with other qualitative research methods as a way to triangulate evidence and to deepen our understanding of phenomena (Bowen, 2009). This was the case for this research.

Teams were invited to share copies of documents they collaboratively produced or

shared and amended for analysis. These documents varied and were developed to respond to policy requirements and the needs of educators and students. Wilkinson and Birmingham's (2003, p. 72) stages in the conceptual analysis process were employed to analyse the documents. The process first involved identifying the type of source being analyzed and then connecting it to key assessment and teacher leadership concepts. Next, the concepts were defined or articulated through existing literature. For example, a lesson plan was shared, which used the term "learning goal" which was then compared to the definition from ministry and district documents. When the term "learning goal" appeared in other shared documents or in transcripts, it was constantly compared to the use in this source and the existing definitions. In this case, it is clear that the term "learning goal" is interpreted with some breadth and examples of learning goals vary greatly. Teams were reluctant to deprivatize practice and share documents without a clear purpose and as such, the focus on the research was reiterated.

Memoing

Ongoing memo-writing was undertaken to document personal observations and thoughts during initial reading and planning in preparation for the study and while interviews, observations, and document analyses were being conducted. The purpose was to capture the experiences of these research phases and to reflect on the implemented methods along with the constructs being explored. In addition to personal thoughts, items such as correspondence and ideas for next steps were also included in the memos. The content of the memos went beyond Bogdan and Biklen's (1982) suggestion of description of events (both descriptive and interpretative sequences) to include theoretical and methodological memos as well (Altrichter & Holly, 2005). These data were used to inform ongoing and subsequent data

collection in the study. They acted and as an additional source of data and supportive documentation of research ideas and thoughts.

Altrichter and Holly (2005) note that some form of personal note-taking or “external memory” has been used by researchers across the disciplines. The term memo-writing was employed to differentiate between journaling and writing to be used as part of the learning and analytical processes. Memo-writing is a key aspect of grounded theory (Birks & Mills, 2011; Creswell, 2005) and constructivist inquiry (Bryant & Charmaz, 2007), yet there is little exploration of memo-writing in qualitative methodologies generally (Birks, Chapman, & Francis, 2008). As Altrichter and Holly (2005) suggest, memo-writing allows for interpretation, commentary, reflection, and ongoing analysis. Birks et al. (2008) extend this notion to suggest “memoing enables the researcher to engage with the data to a depth that would otherwise be difficult to achieve” (p. 69). Creswell (2005) also suggests that memos help the researcher redirect to new sources of data and to shape the data as opposed to becoming stunted by it. Birks et al. (2008) use the mnemonic MEMO: Mapping research activities; Extracting meaning from the data; Maintaining momentum; Opening communication, as a way to describe the functions of memos (p. 70). This mnemonic was used as a guide in some cases of the memos written for this study.

Overview of Analysis Strategies

Data analysis conducted through constructivist inquiry involved detailed exploration, organization, and reorganization of the data. The research participants were invited to share documentation of their assessment literacy and leadership, providing access to observe co-planning and to participate in interviews. All the research participants provided access to some independently and co-created assessment materials. Few allowed access to observe co-

planning or collaborative time; less interest in this aspect of the research was not due to reluctance, but more a result of time or access to release time for the observation of collaboration. These logistical challenges were perceived as burdens, which required supports (e.g., ease of participation, access to participant pool) like those identified by Newington and Metcalfe (2014) in their study of factors influencing recruitment to research.

Data Processing and Analysis

Creswell (2012) identifies steps in the data analysis process, with some sequential, simultaneous, some iterative events. Prior to transcription, audio recordings of the interviews were listened to and initial thoughts were captured. These initial thoughts were noted using a digital organizer and later more formalized into memos. Memoing, as suggested by Charmaz (2006) initiated and maintained my focus and productivity in the research. All data were transcribed and then organized in two ways into electronic folders with a table to clearly identify the type and other relevant details. First, data were organized by collaborative team and interview data with entire transcripts remaining intact. Second, data were organized by question or purpose—individual and group interview data were grouped by question and observation data were organized around the purpose of the meeting being organized, and documents were organized by type. The former organization of data allowed for a holistic look at the data, while the latter allowed for comparison between responses (Wilkinson & Birmingham, 2003).

The constant comparative method of data analysis was used during this research exploring ITLs' assessment practices. Based on the initial work of Glaser and Strauss (1967), this method of data analysis was used without the purpose of building grounded theory, but with the intent of collecting and comparing new information to identify categories (Creswell,

2005). Although little has been written about the use of constant comparative methods outside of grounded theory, Fram (2013) suggests that it is leading to methodological innovation. Merriam (2001) outlines a process of data analysis, which includes constantly comparing data, one segment to another, to explore similarities and differences and to eventually identify patterns. It begins with identifying similarities and developing categories that align dimensions and results with patterns being arranged in a relationship to best describe the phenomena. Wilkinson and Birmingham (2003) add additional layers of detail to the analysis process by providing eight stages in the conceptual analysis process. Many of these stages overlap with Glaser and Strauss (1967) and Merriam (2001). After selecting the units of analysis, which in this case were interviews, focus groups, observations and document analyses, concepts were identified and defined. This was followed by coding for frequency and the establishment of coding rules. Data were read and re-read and coded.

During this constructivist inquiry, I constantly compared data from the interviews, observations, and document analysis, building on themes, ideas, patterns, and practices to develop a deeper understanding of the perceptions and experiences of ITLs as assessment leaders and those themes that surfaced that seem to contradict current practices. Initial analysis was done by hand. Data analysis began by reading and reviewing of the data from each group's individual interviews. Digital recordings were listened to during memo-writing and transcripts were read multiple times. This initial exploration of the data led to the development of categories pertaining to the perceptions of ITLs.

After transcription, the interviews were again analysed with the initial notes acting as umbrella codes. These umbrella codes were colour coded. After several re-reads, the codes and colours were paired down and shared with several of the research participants who

supported the identification of key codes. Green represented the focus on learning for students and educators. Orange represented the qualities of informal teacher leadership collaborations, the 4Rs which were responsive, reciprocal, reflective and results oriented. Yellow codes represented the context of engaging in informal teacher leadership. These contexts had breadth and depth. Regardless, context refers to the types of collaborative relationships that existed in schools, the access to resources, the access to and forms of PL and the assessment literacy of colleagues. All ITLs also experienced additional barriers, which were also coded as yellow. Last, pink codes represented the broad strategies and specific assessment leadership moves that ITLs and their colleagues experienced.

Strengths

Although standards for the quality of conclusions of qualitative research are debated and contested (Connelly & Clandinin, 1990; Miles et al., 2014), this constructivist inquiry relied on the criteria of trustworthiness and authenticity as measures of validity and reliability (Brown Wilson & Clissette, 2011; Erlandson, Harris, Skipper, & Allen, 1993; Shannon & Hambacher, 2014). Denzin and Lincoln's (2005a) suggestion that the criteria for effective constructivist inquiry include credibility, transferability, and confirmability was also attended to. Manning (1997) recommends that researchers avoid applying any criteria to qualitative research in a detached, positivist manner. For constructivist inquiries, Rodwell and Byers (1997) contend that the traditional methods for evaluating research rigor cannot apply. Connelly and Clandinin (1990) propose that criteria must be identified and defended by each researcher. As such, the criteria of trustworthiness and authenticity were contextualized within this research and used in a way to explore data and raise further questions and considerations (Manning, 1997; Shannon & Hambacher, 2014), recognizing the overlap between the two (Kemp, 2012). This ensured, as Charmaz (2005) suggested, that the research

is defensible at a high standard and that it advances understanding of the research topic, which in this case is the exploration of how informal secondary school teacher leader collaboratively construct and implement classroom assessment policy and practice.

Trustworthiness

Trustworthiness of research primarily addresses the methods used to carry out the research (Guba & Lincoln, 1989) and provides assurance that the research has been done in an ethical matter (Merriam, 2001) and with a focus on finding corroboration in data (Miles et al., 2014). It is a criterion that evolved similarly to the “empiricist concepts of internal and external validity, reliability, and objectivity” (Smith, 1990, as cited by Manning, 1997, p. 94) but trustworthiness in qualitative research focuses on research methods that are appropriate for the context and constructs being explored and the clarity or logic of the findings. Rodwell (1998) stipulates four aspects of trustworthiness, which include credibility, dependability, confirmability, and transferability. It must be noted, that there is debate over the specific criteria associated with trustworthiness as well as overlap between indicators or specific techniques that can be used to indicate trustworthiness. For example, Rodwell and Byers (1997) specifically reference triangulation as a way to achieve dependability, whereas Miles et al. (2014) suggest triangulation can lead to corroboration and therefore credibility. This constructivist inquiry kept the various sensibilities about what specific strategies and tactics support the various criterion, and clearly defines and outlines them along with their illustrations for this research.

Credibility

The findings from this research “made sense” and were validated by the research participants. They were invited to review their individual and collective transcripts and to revise their statements if necessary. Participants were also invited to review findings and

found them to be logical and reflective of their lived experiences and perceptions of others' experiences as ITLs. Miles et al. (2014) group credibility along with internal validity while posing questions that align with a focus on sense-making. They ask whether the findings make sense, if they are credible to people in the study and readers, and whether an "authentic portrait" has been created (Miles et al., 2014, p. 312). These questions are similar to Charmaz's (2005) question which suggests a need for a logical link between data gathering, argument, and analysis. Brown Wilson and Clissett (2011) equate credibility with external validity and focus on the "process of understanding the depth and scope of the issues under investigation" (p. 678). This coincides with Charmaz's (2005) references to saturation of categories when and where she poses the following questions: "Has the researcher achieved intimate familiarity with the setting or topic? Are the data sufficient to merit the researcher's claims?" (p. 528). Lastly, Rodwell and Byers (1997) state that credibility is established when there is opportunity for more credible findings to be made and specifically, through strategies such as prolonged engagement, observation, triangulation, peer debriefing and member checks (p. 117).

Dependability

The criterion of dependability focuses on the ability to create stable and well documented research contexts, given often changing circumstances (Rodwell & Beyers, 1997). This research was dependable as it was undertaken over the course of two years with strong triangulation of evidence—there were not only interviews, but focus groups, observations, and document analysis as well. Research participants were invited to debrief findings and engage in member checks, therefore allowing for depth and scope in the study (Brown Wilson & Clisette, 2011; Merriam, 2001). Memo-writing was ongoing and documented shifts and methodological decision making.

Because of the solid sampling approach and clarity of communication with research participants, this research can be considered dependable. Methodological decisions were appropriate and supported the development of thick descriptions (Merriam, 2001). Creswell (2005) recognizes that constructivist studies mention “the beliefs and values of the researcher and eschews predetermined categories,” resulting in a narrative that is “more explanatory, more discursive, and more probing of the assumption and meanings for individuals in the study” (p. 430).

Confirmability

Confirmability relates to the explicit detail that describes the implemented research strategies (Miles et al., 2014). More specifically, the procedures for the research, the detail and sequence for data collection, processing and transformation along with conclusions, frankness of personal assumptions and biases and competing hypotheses have all been clearly outlined and considered. Mason (2002) also adds research participants’ confirmation of data and its analysis to the understanding of confirmability. In this research, participants were invited to member-check the transcription of their interviews and were also invited to comment on the initial coding of the data. Again, the use of ongoing memo-writing was an intervention taken to ensure confirmability of data. Additionally, the results reported are clearly linked to the data.

Authenticity

Authenticity of the research is a criterion used to judge this constructivist inquiry and unlike trustworthiness, authenticity does not offer any parallels within positivism (Manning, 1997). The criteria for authenticity do not lead the researcher to a list of things to do to have solid research, but to a series of obligations to the research, the participants, and to self. At its

root, this authenticity criterion is focused on equity and a respect for inclusion. It was with this criterion in mind that the selection of participants and site was so important. Rodwell and Byers (1997) suggest that authenticity tackles the nature and quality of the research process. Authenticity also presents participants' conduct and thinking within the wider political and social spheres (James, 2008).

The literature identifies three approaches to authenticity—ontological, catalytic, and tactical authenticity. Ontological authenticity speaks to the increased level of awareness that research participants have and educative authenticity relates to the level of appreciation that people feel for various viewpoints (James, 2008). The exploration of informal teacher leadership and classroom assessment opened doors for participants and the researcher to understand more deeply these two constructs, their struggles and success and also allowed for a variety of perspectives on these topics.

Catalytic authenticity is achieved when the research prompts participants into action (James, 2008) and tactical authenticity is achieved when participants have made positive change and felt empowered by their experiences (James, 2008; Rodwell & Byers, 1997). Similar to catalytic authenticity the empowerment felt by research participants must be supported by the researcher and often occurs in research where participants have an active role. In this study, the research participants spoke of actions that they undertook as a result of their discussions and reflections as part of the research.

Fairness

Fairness is a seemingly simple criterion, which holds to the notion that research should reflect a balance of all stakeholders' views and opinions and that all these voices should be available in the research (Guba & Lincoln, 2005). As a way to ensure fairness in

this research which explored how ITLs collaborate to improve and implement classroom assessment, the researcher focused on obtaining and representing the voices of a diverse group of teachers who have not always had the opportunity to share their perspectives and concerns. Additionally, to assure research participants that they have access to the research process and products (James, 2008), participants were invited to review their own transcripts as part of member checking and also were consulted on the data as the analysis evolved.

Scope and Limitations

Research into the perceived experiences and actions of ITLs working in the area of classroom assessment policy and practice is significant in our educational culture. Teachers' work comprises of constantly gathering and interpreting assessment data. This aspect of their independent and collaborative work has not been fully explored and merits deeper understanding. However, due to time and financial constraints, this research has some limitations.

Eleven ITLs and their 17 collaborators were the research sample for this study. Because of the size of the research sample, the findings are not generalizable to the global educational community; however, they are meaningful to those who work in the Ontario context, those who are interested in informal teacher leadership, and those specifically interested in assessment policy implementation. Most importantly, this research can be used to inform policy and practice in the district where this research was conducted. Furthermore, because of the limited time involved in this study—the research took place during two school years—implications for a long-term understanding of policy implementation is limited. These limitations open up other possible avenues for further study.

Firstly, the sample population was a suburban Ontario population which was selected

due to familiarity and proximity. As a result, educators who work in rural and urban areas did have a voice in this research. Additional future research would benefit from a larger sample population that included these two groups, along with representation from the north and south of the province, including those from primarily Indigenous areas. Furthermore, there is a limited number of participants. Creswell (1998) suggests collecting 20-30 interviews during data collection. Although only 11 ITLs were interviewed independently, another seventeen participants were part of the focused conversation along with their ITL, leaving the research well within Creswell's recommendation.

The final analysis was my own and I have existing biases and preconceptions around the significance of ITLs as assessment leaders. My experiences as a formal and informal leader both in schools, whole systems, and provincially provided me with a unique and informed perspective which allowed me to understand the participants lived experiences and realities. My research biases are clearly presented. I have worked as a formal teacher leader, informal teacher leader, and a system level consultant. Because of these lived experiences, I am aware of the different perspectives and their inherent biases. My work involves developing the capacity of teachers and teacher leaders with regards to assessment literacy. When exploring the constructs associated with teacher leadership and classroom assessment, I am firmly grounded in a constructivist framework and focused on helping others better understand and value their own experiences.

Ethical Considerations

Research is fundamental to the development of new knowledge, yet it must adhere to national and institutional ethical considerations. The Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and the Social Sciences and

Humanities Research Council of Canada (Tri-Council, 2010) stipulate that research be conducted with three core principles: respect for persons, concern for welfare, and justice. As such, these principles were upheld in this qualitative research study that investigated the informal secondary school teacher leaders' perceptions of how they collaboratively construct and implement classroom assessment policies and practices.

Dr. Denise Armstrong acted as supervisor and provided input into the methods and design of the study. An ethics review process was conducted prior to the commencement of the study with the involved school board and through Brock University as this research involved collecting data from multiple institutions with human participants. Additionally, in order to reduce potential participant risks (e.g., fear of retribution for any critical comments regarding their role, school, or board), all data were kept confidential; names, schools, and boards were given pseudonyms or codes, as suggested by the Tri-Council (2010).

Norris and Walker (2005) note that the most obvious risk to research participants is disclosure of personal or private information. This research could not assure anonymity, but provided confidentiality among groups of participants. Participants were made aware of the confidentiality among the group through their letters of invitation (Appendix C) and consent forms (Appendix D) and verbally during all interview and observation sessions. They were informed that there was no perceived risk to individuals, but to be aware that research findings would be disseminated through publication and conferences. To reduce nervousness and to ensure that there was minimal risk, all data were digitally recorded and research participants selected pseudonyms. An ethical review process was conducted prior to the commencement of the study both through the school board and through Brock University (REB #14-230; Appendix I).

Summary

This study investigated ITLs' perceptions of how they collaboratively construct and implement classroom assessment policies and practices. This chapter presented the constructivist paradigm which grounded this qualitative research and informed the methodology. Constructivist inquiry was used to explore and provide transparency around informal teacher leadership and classroom assessment practices. This research sought to develop a better understanding of how ITLs and their collaborators construct their understanding of teacher leadership, navigate the organizational factors that impact their collaboration related to classroom assessment, and the specific strategies they leverage to collectively support and implement progressive classroom assessment policies and practices.

The data were gathered from the individual and group interviews, meeting observations, and document analysis. Using a constant comparative method, data were analyzed through coding and selective categorizing. In addition, throughout the process, memos were written and taken into consideration into the development of categories and data analysis. After the coding of the data was completed, the analysis of ITLs and their perception of their work with colleagues to support classroom assessment policy was made. The next chapter reports on the findings of this study and is structured according to the themes that emerged.

CHAPTER FOUR: FINDINGS

This study investigated ITLs' perceptions of how they collaboratively construct and implement classroom assessment policies and practices. This chapter presents the findings of a two-year-long study which was conducted in a large suburban school district in Ontario and reflects the complexity and diversity of implemented assessment practices in this area. Data were collected through individual semi-structured interviews, focus groups, observations, policy documents, shared documents, and memoing. Semi-structured interviews were conducted with 28 educators, 11 of whom were self-identified ITLs focusing on assessment. Participants were interviewed at least once individually and once collectively with their co-learning partners.

This chapter organizes the findings according to a framework for Constructivist Teacher Leaders that emerged from the interview data. The central purpose of informal teacher leadership emerged clearly. The central purpose is to promote learning in three directions: student learning, personal understandings and skills as educators, and collaboratively building teacher understanding of assessment. This central learning purpose with its three directions is further deconstructed to identify the nature of the role with its four facets. The context for informal teacher leadership, including the conditions and barriers, are explored along with the six foundational strategies that all ITLs modelled through their leadership. These strategies are further deconstructed to identify specific assessment leadership moves that support collaboratively shifting assessment practices forward. Unlike the research specific to formal teacher leaders (e.g., secondary department heads), ITLs do not have a formal position of authority and therein lies a significant difference in both their perception and experience of leadership.

The teachers in this study held a variety of previous teaching experiences and identities as noted on pages 108-109. What the participants all had in common was a focus on student learning. They all say great value in their role, as was articulated by Monica when she said “So, when you're an informal teacher leader, I think you really have a better opportunity to move people forward, to help people grow because they see it as being authentic. It's something you've not been *told* to do.”

The data collected reflect the main question of this study which is: What are informal secondary school teacher leaders’ perceptions of how they collaboratively construct and implement classroom assessment policies and practices? The findings are presented according to the three overarching, yet subsidiary questions:

1. What is the perceived purpose and nature of ITLs’ roles when constructed by teacher leaders and their teacher colleagues?
2. How do ITLs navigate the organizational factors and conditions as they engage in collaborative work related to classroom assessment policies and practices?
3. How do ITLs leverage specific strategies to collectively support and implement classroom assessment policies and practices?

ITLs’ Perceived Purpose of Their Role

The ITLs who participated in this study were driven to promote learning in three directions: to advocate for student learning, to build their own personal understandings and skills as educators, and to collaboratively build teacher understanding of assessment. Table 3 illustrates the three directions the ITLs in this study noted in their descriptions of their leadership practice. The overall description of the purpose of informal teacher leadership was captured by Gus who stated, “it was trying to reach the maximum amount of kids and teachers in a positive way possible.”

Table 3

Three Themes for Learning

Student learning	Personal understandings and skills as educators	Collaboratively building teacher understanding of assessment
Focus on learning: “Move learning forward for every child.” (Kate)	Teacher learning as professional responsibility: “Ongoing learning is the essential responsibility of educators.” (Tim)	Collaboratively exploring change: “I collaborate with others to change practice.” (Krissy)
Focus on the learner: “We are in the business of making students become better learners.” (Glen)	Teacher acceptance of change: “I have a vision of change...try to get people to change... and it's not necessarily a bad thing.” (Katherine)	Collaboratively focusing on fair and equitable assessment practices: “Creates more equitable assessment structures in classrooms for students.” (Rachel)
Understanding the learner: “I think it's important, again, just to keep on pace with what the students need in order to learn as successfully as they can.” (Vivien)	Teacher deprivatizing practice: “You have to practice what you preach and try things out and share what you've tried out.” (Victoria)	Collaborating to empower others: “I want them (colleagues) to then be able to go and collaborate with others and change their practice.” (Krissy)
	Teacher risk-taking: “Someone who is willing to take risks in the classroom.” (Vivien)	Collaboratively creating trusting and encouraging relationships: “Encourage the team to try new things and to evaluate their effectiveness and then discuss that with their colleagues and move forward with that.” (Kestra)

All the self-identified ITLs were classroom teachers with strong content knowledge and pedagogy who were focused on increasing student learning. This focus on meeting student learning needs, helping students understand themselves as learners, and advocating for them as learners was a reoccurring theme. It is evident from this research that informal teacher leadership is impactful and valuable, because of its non-formal status. Monica clearly articulated this when she said the following:

Because I think the informal leaders have so much more power than the formal leaders. You can get a lot more buy in if you have a circle of influence. If there are people who trust you and respect that you're saying this not because the VP said you have to do it, but because you really, truly honestly think that it will improve student achievement, then you'll get more buy in from people saying okay, alright.

Student Learning

The ITLs and their collaborators described their work as grounded in and responsive to the learning strengths and needs of students. Storm described her multifaceted responsibility to support learning as follows:

I think, first and foremost, my responsibilities are to the students, to my class. I want to be the best teacher for them, and, yeah, make sure that they're engaged in their learning. And so, that's where I think my responsibility lies.

Katherine was more specific and described her focus as being responsive to student needs as illustrated in their evidence of learning.

Okay so especially having taught math at this school, there's a plan, we teach this on this day and this on this day and it doesn't seem flexible enough. It's not being taught for the kids benefit, it's being taught for the sake of covering curriculum. And if

you're assessing kids and realizing that they're not ready to move on then you wouldn't do that.

As opposed to just planning learning opportunities strictly derived from curriculum, Katherine allows student learning needs and the curriculum to inform her instructional decision making. Similar to Katherine's stance, Glen explained how "our professional duty is to help students be better learners." To do so, many of the ITLs described how their teaching was responsive to students so they could be better advocates and teachers. Dinusha clarified that "your teaching practices and assessment practices should evolve. They should be reflective, and they should evolve in response to student needs." She continued to describe how clarifying assessment and bringing students into the assessment process alleviated student anxiety, resulting in a climate more focused on responding to students' social and emotional well-being.

One of the powerful descriptors around advocacy was the need to create more equitable structures in schools for students by better *serving* students. Gabriella explained how her focus on descriptive feedback supported this. She stated that "Students need and value lots of feedback. ESL (English as a Second Language) students are not used to this kind of feedback but take advantage of it." Tim said that serving students was about reflecting on the institution of learning and deciding on who in the institution is supposed to benefit: "I think overall the philosophy of assessment that the board and the ministry is moving towards is more in service of students. It's less in service of teachers because to do it, it requires more time and that's really I think how the institution ought to be." This notion of serving students was the philosophical stance behind many of the leadership strategies and assessment moves which will be explored later in this chapter.

Yet, despite the focus on serving students, their ITL realities included working with colleagues who refused to try evidence-based assessment practices. Katherine's frustration can be noted when she described colleagues' attitudes and assessment practices:

Something as simple as explicitly using learning goals. We're supposed to be transparent with the kids about why they're doing things, but I'm sure lots of kids walk out of class and go, "I have no idea what we just did or why we did it." So even if they would be willing to do that [use learning goals] and not have them [teachers] go, "oh yeah we did that 15 years ago," because that's always their response, right? It's a cycle; it's recycling.

In a similar vein, Amara described limited teacher uptake on the use of learning goals when she said:

To be honest at this point I would say ... 10%. The reason being this has been the first year that we've actually had it where it's been formalized a little bit. And this year we also talked on the Assessment and Evaluation committee that it's not like hurry up and get there, it's a mindset change, and that takes time.

This resistance of others to try assessment strategies was echoed by Eesha and Rachel who described attempts to support colleagues who refused to implement progressive assessment practices that include project-based learning and choice.

Many ITLs noted that another way to be an advocate for student learning was to be a part of the learning. This notion of co-learning, sharing in the learning, and leveling the power dynamic between teacher and student increased trust in the classroom. Paula suggested that teachers need to value the knowledge and skills students have and allow themselves to be co-learners. She felt that teachers do not and cannot have and hold all the

knowledge. Mashelle extended this notion when she described her student's passion projects: "the more students lead, the more they are engaged. We wanted it to be ... our idea when we first thought of it [passion project] was that it, you know the students came to us with their ideas of how they would want to explore." These ITLs were focused on honouring student curiosity and in turn, it fed their own. The notion of teacher curiosity and humility to act as a co-learner with students was evident when Gabriella stated, "I still consider myself a learner. And I'm not done yet." Both Harpreet and Sonya asserted that students are learning in new ways and they need to see their teachers doing the same while learning along with them: "We [teachers] try our best and we want to try new things" (Harpreet). Being a part of the learning with students illustrated how ITLs felt that to be an advocate for student learning, they needed to understand their students' learning behaviours as well as their own PL needs. Paula and Dinusha were benefitting from the practice of sharing learning with students. Dinusha described her experiences as follows:

Paula and I have noticed that when we collaborated with students to develop success criteria they were subsequently more engaged in that that meta-cognition piece: "Why do I care? Why am I doing this? And how is it going to be useful to me 10 years down the road? Five years down the road? Even tomorrow?"

All the ITLs noted the importance of being transparent to students as a way to assess learning and be responsive to their strengths and needs. Vivien felt that it is imperative to be transparent with students when engaging in a new approach: "When you take a risk in your teaching you need to make sure that the kids are aware of what you're doing, on board with it." ITLs stated that some students perceive teachers who engage in progressive assessment practices as different; that these teachers are yet another group that needs to be understood,

so that they can successfully navigate school. Like Dinusha, Katherine took the step to be open and transparent with students about assessment. She described the importance of pausing and responding to students to avoid problems or misunderstandings: “And realizing, I really have to explain why this grade doesn't matter to help this kid get over it and realize there's another opportunity to show this learning coming up.” Susan also noted the importance of being transparent through the lens of learning goals and success criteria during her collaboration on an initiative for student success. Dean asserted that, when students are a part of the assessment process, they are empowered by their voice, and are not simply students, but active learners. As part of the PL that Team 2 provided to their whole school staff, they shared student perceptual data collected from one teacher about the use of learning goals. Although this data was impactful, it did not reflect all the teachers’ experiences and as such, the conversations about engaging students more in the assessment experience surfaced, not as a critique of the PL, but as a need to better respond to students.

The ITLs’ comments indicated that by advocating for students learning, they are advocating for change. As Vivien noted, “Kids change.” And as such, so do the needs of the learner. Changing from a focus on rote memory to a focus on modern learning competencies surfaced for many ITLs as way to move the conversation forward within their departments and collaborative teams. Vivien continued with a focus on the “skills” students need and why, “I think technology has changed the way that students learn. You know, all the answers are at their fingertips and that’s all they want to do, whereas like I see our role as educators pushing them to think and to be creative.” Part of this change is to increase the relevance of learning for students. ITLs did this when they shifted assessment practice from simply collecting and processing student points and marks, to analysing evidence of student learning.

Gabriella emphatically stated that “Assessment is central to instruction.” In her work focusing on skill development, Vivien explained that

the conflict that we’ve had since I’ve started teaching is, “Are we trying to teach content and a love of literature or are we trying to teach skill?”, and sometimes they don’t mesh. I’m leaning more towards skills and skill-based and you use the content to teach the skills.

During the focus group conversation with Team 10, Scout and Mashelle expressed stress due to the quantity of content curriculum and the emphasis on points (and marks) and felt that a project had lost its authenticity. Mashelle stated that

There’s so much other content that [students] have to get through, which is understandable, but I think that was the core of the actual assignment. It was like, “Okay, so what are you doing? and How are things going?” and checking in with the students and that’s really been lost.

Scout extended this reflection to assessment when she said described the shift from engaging students in learning about social justice to counting points for task completion and compliance:

Our vision was like, “Do what you think will work for your particular issue” and “How are you going to erase it or how are you going to make a change?” whereas now it’s like, “Okay, if you write a letter ten points and five points if you do a flyer or a website or whatever it is.” That wasn’t our intention at all and I think that was definitely a shock for me as well, but like that’s not social action, right? It’s not—and it’s really, I feel the focus has become so much more now on the product, the *what are you going to produce*, whereas we had always been like, “It doesn’t matter if you aren’t able to be successful at the end.” It’s kind of like, “what do you learn along the way?”

Mashelle and Scout advocated for change to empower students. However, their initial passion project had reverted back to a traditional teacher directed project after being shared with colleagues. They were working to bring student voice and choice back into the learning and the assessment task.

Participants indicated that as modern learners, students do not simply regurgitate ideas, they demonstrate competencies that will allow them to navigate beyond the classroom. Katherine indicated that she was pushed to rethink her assessment practices when she noticed that her students “were good at school, but not necessarily good at learning.” Glen and Dinusha also described how a growth mindset, grit, and or resiliency is lacking for some students, which will have a negative impact on their future paths. These ITLs suggested that they spend more time supporting a growth mindset than they had previously done.

Additionally, participants were aware of the language and type of feedback they shared with students to ensure that students see possibilities and next steps. There was also interest in fostering effective feedback among colleagues. Rachel identified this interest in feedback and modelling feedback when she received a request from an administrator for support:

Do you want me to come and do workshops? That’s what I thought she was asking me. She said, “No, no, just as a teacher in the classroom. We want you to model—like show them how you use it in the classroom and we’ll do the descriptive feedback piece.” So, I said okay.

Many of the ITLs and collaborators expressed awareness of the skills students need to succeed in post-secondary programs and made connections to these skills in their classrooms to better serve their needs. Dinusha expressed frustration with knowledge-based teaching practices when she stated, “And I don't think that that [knowledge-based practice] promotes

life-long learning. I don't think that promotes resiliency. And I don't think that promotes any of the skill-based learning that students in the 21st century need.” The social science educators in Team 2 made connections to the importance of helping students understand communication as an essential skill that they would need later. Tim focused on skills when he said, “The focus should be on your [student] learning, and what you're trying to learn, and what you're trying to develop in terms of skills.” Katherine described how she collaborated with her course level team to narrow the curriculum and focus on four essential skills or competencies. This work relieved student and teacher stress by making the curriculum manageable. They prioritized essential skills for grade nine and were hoping to extend the work in the later grades. Advocating for student learning through progressive change, including a focus on skills, has required the ITLs to build more collaborative relationships.

Personalized PL

High-quality, personalized PL was greatly valued by all the ITLs and their colleagues. Yet, the participants held different interpretations of how much PD was available, which suggested variance of quantity and quality of PD within the school and the district. Amara identified that there was a great deal of access to PD when she stated, “There’s a lot of PD opportunities and certainly by our school.” However, Mashelle held contradictory views and stated, “I know there used to be a lot more PD opportunities and they’ve kind of like dwindled within the last year or so.” Mashelle emphasized the importance of personalized PL when she stated, “Teacher leaders probably have or want to, even more so, attend more PD and actually kind of integrate what they’re learning within their practice.” However, it was clear that some forms of PL were considered to be more appreciated than others. Kate described how her professional relationship developed with John as a result of a PL session that required them to attend in pairs. She said, “we had a brief conversation and shared some

assessment resources and then we were a part of a larger pilot project that was funded by the Board and we had release time to collaborate.”

Monica articulated the value for PL when she stated, “And I think that the more time we spend trying new things, seeing different practices, hearing different perspectives, the more well-rounded we are as teachers and the better the kids are.” Despite the comments that all the ITLs and their colleagues participated in various forms of PL, the participants universally appreciated informal, teacher-to-teacher PL more than centrally directed learning. Eesha mentioned the satisfaction that teachers have when they “are able to pick the PD that they are interested in.” All the participants were a part of mandated and optional PL, and of these two, again, participants appreciated the optional PL as they felt they were more engaged when they had more autonomy in their learning, which is consistent with a constructivist approach to teacher learning.

Many of the participants emphasized the importance of their PL networks developed via Twitter and their other social media tools. Mike explained the impact of Twitter on his collaborative practice when he said, “sharing stuff on Twitter and using Twitter to really, almost ... share, publicize the work that we're doing. So, to me, that ends up being also a vehicle that allows some of that collaboration to grow.” One ITL, when prompted to identify supports, responded with, “Twitter. It is a huge resource and that has inspired and motivated and driven me and also held me accountable.” Dinusha and Diana noted their participation on Twitter, as influential. They followed and contributed to a number of assessment related hashtags and profession learning networks. They reported that the dialogue, support, and learning via Twitter was empowering because it allowed them to engage with and extend their PL network while deprivatizing their practice and reflecting. Dinusha reported asking

herself the following questions after engaging in Twitter conversations, “Am I doing that [assessment practice]? Am I doing that enough? And if I am doing that, is it having a result?”

Another direction for supporting PL was through educator growth mindset and extending personal learning to assessment. During the focus group with Team 2, Dean suggested the focus on growth mindset need not only apply to students, but to educators as well. As a stance of PL, Dean suggested:

We have to model it [growth mindset] first. So as much as change is scary, we’ve got to learn to adapt; learn to get along with people, you may not necessarily respect or like, but you’re in the same building. Having worked at other schools where you didn’t want to talk to the other person or there was just no conversation, and then when you end up somewhere where there actually is conversations taking place, you’re going to keep going forward, because you don’t ever want to go back to that dark hole.

Harpreet described the importance of a professional growth mindset toward personal learning when she said that ITLs, “on their own, voluntarily take the chance to go out and try something new to push their instructional practices, to push their students’ learning to another level.” While still focused on student learning, Harpreet and her collaborative colleague knew they needed to build their own content knowledge and pedagogical skill as well. As Dinusha said, “those informal conversations, set this ... groundwork for what I think is going to be down the line.”

The overarching theme emerging from the data was that ITLs support educator engagement through effective and meaningful collaboration. Katherine initiated much of the work around assessment on the team she leads, by sharing her personal explorations and

practices, illustrating growth mindset, and interest in learning. As a team, they have worked through various assessment topics in the current school year and were establishing plans for the following year. By working through assessment topics, Katherine and her team explored core concepts such as learning goals and criteria and practiced assessment strategies in their classrooms. They collected student perceptual data about specific assessment strategies and evidence of student learning to collaboratively analyse and reflect upon to determine best practice and next steps. It was a collaborative decision to move forward in much the same way that they had been focusing on overarching learning goals and learning goals, as was agreed upon by the entire team. Their goal has been to meet colleagues where they are in their own practices and support them as they move forward. Katherine described that how, after leading her own science department through some discussion and explorations around assessment, she offered her support to other departments. She was invited to support the math department formally at a PD release day and other departments and individuals more informally. By supporting others, she was building their own assessment literacy and leadership and allowing for that ripple effect of thoughtful assessment practice to build collaboratively.

Another aspect of the ITLs' capacity building, was being the voice for other colleagues. Several of the ITLs described how their influence and relationships with others enabled them to be the voice for others who felt uncomfortable or unable to express their opinions because of their school's political dynamics. Victoria identified being a voice or advocate for others as part of her commitment to empowering teacher leadership. She stated:

I think it's the responsibility of a teacher leader to be there for whatever group you're leading, whether it's other staff members, to be a support I think you need to be

knowledgeable. It's also your responsibility to be the voice of the group...

Diana voiced commitment to being an ITL, as did Storm, who said, "But I do also feel that it's also to the group, and to my department, and make sure that we're all together in it, and that no-one is sort of drowning, or falling behind." Harpreet, Katherine, and Tim also insisted that the purpose of their leadership was to present and explore ideas that others brought forward but were unable to explore or express on their own. All four described experiences where they were presented with a challenge of practice and decided to explore it so they could share in co-construction of understanding with colleagues who initiated conversation. Their confidence and curiosity allowed them to explore ideas and share back, acting as a voice and support for others.

The first step for many of the ITLs in their PL was to build their own assessment literacy and to lead learning. They identified individual and collective pedagogical curiosities related to assessment which were problems of practice, or strategies that they wanted to try. Diana and Katherine wanted to focus their assessment learning ongoing gradeless—a term used to identify a feedback focused classroom. Katherine described the impact of her gradeless practice on her students as follows:

They want that feedback. They want to be forced to study even though it doesn't count. It's just nice to see those shifts and start to see them (students) recognizing that learning matters. More gradeless, that's my plan.

Common elements in the data were the focus on student learning through an assessment lens and the desire to learn so they could help students and colleagues learn more. While Vivien and Susan were developing and implementing learning goals and criteria, Tim was exploring how to be more responsive to student learning through assessment; he stated, "assessment is

a really important place to begin any reflective piece about my practice because it's how I get some of the evidence, or one of the ways where I get the evidence, of student learning.”

Participants in the research indicated that focusing on assessment and working with colleagues was frustrating at times. Eesha described the challenges involved in leading a group of colleagues with the intention of collaboratively facilitating school wide PL. She faced teachers who wanted to lead, but not to learn first and who were not willing to do the work, engage in risk-taking, and reflect on their own experiences. As Eesha stated:

They're not doing any learning for themselves. They're not trying things first. I feel that needs to change for next year. That's why I'm thinking of not being part of the PD committee, maybe creating another committee, as if there weren't enough, but a committee just focussed on *doing* PD. There could be representation from each of those other committees to sort of help decide so that they can be autonomous and really carry out some of the work that they should be doing, which is trying things.

Participants from collaborative Team 9 indicated the need for authentic and personalized PL related to assessment. Eesha's intention was to be a part of this kind of personalized learning and to try the new assessment practices so that she could lead with authenticity. Her challenging experiences reflect what other ITLs described as well. Katherine illustrated this point when she said,

I feel like I can't really share stuff until I've done it, I've tried it, I've seen what works and what doesn't. When people ask questions, I can talk to it as opposed to, “This is what I'm trying but I haven't really tried it yet” because people won't buy into that.

Dinusha spoke of the challenging breadth of assessment practices among educators

when she stated, “There is a disconnect between colleagues and between the assessment practices.” Vivien echoed this idea:

And even when we get together within all of [district], everybody’s at such a different place in their practice and they’re—especially where they are with assessment, evaluation, *Growing Success* ... that trying to put one PD together for however many different high schools there are, it is impossible. I don’t think it can be done anymore. ITLs who were not in their immediate collaborative group were challenged by others in some cases. When trust and safety were not in place, some ITLs were challenged by colleagues, illustrating how, for many, positional authority is still required to mandate shift in practice to align to policy.

Participants indicated a need to be ahead of the game when it came to change in policy and practice, leading to their engagement in PL. Vivien, Harpreet, Sonya, and John all noticed that the Ontario Ministry of Education was advocating for changes in assessment and wanted to try things out before talking to colleagues. Vivien commented on the shifts around her reluctance to use zero as a grade on assessments not submitted and the challenges she faced by administrators who were not up to date on the policy: “When there are [administrators] saying, ‘Just give them zero,’ well that’s not what we’re supposed to do anymore and it’s time consuming to *not* give a kid zero but it’s really the better thing to do.”

Sonya and Harpreet spoke of the “magic” of their collaboration around assessment policy implementation as they finished each other’s sentences. The following exchange captures the fluidity of their collaboration:

Harpreet: Yeah. We try—

Sonya: —for sure.

Harpreet: —and do our very best to follow the policies, to follow Policy 14 around assessment but, again, it takes time to plan those and coordinate those. But we do a pretty good job compared to most people and places here following those ...

Sonya: Following the policies.

Yet other ITLs noted that they witnessed poor or inequitable assessment practices around them and wanted to be able to engage colleagues in conversations to shift practice. However, as Jacqueline explains, it is difficult and frustrating at times:

I'm stuck. What do we do? What do we do? You can't go to admin cause we're a unionized environment. You can't go somewhere else. You can try to explain the logistics and you can try and explain and you can encourage, and you can show, and you can offer support, but if people are really adamant that they're not doing it, because we have pretty much autonomy in our own classrooms, then they're not doing it.

John similarly spoke to the impact of the union on PL around assessment:

And I think it's also interesting when you think about say a federation perspective if you bring that in because we're supposed to be focussing on what's best for students, but a federation focuses on what's best for the teacher and if you bring in something that's new and different, the first question from the federation perspective is always, "Is this more work for the teacher?"

Diana noted that the culture in her school was also challenging: "They [teachers] are suspicious of anybody who works with administration, and they're very union driven."

Lastly, some ITLs were interested in better aligning their practice to board assessment

policy and practice. As Dean stated: “I need to be sure in my own mind that I am consistent with policy and what my colleagues are doing.”

Collaborative Capacity Building

The data collected from the research participants clearly indicated that the goal to improve their personal assessment literacy existed in tandem with the goal of building collective capacity through co-learning. The research participants told stories of how these efforts were fruitful, but also challenging. Dinusha emphatically that a teacher leader is “Someone who builds capacity in other people.” Tim extended this understanding when he said: “As a group I feel accountable to, you know, learn from each other and accept the criticism that comes, because I think it’s fair to say we’re sort of the sharp edge of the wedge.”

Gus described the importance of supporting teachers as they find their leadership stance; he said his goal is to support teachers who are not ITLs to become ITLs by building their capacity. Harpreet felt that co-learning and a focus on improving her practice is a “big responsibility” and Mashelle described collaborative learning experiences as: “very organic, it’s just through discussions.” Amara identified the benefits of collaboration when she stated: “It also brings a more cohesive, like, sense of the staff unity ... so not only is it kind of part of our job, the unwritten part, but it also helps to - to build that sort of feeling of a family.” Victoria, her collaborative partner was more specific when she stated:

I also think it’s a nice support system. So if you try some crazy new assessment thing, it's nice to be able to reflect and debrief and work with people that you work well with and say, like, “I’ve tried to do—I don’t know, co-construct a learning goal, and it was just mayhem.”

This illustrates that ITLs may lead with an initial question or interest, but often they support others to step into the leadership role, therefore levelling the playing field and shifting from leading to co-learning through collaboration. It also illustrates a gap in understanding how collaborative professionalism is a required component of teacher work in Ontario. Like many of the ITLs, Gabriella actively sought co-learning opportunities by requesting a release day specifically to work on moderating marking and assessment across the curriculum.

A key strategy for most ITLs was asking for and being receptive to feedback from a wide variety of people above and below them in the organizational hierarchy in order to build their own and others' capacity. This was often an organic process where the ITL elicited questions, suggestions, and feedback through an invitational stance. When Susan surfaced a problem of practice, her solution was to talk, "I usually talk about it at length with whoever I think can help. So, Frankie's a go to, my department head, in the odd case the VPs, the kids." Ultimately, all the ITLs in this study were eager to continue co-learning. Harpreet alluded to the ongoing nature of this work: "We're still learning; we try new things but we haven't mastered it."

ITLs' Perceived Nature of Their Role

One of the guiding questions of this research was, "What is the perceived purpose and nature of ITLs' roles when constructed by teacher leaders and their teacher colleagues?" The data gathered in this research provides a framework for constructivist teacher leadership to answer this question in Figure 2. All the ITLs noted that their purpose was learning and that the nature of the work was reflective, ongoing, and embedded in specific and complex contexts. The theme of informal teacher leadership as a political act was clear.

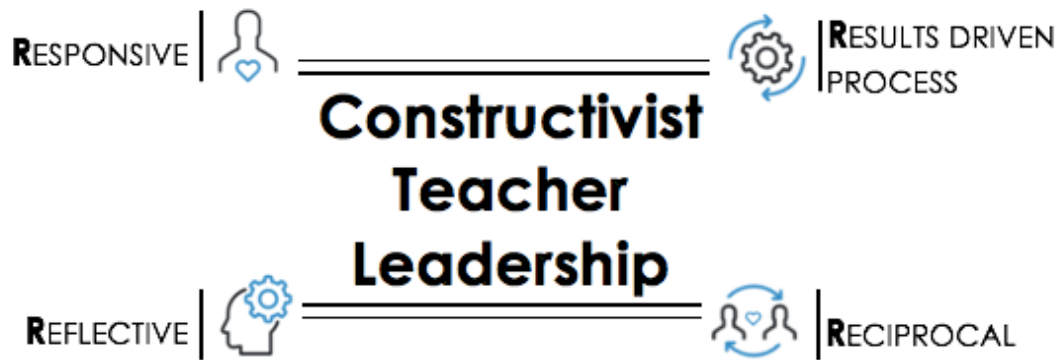


Figure 2. Framework for constructivist teacher leadership.

This reciprocal political act of teacher leadership was motivated by an authentic interest in making positive, responsive changes in specific educational contexts, with collaborators who complemented each other's skill set, using processes that were reflective and change oriented. Lastly, all ITLs were results driven—they were looking and found the impact of their informal teacher leadership in their sense of self, collective efficacy, and on student learning.

The data indicate that all ITLs were ITLs; however, three ITLs were reluctant to name themselves as leaders, or to be associated with leadership as a professional identity indicating the micropolitical challenges associated with teacher leadership. While Susan, Kestra, and Katherine did not openly define themselves as leaders, they were often told by others that they were leaders, or demonstrated leadership qualities and therefore, their leadership approach responded to this categorization. This reluctance to align with a leadership identity indicated resistance to leadership structures and frameworks. However, Frankie encouraged her colleague Susan's leadership practices when she said the following:

You might not have the title that goes with it but you are modelling good teacher practice, despite all the barriers that might come up. And you're having courageous conversations in your department about what you're doing and why you're doing it. You are building your own knowledge that way.

Katherine eventually conceded to being identified as a leader, not because of what she felt she does, but because of what others have told her about her leadership. She noted that her vice-principal, principal, some of colleagues, and the instructional coordinator for assessment all noted her teacher leadership qualities. But the term was new to her; she had only begun hearing about it a year prior to the interview. Her response to this new title was to

explore the concept more fully and seek out opportunities that complemented her leadership interests and skills. Katherine modelled responsiveness despite her initial absence of intention to step forward as a formal leader. As her focus on improving assessment bloomed, so did her invitational leadership approach which focused on supporting colleagues with assessment and leading through her vision and curiosities. She said it is her nature to be a curious learner and it fits well in education, as we aim to “keep up with the rest of the world.” Katherine was often identified as an expert, but she challenged this categorization as she sees herself as still learning and trying new things. Her colleagues, who know that she has sought out new learning opportunities respect her experiences. Susan was adamant in refuting the leadership title:

I don't really see myself as an informal leader, but my role would be to ask other people questions. Are we on the right page? Are we really doing what's best for our students? I'm always the nail that sticks out.

Both Katherine and Susan attended team meetings, had administrators who described them as leaders, and responded to the needs of their colleagues by engaging them in ongoing reflection. Both women also believed it was *not* their role to tell people what to do (which aligns with a traditional idea of leadership), but to openly show, share, and reflect on their own practice. This belief challenges traditional ideas and options of leadership. Similarly, although Tim identified as an ITL, he was not looking for a formal teacher leader (FTL) position and reasons that:

I'm doing this because I think it's good for me to do this. I'm doing it because I think if I don't do this, it's really easy to become stale, to die in your job and just do things

you've always done them. It's nice to sort of think about things and challenge your assumptions.

ITLs told different stories about their desire to learn and lead. Diana wanted a new job, one with a title and formal position, and was looking for additional leadership experience, but experienced setbacks. She stated: "And it's kind of like you do all this work and you think, 'What am I doing this for?' After a while, like, 'You [principals] don't even see me.' And I don't know if they do see us as people. We're problems. We're *those* teachers." Katherine, Tim, and Dinusha were fearful of becoming surplus to their school because of declining enrolment, so they were becoming more active as assessment leaders. However, Dinusha noted the impact on school climate when some teachers are shifting practices and others are not: "Okay, it could potentially make you look great, sure, and you could have these isolated results, but if it's not the entire school as a culture of assessment, right? By evolving assessment practices then you risk actually creating some sort of division and the disconnect between assessment practices." The various reasons to learn and lead illustrate the complexity of schools and systems where navigating the unknown is challenging. Being responsive to their own and others' learning needs was one of the four core competencies of these constructivist teacher leaders.

Responsive

The ITLs described their leadership as emerging in response to meet a need, address a curiosity, or support a strength. They also noted that their leadership was a response to board and school policies and practices, illustrating how they were responsive decision-makers. As Diana clearly articulated, our efforts "only exist because of necessity." This notion of responding to and supporting learning needs was repeated by all ITLs and corroborated by

their colleagues. While Dean described this form of leadership as “grass roots,” Kestra said “we’re doing stuff that we think is best for our classrooms.” When describing the nature of her role, Diana highlighted differences between formal and informal teacher roles, when she said, “we define our own leadership roles by the things that actually, really need to be done, as opposed to formal, board driven titles that don’t necessarily lead to any kind of real results or student happiness and engagement.” The ITLs engage in decision-making that is politicized and context specific. Because teachers’ time was valued and so heavily taxed with non-teaching duties, they saw their leadership endeavours as realistic and in-the moment. As Diana said, “we can’t wait around for someone to make the decision.” Vivien also sees her ITL work as needs-based and curiosity-driven. Being responsive was apparent when ITLs described how they were focused on student learning needs, their own learning needs, and those of their colleagues.

The data indicated that ITL establish their own role, make political decisions, set a course of action, and determine with whom to collaborate. Therefore, ITLs have autonomy that other formal leaders do not. With overarching support from competent administrators rooted in trust, ITLs can act without micromanagement. Harpreet described ITLs as those individuals who do not have the constraints of formal teacher leadership (FTL) positions and who voluntarily “go out and try something new to push their instructional practices, in attempt to push their student learning to another level.” Vivien, like others described herself as a risk-taker. She questioned whether she was innovative but recognized that she tried authentic assessment strategies to meet her own and students’ needs and experimented with problem-based learning. Vivien illustrated how her responsive approach, an innovative idea,

and a vision of authentic and equitable assessment led her naturally to her informal teacher leader role:

I think it's more just trying out new things, seeing if it works, collaborating with peers to kind of talk it out. It's coming back and sharing my experiences with the group and just saying, "This really worked and this is why. But this didn't. Is there a way that we can get around it?"

The ITLs' responsiveness was connected to and directed by their own interests, the students' and colleagues' needs, and their knowledge of where and how to gather support for their work. After spending two years engaged in intensive math PL, Susan and Frankie described the shifts in their instructional and assessment practice. Frankie said, "you spend lots and lots of time on assessment for learning now. So, you said before we used to teach it, student did it, we tested it. Now it's not that, it's a cycle, right?"

When Vivien noticed that her students were more engaged by experiential learning, she decided to explore problem-based learning: "I was like, okay, so there is something here. Then I started researching project-based learning because it really is student-driven." Diana, in turn, described how she responded by working with colleagues to solve problems. She said, "Some [colleagues] are using me to consult about things, and we usually have to look it up, but, you know, I can't know everything." Gabriella suggested that ITLs are classroom teachers with vision, who are trying to make change within their school setting, and who do not hold formal leadership positions. "We're kind of making people aware of all these new assessment vision." Gabriella's colleague, Katherine, extended this idea when she stated:

It's just a vision of change at this point. The system is the same as when I was a student. It's really not that different than when my parents were students and it should

be different. It's just trying to get people to change and to think about what they're doing and realize that things can change and it's not necessarily a bad thing.

Data indicated that the responsive nature of ITLs along with the need to engage in reflective processes was a component of research participants understanding of their roles.

Reflective

The data revealed that all ITLs recognized the importance of reflection. Individual reflection allowed ITLs to better understand their own assessment and leadership practice. Dinusha outlined how teacher leaders are reflective practitioners and that they are “willing to be mentored, so ... I think that within leadership also is the continuous reflection and growth as both a leader, mentor, and potential mentee.” Collaborative reflective practice also allowed ITLs to work with trusted colleagues to better explore and extend their assessment practices. Susan noted the importance of both personal and collaborative reflection:

As a teacher, I kind of see myself as always changing, adapting, staying current, and making sure that I'm doing what's best for my students. In order to do that, I always have to reflect on what I'm doing. And I don't know that can do that without collaborating with other people.

Scout and Mashelle described their collaborative reflection on a student project that had negatively shifted when other colleagues joined their course team. Scout stated:

Yeah, their passion and their interests and then just go off with that and kind of do whatever and we would assess at critical points along the way and make it kind of like a semester long project. But yes, it has become more prescribed and I think the passion from the students is not there.

This was further clarified by Mashelle when she reflected that:

I guess just like reflecting back on what worked and what didn't work with the grade 10 program and just trying to implement those changes and trying to, again, like I was saying, bring in those transformative social practices and getting the students actually involved.

Philomena described her work with her ITL and noted their collaborative effective practice which came about because of their risk-taking. She went on to articulate the importance of the reflection: "And then to be willing to also be reflective and non-judgmental." Reflecting on policy, changes in practice, impact, and processes repeatedly surfaced. Dean described, how, with the help of time to analyze and reflect on policy, he shifted his assessment practice from a traditional averaging, to a focus on using evidence of student learning that most consistent, more recent when determining a grade. This resulted in what he felt were more accurate and fair grades. Dean also described the emotional labour involved in this work when he stated, "One thing I just—one thing I want to add just very quickly about assessment. Because I've done this this year and it's really been such a—so tiring and I value doing it but it's taken a lot out of me." Tim and Krissy also described the impact of their collaborative work with colleagues. Krissy told the story of a former colleague who reconnected with her after a coaching session to share his guilt over years of bad assessment practices. His reflective stance and his move toward more fair and equitable assessment supported more equitable structures beyond his own classroom.

Jacqueline and Vivien ground their reflective practice in their goal of improving student learning. When asked why they reflect, Jacqueline said:

Because it makes us better teachers and it's equal to equal, peer to peer. We have mutual respect for each other, we're not going to get better if we don't reflect and we

don't bounce ideas and if we don't expose ourselves to new things. And it's really difficult for one teacher by themselves to do these things. We're better in a group and we're better together. We also both understand that cognitive dissidence is not bad, it's just cognitive dissonance. You can come to a better answer in the end if someone questions you on something that you're doing in the end.

Co-reflecting, or reflecting collaboratively was also often described and was evident in the focus group interview sessions. For example, during their focus group interview, Dean demonstrated his in the moment reflection when he was listening to Gabriella describe her communication processes with students and immediately recognized a next step. This immediate response illustrated the importance of the trust in the group along with the respect for others' strategies and practice. Dean recognized a good idea and wanted to incorporate it in his own practice. This was not an isolated incident among this team. Over and over they built off each other's ideas and noted next steps. Similarly, Harpreet and Sonya often collaboratively reflected on evidence of student learning and strategies. Their joint reflection surfaced deeper understanding and determination of other next steps for their pedagogical practices.

Reciprocal

The data indicated that ITLs are involved in reciprocal learning relationships with colleagues and students. Jacqueline explained the extent of her reciprocal relationship with Vivien when she said:

We bounce ideas off each other, we help each other solve our problems, teaching related, like in terms of teaching. And we're never afraid to go to the other one and

say I did this major screw up, there's no judgment between us. It's totally a supportive environment with each other.

All the ITLs in this study noted that the discomfort that they experienced with the title “leader” often stemmed from the fact that they felt like they are more collaborators in a flexible learning relationship where their skills and knowledge complemented and extended one another. Yet, despite this initial discomfort, they liked to share. Vivien described her enthusiasm for her assessment practice: “I get excited and I like to share. I like to take the risks. I’ve always been a reflective kind of teacher where I’m like, ‘Okay, well this isn’t working. Why?’ and that sort of thing.” Katherine, also enthusiastic, described her experiences as follows:

I mean the whole thing is pretty exciting. I’m a little concerned about how to roll this [focus on assessment practice] out to the whole staff because that’s apparently the goal for the second semester. I mean, besides being a little anxious about that ... I find all this stuff interesting, to kind of step away from harping on the subject. You know, “they need to know this and know this,” and to think more big picture. My perspective has changed a lot in the three years since I took my Assessment and Evaluation AQ.

As Krissy, John, and Kate suggested during their respective focus group conversations, their relationships were not one-sided and the colleagues involved also moved in and out of informal teacher leadership roles. Kate explained the reciprocal learning and impact of assessment practices on her and John:

The collective experiences that have impacted our ability, for both of us, to say that we drank the Kool-Aid. We see the policy and we see the positive. We’re following

the policy. We're even pushing forward to make sure it's the best for the students. So for the classes that I've had in the past 5 years and the classes that John has now, I think the assessment policy was very well-represented.

Krissy explained how ITLs "share both their successes and their failures with things [assessment practices] that they're attempting" so they can learn from one another.

Most importantly, the ITLs and collaborators felt they gave and received equally and with the expectation of learning and leading. If they did not feel like the relationship was reciprocal, it fizzled out. Krissy explained that for her, ITLs must be engaged in reciprocal learning: "Because then that's what ... that's the kind of teacher leader that that people are drawn to, that want to go and work with, because they feel it's collaborative as opposed to somebody trying to enforce their way or tell them there's a way that you should be doing it."

These ITLs also had reciprocal relationships with administrators as they often supported their leader's to further develop assessment literacy and leadership. Diana, like several other ITLs, does not consider her administrator as an instructional leader, but sees herself as his complement. What he does not have, she can fill. Diana noted that her administrators had not been in the classroom since *Growing Success* was released and were unaware of the complexity of consistently implementing the policy. Diana described her experiences of principal involvement in school-based PL around assessment:

They don't participate. ... There's a very clear us and them. And they are in the office doing office things, and we are in the classroom doing classroom things. And there's no connect. And when they speak about things like assessment, they're often wrong. She was also aware of the power differentials inherent in their positions. She does not have a formal leadership position whereas her administrator does. As such, she avoids publicly

naming his errors in describing instructional and assessment practices. This illustration of her ability to navigate the micropolitics of the school while benefiting from leadership experiences and indicates her political acumen as an informal teacher leader. During the interview, Diana described an incident where the vice principal used incorrect assessment terms and gave “wrong” advice to teachers. As opposed to correcting the error, Diana’s response was: “She’ll figure it out and we’ll all save face and move on.” Diana’s administrative team relied on her assessment literacy and leadership and offered her opportunities to publicly show and share her practice, modelling a form of complementary leadership.

John has also positioned himself as a complementary leader to step in and support teaching and learning when an administrator was unavailable or lacked the pedagogical knowledge and skill. He said: “I’ve had people come to me and ask a question, knowing that I do assessment stuff, versus asking a vice-principal a question.” Kestra spoke of the importance of recognition when working reciprocally with administrators. She described her frustration for inauthentic gratitude in the form of gift cards when she said:

Like once in a while they’d come up with these schemes of here’s a \$5 Tim Hortons’ card. We’re going to give them out at staff meetings for people who did things. But it was a thing to do. It wasn’t. ... It didn’t feel authentic.

Similarly, Katherine complemented the math head in his support of the department and reaped reciprocal rewards. In this instance, they co-constructed a role for her which required a co-learning stance and focused on solving problems of practice related to assessment. As part of her leadership practice, Katherine listened to, noticed and named existing assessment practices in her own and others’ classrooms, and then provided some

input on next steps to build on their professional strengths. Katherine also positioned herself as a complementary leader with her science department head. They discussed next steps and he supported and encouraged her open and transparent assessment practices. In turn, Katherine received leadership, mentorship, and a partner with whom to reflect, illustrating the reciprocal nature of informal teacher leadership.

Participants also provided multiple examples of reciprocal collaboration between teachers which often led to building additional teacher leadership practices and building the capacity of other teachers to be ITLs. Jacqueline identified Vivien as a quiet, tenacious, and complementary leader to herself, when she was a department head: “When there was something big that needed to be moved through the department, I would start it as the head and then I would get her to help me move it along.” Kestra was a mentor to her now collaborator, who is also now her department head. Over the course of years of co-learning and co-planning, their relationship evolved from mentor-mentee to one of collaborators where there is fluidity in who leads, who takes on specific roles in their work. These colleagues both state that they make each other’s “teaching better.” Scout and Mashelle told similar stories of how they have supported each other to improve assessment and collaborative reflective practice. As Scout said:

It’s nice to have just the support in trying something new or ... you’re kind of going out and not knowing how it will pan out or work out and it’s just good to have someone else there that you can bounce ideas off of and say, “Yeah, this totally bombed in class,” or “It’s not working with my class. How did you approach it?” Or maybe you used a different technique so it’s just really good because you’re not on an island. You have the support and that I think is absolutely crucial.

ITLs also found and benefitted from the reciprocal relationships established with teacher colleagues. Storm described her course team's collaborative assessment work:

For the larger things, like the big assessments and summative assessments at the end, we first—we definitely come together on, and decide beforehand, before planning the whole unit. And we agree, “Okay, we like this assessment. Does it hit all of the learning goals, and the big ideas, or do we need to sort of tweak it, or come up with something else?” So that's all decided beforehand, and then we delegate out who's doing what. For the smaller things, like the lessons, day-to-day thing, it's just kind of who has time.

It is interesting to note that although Scout defined this experience as collaborative, it better reflects a collegial approach to co-planning. Although the educators shared initial ideas, they did not collaboratively further develop materials, therefore continuing a siloed effect within their working environment.

Conversely, the large collaborative team led by Katherine knew how to reciprocate learning and leadership while focusing on learning. They knew that within the team each other had strengths and interests, which would surface when needed, then recede, but not disappear, allowing others to lead. The collaboration encouraged teachers to hold each other accountable for feedback, next steps, and ideas and allowed them to delve more deeply into pedagogical ideas and challenges. As Glen suggested, they collectively focused on making sure that students got the best of all their ideas, not just one teacher's interpretation of an idea. The team discussed how they would not want to show up to a meeting without being prepared and held each other to high expectations. They felt that they could be responsible

for their group and accountable for commitments. Kestra and Susan had a similar collaborative teaching and learning experiences. Kestra states:

We did lots of new things in geography. I did lots of cool things in science with the teachers I was working with there. But not to the wider school community. I wasn't ready for it. I was overwhelmed with being back in the classroom and everything, and trying all these new things just to try it out before I tell other people about it.

Both collaborative teams valued trying new ideas in the classroom, and sharing experience with trusted colleagues to get feedback and motivation.

Initially reciprocal learning was a complex facet of constructivist teacher leadership. Knowing when and how to approach someone to invite them to collaboratively work toward change was challenging. The second collaborative team received some PL where they were told about a 20/60/20 rule. They explained that 20% of the staff can pull 60% of staff along with new ideas, but that the final 20%, sometimes called the immovable object, have equal say in shifting staff in the other direction. Consequently, they focused on developing enough influence to move the 60% and prevent the other 20% from having a negative impact. This indicates an understanding and use of the political acumen required to navigate complex school settings.

Paula observed that PL is best received by peers, as those who are not in the classroom have reduced credibility in the eyes of practitioners. She challenged: "Spend a day in my classroom, and tell me how this should happen." Katherine initially started her assessment collaborations more informally, with a small group of teachers who expressed interest. It became more formal when they decided to publicly share their work and invite others to join. These collaborators also noticed the leadership strategies and assessment

leadership moves that the ITLs made and how at specific times and situations, they replicated these strategies to facilitate the leadership and learning in their PL communities. Despite much teacher discussion, Dean noted the challenge with this, and admitted that it is not happening for him right now:

So now I see myself on the other end of that [teacher collaborative learning around assessment], now I'm the veteran teacher and I don't know how to have these discussions with colleagues because I've had situations where I've done things that I thought were, that I think are, very effective and when I've shared it informally, not like you know, "Hey, can we talk about assessment" just as it comes up in a conversation, you know sometimes the response I got—I would get would be, "Well that's not on the outline, why did you do that, you know that's not what we agreed to."

Despite the benefits of the reciprocal learning and leading that many ITLs experienced with their collaborators, they did experience challenges when sharing outside their supportive and collaborative network.

Results Driven

All the ITLs and their collaborators reported seeking evidence of their collaborative efforts to support learning among students and colleagues. Monica and Philomena agreed that they did this because they wanted to see, as Monica stated, visible "changing practices—changing teaching practices." ITLs, such as Susan and her collaborator Jacqueline, were looking for evidence of learning to develop questions and find solutions to move student learning forward. Susan described the process they use for exploring student work: "But

we're kind of looking at, 'Why don't they get it? How can we improve it so they do get it?' And we're finding things that we never expected before."

John described how he needed to be focused on student learning and implementation because his administration was not monitoring assessment practices in the school and he wanted to focus on assessment as a required element of teaching and learning:

So, because there's no follow up, there's no accountability. And that, I think at least in this building ... the admin's notorious for that. And you're thinking, "Why am I going to bother? They're not going to ask me about it again. I'll play nice and talk numeracy right now and then I'll go home and not bother doing it at all cause I know I'll never be asked about it unless I'm doing my Teacher Performance Appraisal (TPA)."

Dinusha, Katherine, Harpreet, and Sonya collected and analyzed student data gathered from surveys administered to students along with evidence of their learning to determine the impact of teachers' assessment and instructional practices. They found that students felt more supported in their learning with clear learning goals. Susan and Frankie also moderated evidence of student learning captured through conversation. Susan described this practice:

We would moderate together and we would include it in the marks so it was actually accountability for it. So, we've got an assessment for learning group that meets and that's just talk, there's no actual task. And that doesn't usually get included in any marks. But it's opening conversation in the school so I think there's more support with the SSI [Student Success Initiative] than there is with just the informal group in the school.

Victoria and Amara described their use of data to inform decision-making that would result in additional support for students at-risk. Amara described the process when she stated:

We took the midterm marks of all the students, so anyone who was at risk, which we defined as level one or below. We printed off class lists for all grade 9s and 10s, and we highlighted those students and we created a cover sheet for each student and a letter home. We then put the class list into teachers' folders with the at-risk students highlighted, and a cover sheet for each of those at-risk student as well as the letter home. We asked the teachers to then help determine which students were still at-risk and who this program would be appropriate for.

Gus and Mike explored evidence of student learning through the lens of teacher directed, student co-created success criteria, with great impact on their professional understandings. As Mike said:

If I go back to that moderation, that few days we spent moderating and looking at student work. For me that really is about is, "Do we both understand the criteria?" and, secondly, "Can we both find that evidence in the work that we're looking at?" and at times we weren't. You know, there were things that you found [talking to collaborator] that I didn't, but that's because ... also you have a greater understanding of the design process than I do, but if we co-constructed the criteria, right, then if I look at the student sample and I truly understand what the criteria are then I should be able to find that evidence in a student work.

Harpreet and Sonya noted increased student engagement in their learning environments, which they felt was also translated into increased achievement after reflecting on co-created lessons and tasks. Jacqueline and Vivien's use of problem-based learning and learning goals

also led to increase student engagement and student learning. When there was visible indication of increased student learning and engagement, the ITLs reported increased confidence. Dean described his own increase in self-efficacy after collaborating with the assessment team. He was empowered to make significant shifts in his assessment practice that he felt better reflected the needs of his students and that were more “fair.”

Gus and Mike’s collaborations attested to an increased sense of collective efficacy. They both described how their collaborative exploration of learning goals and success criteria made them stronger, more responsive educators, and that allowed them to share their knowledge and skill. Mike discussed the initial interest in assessment through the lens of learning goals and clarifying goals and criteria for students:

I would say the whole little bit about learning goals, which I don’t consider to be a really big part of what ... that would define the work. At the beginning when we first sat together to do some collaboration, my question was “What do you want the kids to learn? What’s your goal here? At the end of this lesson what should the kids be able to know and do? And I think that, kind of, got you thinking a little bit more about posting learning goals, making them more visible in the classroom.

Mike went on to explain the impact of his and Gus’s collaboration. “Collective responsibility comes from collaboration with the purpose of improving student learning. Really, that’s the way I see it. Collectively, if we can do something together it is going to really have that positive impact on the kids.”

Similarly, Harpreet, and Sonya noted that their collaboration was more than a focus on consistency, but also on learning how to be responsive to students’ needs through effective assessment. Their successes led them to explore more and to take other risks. This

collaborative response and increased collective efficacy was noticed by other teachers in their respective schools and led to interest in their work, and a rippling effect of assessment literacy and leadership. Furthermore, the ITLs experienced results which others were interested in as well. Specifically, several of the participants were asked to share their assessment learning and practices more widely at department or committee meetings or even more broadly with the entire school or district.

Contexts for ITLs' Work

The second question guiding this research was, “How do ITLs navigate the organizational factors and conditions as they engage in collaborative work related to classroom assessment policies and practices?” The data gathered in this research suggested that all the participants experienced the following three conditions for their work, but they described them with varying breadth and diversity. First, the positive impact of effective, cordial, and collaborative relationships were often juxtaposed with the negative impact of challenging school cultures and climates and individual negative or stressful interactions with colleagues. Second, assessment resources were a condition that impacted ITLs ability and breadth of leadership. A component of resources, time and space for collaboration was alternately described as a frustrating absence or as a willingness to engage professionally in whatever, whenever, and wherever. Similarly, resources, including access to technology, were viewed as often absent, but teachers’ innovation and interest led to creative sharing strategies. PL was also considered a resource. A desire to learn professionally was articulated, but more valued when conducted informally, on a needs basis, rather than school or board directed. Lastly, assessment literacy was noted as “in development” and varying from person to person, school to school, resulting in pockets of progression and gaps.

Interestingly regardless of the contexts of collaborative work, effective and trusting relationships seemed to bind PL and push it forward.

Relationships

Healthy, positive, trusting relationships were at the root of many of the collaborations that were taking place. Yet teacher vulnerability and the time it takes to build trust were identified as obstacles, as trusting relationships precede collaboration and risk taking in assessment. The ITLs fostered relationships where they were valued, respected, and challenged. Gus discussed at length the required practices to build trusting relationships:

There's a personal aspect to collaboration, where you have to be able to thrive with the other person if you're going to have this deep collaboration. It has to do with the interactions that you're going to have on a personal level. So when we sit down like, you know, there's that 30 seconds of like, you know, talking about things that happened. I know things about his personal life. We can go into deeper work, we can joke about things, so we have collegiality, right, and it works, right? It's really hard to eliminate some of that stuff and still have the trust required to let someone into your teaching practice, right? So there's a gigantically personal aspect that has to do with the coaching role, and that takes time.

Diana described the difference between having trust among teachers and trust between teachers and administrators. Diana stated that administrators struggle to build trust because they don't slow down to listen to teacher needs and wants:

And they [teachers] just want to have fun and be treated with respect and have things in little bits and the technology to work and to try something. And they're willing to do it. But I think administration has a half an hour and does 3 hours' worth of stuff.

These ITLs and their collaborators sought and provided consistent, responsive support for each other's pedagogical practices. They modelled innovation and risk taking along with transparency around failure, illustrating the need for resiliency and grit. Harpreet felt that ITLs needed to “informally, so on their own voluntarily, take the chance to go out and try something new, to push their instructional practices, to push their student learning to another level.” She explored why she and others struggled to take risks, despite its possible positive impact:

I think to take that risk, to take that chance. Some people are afraid; I was initially [afraid] to take the chance. But then they have to be inspired, sometimes by their students, sometimes by their colleagues—I was inspired by a colleague—and to take that chance.

Monica and Philomena agreed that transparency with their colleagues was very important. Monica said, “You have to be willing to try something new in front of the kids and know that it might not work and to also share that with colleagues as well.” ITLs described their collaborations as “partnerships” that were often effective and safe micro-cultures within broader school climates that were not as collaborative.

Effective collaborative partnerships allowed ITLs to navigate challenging climates with support. Without collaborative and trusting relationships and effective climates, ITLs occasionally experienced negative interactions with colleagues which led to frustration and at times discouragement. ITLs identified colleagues who were resistant to change and workplace bullies as obstacles. Victoria expressed irritation with resistant colleagues: “Sometimes people who are resistant to assessment can be a barrier. Big time. It's amazing how one

person can ... muddy the water.” Krissy described the challenge involved in being a leader and navigating an unhealthy climate, which left people feeling bullied:

In other cases, there’s serious conflict and attempted bullying to get somebody to do what everybody else is doing. One woman in particular, I know she had a very difficult time in this math department that was telling her she had to count quizzes.

And they were worth whatever percentage of the grade. And she said, “No, I won’t be doing that. That’s not good practice. There’s no way I’m taking grade 9 applied (1P) math quizzes and counting them in the grade.”

Similarly, Frankie was Susan’s support as she navigated work place bullying. Susan described the actions of one colleague who she felt was feeling insecure in their practice and therefore acted out aggressively:

[The teacher] undermines, well, actually spreads rumours to undermine me as well.

And there’s a lot of that in teaching and I really don’t like that because we are, we’re all peers and we’re after the same goal. People get so—they get their back up when they feel that they’re not the best, right? They try to undermine people that are doing things that appear better than them.

The second team described how their supportive team culture was a safety net during recent political unrest where teachers in their school were frustrated because of job action and contractual disputes with the board. They found solace and support in their continued work toward improving student learning, even when directed by the union to refrain from extra duties. Gabriella noted the limited impact of the political unrest when she stated: “The climate for learning was affected by the political disruption and strike. The school has a history of being traditional. The impact of the strike did not go beyond September.”

Tim described the union as an obstacle when he expressed his frustration regarding the impact of a unionized environment which did not allow teachers to challenge others without fear of being perceived as judgmental. Much discussion and debate over “professional judgment” ensued with union definitions often pitted against teacher, board and administrator understandings. This speaks to the importance of professionalism and collaborative cultures that existed within this school. Similarly, John noted the challenges of collaboration and trust during the time of political unrest for teachers:

I find that it’s difficult to collaborate in this environment right now and I think it’s because there are too many teachers who are just doing what they’ve always done and don’t want to change. So, that’s why I tried that informal approach because clearly the formal approach isn’t drawing people in. So, if it’s just a matter of, “Hey, let’s talk. Let’s do this. Let’s try this.” Then okay, I can have those informal meetings. But unfortunately, the formal meetings in this particular environment [political unrest] unfortunately aren’t working.

Trusting, collaborative, and supportive relationships with colleagues. Many of the ITL described their collaborative colleagues as friends. Diana identified the almost two-decade long friendship with Kestra and their trust in one another as a catalyst for her role as an ITL. Trusting relationships are those where the collaborators do not feel judged, can openly make suggestions, and expect professional feedback and constructive critique. Jacqueline described the importance of a trusted colleague and critical friend when she said:

We both want to be better teachers. Neither one of us is satisfied with I’m good enough, right? We both want to improve and the only way to improve is to have what

a former principal called it a critical friend. So someone who could say to you, you majorly screwed up, let me support you through it.

Harpreet and Sonya began their relationship as colleagues but have also become friends who provide feedback and who courteously challenge each other's practices. Sonya described the importance of supportive and trusting relationships when she said: "But I think it's about our personal relationship too. It's that we're kind of like, 'all right, let's just do it.'" Katherine's colleagues attested to her ability to form supportive and trusting professional relationships focused on creating positive change for student learning and bolstered by her interpersonal, organizational, and facilitation skills. Katherine, like Diana, offered her time to her colleagues within her collaborative sphere of assessment and beyond. She offered to attend other team meetings, provided advice if asked, and clarified when she could. She was willing to share and often did so after she tried something new herself. Katherine explained how she would share assessment ideas or tools with colleagues:

I will eventually send it [new assessment task or tool] to them and say, "Here's something I tried," and hopefully then—I mean two of them are on the assessment team so they're generally pretty good about, you know, at least appreciating those kinds of ideas.

She consistently emphasised that she was also a co-learner and wanted to grow with her colleagues. She challenged people to think beyond the status quo to improve student learning.

Similarly, Krissy described herself as someone who spent a lot of time getting to know a colleague through questioning to build relationships and trust. Paula explained how collaboration with her team was rooted in trust. She trusted that her collaborative team would

be able to support her (no matter her question) and would be willing to share an idea that she could then internalize and adapt. She also knew that her colleagues would be happy for her to contextualize the shared learning as a sort of knowledge broker. She said:

As much as change is scary, we've got to learn to adapt. [You've got] to learn to get along with people, you may not necessarily respect or like, but you're in the same building with. Having worked at other schools where you didn't want to talk to the other person or there was just no conversation, and then when you end up somewhere where there actually are conversations taking place, you're going to keep going forward, because you don't ever want to go back to that dark hole.

The data revealed the importance and realities of changes as it relates to assessment literacy and responsiveness to students. Both Paula and Tim emphasized the importance of a positive and trusting working relationship to change. Tim summarized that, "The relationships in the building matter. And if you want these large systemic changes, any of those fractures are going to be an additional barrier to implementation." Similarly, Storm believed that relationships were foundational to successful collaboration. She said: "I think it's just using that relationship that you have with the teacher, and not just in your approach."

Trusting relationships with administrators. ITLs described the importance of trusting and supportive relationships with administrators. John spoke to the importance of a collaborative leadership stance when he stated:

Someone once said the job of any leader is to create more leaders. And so, a good admin team would be looking to every one of those teachers as informal leaders to say, "Hey, do you want to step up and become more of a formal leader in the school?" And hopefully teachers are receptive to that.

When describing her own and Amara's work with assessment, Victoria noted the significance of her administrator's support when she said: "And I know administration is fully supportive. And because of that I think staff, for the most part, are supportive." Diana described a moment when she realized that she had her administrator's trust. She said: "He let me do [provide] every bit of PD all year. And he doesn't ask what I'm doing, and he lets me do it. And it's always fine, but he didn't know that when we started, that it'd be fine."

However, not all teachers were supported to be leaders, illustrating the complexity of schools and the micropolitics that influence who has voice. Monica noticed a shift in focus on supporting teacher leadership when comparing her previous and current administrator. She described how her previous administrator advocated for and supported teacher leadership, but now, "I don't see that focus as much now with the new administration because they're very good in other ways. But promoting, explicitly promoting leadership, not so much." Harpreet noted with frustration the blocking tactics that both her administrator and department head used to infringe on her PL. Harpreet was invited to district level PL for assessment leaders, yet she was asked to forgo the opportunity as it was seen as inequitable from her department head and administrator because others were not invited. She described how she became 'quiet' after this experience. It was her way of dealing with the frustration of not being allowed to lead: "I stopped talking about things. I've gotten a lot quieter if you ask people. I've been a lot quieter this year than before."

One aspect of the ITLs' trusting relationships with administrators was their ability to see where their own and others' capacity needed to be built. Katherine's administrator focused on building leaders. His approach was to "surround himself with aces" so that he could mold people via a school leadership group in the school, ensuring that the social and

political capital of individuals was recognized and realized. The administrator had teachers explore the district's leadership framework and make connections to their practice and also engaged them in decision-making around school philosophy. Katherine described how she could approach her vice-principal to co-reflect and plan and the vice-principal never took over, but consistently supported with suggestions and prompting questions. Similarly, Storm's administrator "tapped" her for leadership: "That's how Shannon got me onto the assessment working team. So, she tapped me, and said, 'I think you'd be good, because you're both in science and English.'" This "tapping" by administrators is an often-used tactic to engage teachers in leadership, not through authentic engagement, but through distribution of leadership task and responsibilities. "Tapping," as a leadership tactic, can be questioned because of the possible perception of inequity and bias. This leadership tactic also leads to exhaustion, as some ITLs noted that some teachers are invited or asked to participate and lead more than others.

Resources: Time, Space, and Technology

The ITLs in this study described great variation in access to resources. Some said they could access resources quite easily, but others expressed frustration when attempting to get what they "need" to move forward. Eesha illustrated this micropolitical challenge when she said:

I'm fortunate that I have a relationship with (administrator) where I can just go in and ask about things. But I can see how others would feel, that they don't get a chance to grow in that capacity. They don't know how to go about it, so if they don't know how to advocate for themselves—like students—they feel stuck.

Jacqueline described Vivien's tactics for accessing and sharing resources when she said:

I would buy the book, she'd read the book and then she would tell me what she learned. Or I buy it and read it and then she would start dispelling it to the department to move slowly through things. She's well respected and so people would say, "okay well if Vivien's doing it, maybe I should try it."

Harpreet and her collaborative colleague Sonya did not have time to collaborate on their shared courses. As such, they often met after school to collaborate, but not as an entire course team. Harpreet stated: "Yeah, we don't have time. I've never met my course team this semester for my grade 12 class. We haven't had common lunch or common prep, so it's super hard. Everything's done online, or through email. It's really hard." Tim echoed this challenge when he described his situation similarly: "If there are multiple sections or the reality is for timetabling flexibility, they schedule single sections each semester so you don't really talk to someone semester one relative to semester two." Access to time to collaborate was a resource which varied most. As Glen suggested: "There is never enough time, available space, or tools for collaboration." This was more challenging in large schools, as in Eesha's view: "It's so much easier to collaborate in a smaller school [with] the common lunch." Because of limited time, collaboration was often more collegiality and task distribution, as Storm described:

So, again, I guess it would be during our course team meetings. But, again, due to time and limited space, we would—we'd normally talk about it, sort of discuss, and tweak here or there, but, again, it's kind of delegating out. Each person kind of has their own job to do, and then sends it out to the larger group.

Despite the universal statement about insufficient time, all the ITLs and their collaborators, found creative ways to move their assessment work forward with this limited resource.

Jacqueline explained. “We will talk on our prep. We’ll talk on our lunch. We will sometimes text each other in the evening.”

Opportunities for informal conversations between ITLs and administrators were also an important resource which was often in short supply. Katherine described an informal, “off-the-cuff” conversation between herself and her administrator at a PL session where she was made aware of the trust and respect the administrator had for her as a leader. This conversation, although informal and brief, had a significant impact on her sense of self-efficacy related to leading teams around assessment. The value that many of the ITLs placed on their administrators’ support was clear and the majority wanted time to discuss ideas with them.

Finding space for PL was also a challenge and illustrated how ITLs navigate the micropolitics of their schools and boards. Some ITLs described the need to travel across the school to find a colleague; others noted how they wanted more professional work space where meaningful collaborations could take place, not just idle conversation in staff rooms. Alternatively, some ITLs described how meaningful conversations were taking place outside of normal meeting areas. Vivien described an assessment focused conversation in the stairwell of her school with a colleague with whom she rarely sees. The colleague, who worked in a department across the school stopped for a brief greeting, but then engaged in a significant conversation about an instructional and assessment strategy that was peeking their mutual interest. They had heard about their mutual interest from other colleagues. This assessment strategy focused on sharing ideas and reflections that were dedicated to supporting students through assessment for learning. Many of the ITLs used a variety of space and locations for their professional conversations.

The participants reported that although technology was a sought-after resource, access to functioning tech tools for collaboration varied. Some ITLs could request technology like iPads and get access to paid services (e.g., apps and specific programs) while others struggled to get professional resources like a book. Susan described the challenge in getting functioning iPads when she said: “You get the iPad and someone else didn’t plug it in so none of them are working or the apps get deleted off of them.” All ITLs developed a repertoire of strategies they would use and sources that they would contact for resources. Most would connect with their department head and administrator, then move on to instructional coaches and coordinators for access to supports such as technology, books, or release time for collaboration. Because time and space were often short, Gus noted the challenges of teacher commitment and the use of technology as a tool for communication and collaboration:

They’ll say, “But when are we supposed to get together? We don’t have time ... now it is harder when you don’t have a common prep. When you don’t have a common prep it becomes problematic to collaborate. Yes, there are ways of doing it, with technology.

Whether collaborating virtually using tech tools like Google docs or stealing a few minutes for a quick but meaningful conversation in the bathroom, these ITLs and their colleagues made positive changes to assessment practice happen. Gabriella said: “I always talk to colleagues because I like to learn things from the other people and that’s why I always go and learn from, informed teams. I’m not that afraid of change.”

Assessment Literacy

The assessment literacy of the ITLs and their colleagues was both an asset and an obstacle. This was partly attributed to the complexity of assessment as illustrated by Mike:

“There’s so many assessment and instructional components within it, that we try to, sort of, unpack and try to understand and, again, hopefully have a good impact on the kids.” The participants identified great breadth in their own and others’ assessment literacy. Kate made this explicit when she stated: “It’s a real jagged front and I don’t think we’re ever going to be at a point where every teacher in the school board is doing assessment in the same way.”

Diana also noted this challenge when describing colleagues’ responses: “Our staff, up until very recently, didn’t understand that *Growing Success* was a must.” Kate surfaced this misunderstanding of policy as well:

I’ve observed a few presentations recently with, “This is what’s in a policy document that is mandated in the province of Ontario and you are required to follow.” “Really?” “Yes, this isn’t optional, this isn’t a suggestion, this is legal policy of what we are to do as teachers in Ontario.” And you don’t want to be that heavy-handed, but sometimes people haven’t made that connection. They look at *Growing Success* like it’s a Stiggins book—it’s a nice idea, but if I don’t want to follow that one I don’t have to.

None of the participants self-identified as assessment experts, but all were curious and driven by questions around assessment. Some showed trust in directives set by the ministry, but still needed to question it. When describing his use of policy, Mike stated:

It’s about informing me also of the direction that the ministry/board want us to go, but also I put inherent trust in the system as well. Like, I trust that the direction that the board is setting and the ministry is setting is the right direction, first, going to go to, right? So I maybe should be a little bit more critical and question it but I haven’t had a reason yet because I, myself, see the value.

When problems of practice surfaced for Vivien she would approach her colleagues, Jacqueline described how:

She (Vivien) would sometimes come over with assignments she was marking and she would say, “Okay here's my rubric and here's the work the kid did and I'm stuck because I don't know what mark to give this kid or I don't know what this kid's problem is.” And a second set of eyes on it makes a huge difference. And over time I became pretty good at looking at [understanding] what the kid wrote.

Similarly, Victoria recognized the role of the instructional coaches in supporting assessment literacy among teachers when she said: “I think that's been really helpful having the instructional coaches there, as well, for support.” The ITLs in this study were often faced with challenging colleagues who were not yet ready to shift their traditional assessment practices; this led to frustration.

When asked about challenges she had experienced, Rachel replied: “sometimes staff attitude and perception around learning and growth and that kind of thing.” Her colleagues' level of learning stance led to frustration for Katherine as well:

So really the biggest barrier is not being able to force anything on anyone, like sometimes you feel like ... you know, if you just make someone try something, then maybe they'd figure it out, but that doesn't generally work because then they just pretend it didn't work and say, “It doesn't work.”

Complexity and ambiguity was repeatedly discussed in relation to assessment. Rachel was emphatic that administrators also needed to be assessment literate. She stated: “Admin need to be up and abreast of all of it as well.” Susan described her administration team as having conflicting interpretations of policy related to triangulating evidence of learning which led to

teacher frustration and distrust. Cathy discussed how:

But still in the admin there's a split too, though like for the conversation piece, we have one vice principal that will support our interpretation of the conversation piece.

Another vice principal (V.P.) that says you have to record it before you can include it. Some of the ITLs were displeased with the absence of clear answers or directives in policy to practice documents which left too much up to personal interpretation. Tim felt he understood and agreed with where assessment was moving in Ontario. He explained that:

I think overall the philosophy of assessment that the board and the ministry is moving towards is more in service of students. It's less in service of teachers because to do it, it requires more time and that's really I think how the institution ought to be.

Others relied heavily on their informed professional judgment and research to make decisions related to assessment. ITLs were also frustrated with the negative impact of individuals who refused to follow assessment policy, particularly as it related to professional judgment. Katherine described the irony of teachers' misuse of professional judgment:

It's like anything. People take stuff to extremes, right, instead of professional judgment being something you can use to help determine a mark, people will use that as the way to determine the mark and everything else will fall apart, which defeats the purpose, but you're always going to get that no matter how you. ... You can't really avoid people taking it to some extreme or the other.

Tim described the confusion over this concept of professional judgment when he stated:

I mean you could look at it one way that it allows me the latitude and the flexibility and the authority to make decisions and on the other hand, it allows the board to throw me under the bus if they don't like the judgment that I make. So it exposes me

potentially and it also protects my opinion—hopefully my reasoned opinion—about whatever determination it is that I made. In this case about a student’s level of achievement or attainment of the curriculum.

Dean also articulated his understanding of professional judgement and its impact on students:

So, for me it’s just trying to get to the truth of where the student really is in this course and what they know. I think sometimes when we say professional judgment, I mean you know, in my case it can be you know often times just looking for the positive that’s not shown in the assessments that I’ve done for whatever reason, but yet I know from my observations and conversations that the student is stronger than the mark might show. That does relate to professional responsibility because I don’t really want to—I don’t want to make things easier for the student just because I might be more compassionate, as an example.

ITLs described what they were confident with, and where they wanted to go next in their assessment practice. These descriptions were rich and outlined their strengths and gaps in assessment. Amara also spoke to changing practice as a result of collaborative work and reflection when she stated:

And in some cases, you know, I changed things, in some cases I said, no, I think what I was doing was on the right track. And in some cases, you know, sometimes we’re forced to make some changes that maybe we’re not fully comfortable with, but you know, sometimes you have to do that. That’s part of life.

Support from within their collaborative teams was extremely helpful. Mashelle expressed gratitude and confidence with the clear support she received to further develop her

assessment literacy:

I think the fact that there's been all this release time that's been given to us, they [administrators] want us to work collaboratively and make sure our assessments maintain that consistency amongst teachers so that we're all assessing the same kind of learning objectives. Also at the same time we're moving towards making the assessments more authentic and fitting all that curriculum stuff as well, so it seems to be supportive.

The ITLs stated that the broad board goals, initiatives, and mandates detracted from their personal focus on assessment. Specifically, as the Ministry of Education and the district focused on improving numeracy skills and many of the ITLs were not mathematics educators, they expressed frustration with the focus of the PL. Some struggled to make the connection between numeracy and their own teaching and learning experiences. As Jacqueline stated: "I know there's numeracy in every subject, but I think I've got it covered in English. I want to learn how to teach English better." Regardless of this sentiment, not all ITLs reported this level of frustration. Dinusha clarified how she connected thinking and problem solving, noted as numeracy skills, in her French as a Second Language and social science classes. Yet, she disagreed with the extent of the focus as it impinged on the time to explore ideas she was interested in: "There are only so many days for PL and if they all focus on math, there will be gaps in other areas." The data suggests that the ITLs see the need for meaningful, job embedded PL that is differentiated and responsive to their needs and goals around assessment.

The context for informal teacher leadership, therefore, is very broad, and strongly rooted to each school environment and more specifically, within the relationships that exit

between the ITLs and their collaborators. Even within schools, great variety and breadth of assessment literacy, ability to build effective, collaborative relationships, access to resources, and engagement with PL were evident. What one ITL noted as a barrier, another described as an opportunity. A common illustration of this is other leaders in the building—some ITLs noted great support and thoughtful conversation with department heads and administrators who were open to dialogue about assessment practices. Others described their department heads and administrators as traditional, without a growth mindset, and unwilling to support risk taking.

Strategies Used by ITLs

The third question guiding this research was, “How do ITLs leverage specific strategies to collectively support and implement classroom assessment policies and practices?” The data gathered in this research indicates that while some of the ITLs and their colleagues had previous formal leadership experience where they had received facilitation training and had acquired specific leadership strategies, others leveraged their pedagogical skills and translated these into leadership strategies. These leadership strategies were then further broken down into assessment leadership moves, which were specific assessment related leadership practices aimed at developing a collaborative understanding and practice aligned to policy. Kestra explained how her previous leadership roles have given her the skills she needs to lead more informally:

And because of my experience outside school ... I do feel like it's part of my, sort of, *duty* to share that with the school, because that's a resource that they didn't have before. I got a lot of training and experience.

John also described his reasons for leading as “pay-it-forward.” He used his

instructional background and servant leadership stance to move conversations forward. He stated, “I think that sometimes teachers need some help. I’ve had help. I’ve had guidance. I’ve had leaders who’ve inspired me. So I’m just trying to do the same thing.” Regardless of whether previously trained or not, all the ITLs noted the following five leadership strategies: (a) learning whenever, wherever, however; (b) leveraging existing structures; (c) listening, inviting and sharing; (d) being curious and asking questions; and (e) co-constructing assessment literacy. ITLs were creative in how they translated these broader strategies into more specific assessment leadership moves that supported assessment literacy.

Authentic Learning in the Moment

The first leadership strategy that all the ITLs engaged in was to be present and open to authentic teacher learning. As a way to be responsive to colleagues, all the ITLs had adopted a stance that PL, but most importantly, authentic learning, can happen whenever and wherever. It requires teachers to be present for the learning. Gabriella stated this emphatically: “We have a responsibility to keep up to the learning, to keep ahead of the game, to make the best experience for students, because it’s our responsibility to learn, because we need to model learning for our students.” They were excited by the idea that they could learn and were learning outside of board structured PL. It was their curiosities and experiences that were spurring these learning conversations. Vivien noted that some of her enthusiasm for innovative practices extended beyond her own classroom and department. She described a conversation in the hallway with a French teacher where she shared her interest in problem-based learning and her focus on student engagement: “I was walking down the hall yesterday and the French teacher was upstairs and I was like, ‘Oh my God, I do this [assessment practice] in my classroom.’ And she’s not even in my department, right.”

Diana described a meaningful conversation about learning goals and success criteria outside the women's washroom:

We started talking about it [assessment] in the bathroom. We started talking about it in the halls and in the staff room and in the kitchen. You know, it became part of the conversation. And I didn't care if they agreed with me or disagreed with me. That didn't matter. We were talking about assessment in the halls and not gossiping, which, for us, is a minor miracle.

This was a conversation that stemmed from whole school PL and was furthered in the washrooms and later in the staff room. The staff room was not a place for pedagogical conversation, but the norms were shifted because of Diana's ability to foster the conversation and interest in assessment and focus on student learning needs. This assessment moved focused on building off existing PL and contextualized it for shared meaning.

Dinusha talked about a 5-minute conversation in the parking lot that would spur further dialogue and the sharing of assessment practice. They often leveraged personal and professional relationships to make these requests. Mashelle was focused on triangulating of evidence of learning:

I'm just trying to build in more observation and conversations. That's the thing that I'm really trying to focus on for this semester. I was kind of excited that I built in an observation piece for my midterm grades as well. I hope someone notices that. That's been my thing for this semester and again, trying to develop those resources to actually assess it authentically. I think that is what I'm trying to focus on.

ITLs also leveraged technology as a way to learn and were also comfortable with requesting additional technology supports for assessment work. They would request iPads,

software/apps and time to learn how to use these tools for assessment purposes. The ITLs used their PL networks (PLN) to continue learning and would also leverage existing structures to focus their learning. They used email to collaborate electronically. John described how he leveraged an interest in technology into a shared interest in assessment for learning. Colleagues often asked him for support to use and implement technology in their classroom. He often shifted the conversation to, “how can this technology be useful for assessment as well?” This assessment move opened the conversation beyond using technology as a tool, but to using technology as a support.

Many of the ITLs were also proficient with technology and would leverage technology as an assessment leadership move that would lead to increased interest or engagement in collaborating. Mashelle and Scout used a shared drive to collaboratively develop instructional materials. Scout described how they collaboratively leveraged technology:

We used the share drive, so I may be able to start something, put my ideas on it and share it on the share drive and she can add on whenever and how we did the SAP project, we all kind of sat kind of around one computer and the new had some iPads to help us with our research, but we created a website for that to share with the students.

Other technological tools often used for assessment purposes include SeeSaw and Sesame (assessment apps), Kahoot (a quizzing tool), and Google forms. Tim recognized the limitations of these tools. Screen casting, so that student thinking can be captured, was also used to collect evidence of student learning.

Embracing a focus on assessment literacy and leadership “whenever” allowed ITLs to

engage in conversations centred on supporting student learning whenever it was safe to do so. Safety was described as an opportunity when a learning stance was in place along with genuine curiosity without fear of reprisal or conflict. The ability to determine the moment to model and foster assessment literacy illustrated ITLs' political skills of networking and their political astuteness. The conditions which ITLs and their collaborators navigated were challenging. As Kate explained:

Part of what you're getting at I think with your question is, "Why is it hard for people to do that collaboration?" You've really got to open up and be willing to say, "Maybe the way I was doing it wasn't the right." It's hard for people to admit, "I need to shift my practice." And it's just human nature that you don't want to go, "Oh my God I've been doing it wrong the last 5 years." And you aren't and you haven't been, but often people will put up a wall or barricade.

The data from this study revealed that the ITLs were able to navigate complex climates and use their political and social capital to engage colleagues in meaningful discussions around assessment.

Leveraging Existing Structures

Another leadership strategy employed by the ITLs was leveraging existing structures. As previously mentioned, the ITLs did not prefer structured, board mandated PL, but they did use these opportunities to trigger more authentic inquiry into their practice and student needs. John and Sara used the board provided time to explore an assessment app to dive deeper into the work on learning maps. This led to other collaborative leadership experiences. As John said:

I'm not a math teacher but it was again a very interesting perspective, but to be

invited to be part of that team just based on work with learning maps, I think that's definitely encouraging and having people there and even at the end of the day I said, "I don't know if I've helped you at all," and they say, "You did, it was a different and fresh perspective to bring."

Gus described how his confidence and focus on students allowed him to use time creatively: "You allow yourself time to experiment more, then you're able to, at least it's my experience, then you can work on these projects that cut to the core of your core belief system, as teacher." Susan and Frankie used time provided through the Student Success Initiative to focus on the use of student conversation as evidence of learning.

Katherine's school had expectations that teams of teachers would collaborate in PL communities (PLCs). With Katherine's influence and leadership, a school wide focus on assessment ensued through the use of smaller PLCs. Katherine leveraged a strong relationship with her vice principal, the need for a focus for the school, and student voice into the rationale for this work. This eventually morphed into an authentic inquiry exploring effective assessment practices and policy interpretation and implementation. Scout and Mashelle also attended PL which they used as a launch for their own inquiry around social justice education and their own assessment practices. As Scout said:

We had attended a presentation by James Banks and we really wanted to incorporate transformative social action into the culminating assignment for grade 10 and then we had asked for some release time from our principal to sit down and formulate an outline for what the assignment would look like and how we would be assessing it. So again, it was like using our experience with PD, but then also seeing what the gaps were with the current culminating assignment and where we wanted the students to be

and trying to bring in authentic assessments.

Similarly, Harpreet and Sonya described their participation in a board mandated PL focused on mathematics. Through this structure, they were able to take time to explore issues that were more specific to the learning needs of their students and their own interest in authentic assessment.

Of the assessment leadership moves that many of the ITLs took was to develop strong collaborative relationships with coaches and therefore leverage the board's encouragement of coaching as a way to find time to collaborate around assessment. Gus and Mike found time and engaged in collaboration, with Mike as an instructional coach and Gus as the classroom teacher. Mike's approach to collaboration and coaching, it must be noted, is rooted in Knight's (2016) "partnership principals," and not a traditional leadership model. Lastly, as a member of an assessment app pilot, Susan and Frankie developed a relationship that allowed them to co-plan, co-teach, and co-debrief, furthering their mutual understanding of assessment and the needs of in-risk learners in mathematics.

Listening, Inviting, and Sharing

Regardless of the varied and complex teaching contexts, all the ITLs were listeners, who authentically invited collaboration and enthusiastically encouraged their colleagues as they explored assessment practices. This leadership strategy was illustrated by Krissy when she described the importance of listening and how focused attention to what colleagues were saying allowed her to respond in a manner that honoured yet challenged thinking.

Subsequently, Susan modelled an assessment leadership move when she shared assessment ideas for colleagues to consider: "So, I put the seed in there, that maybe it's [an existing assessment practice] not quite right and try to find a different way to go about changing how

it was presented.” Philomena and Monica noted the impact of a sincere invitation to a co-learning relationship. They issued an open invitation into their classrooms to each other and their colleagues. These two collaborators broke down traditional classroom practices and engaged in deprivatization to model and facilitate transparent collaboration. Monica stated: “You have to be able to welcome people into your classroom to see what you’re doing.”

Diana openly asked people to join her in piloting new assessment ideas and practices.

Similarly, because of Katherine’s invitational stance to developing assessment literacy, her collaborators and colleagues extended the invitation to others, creating an informal web of go-to people to help support one another around assessment practices. Some ITLs invited colleagues to visit classrooms to explore effective assessment strategies. Krissy described how her department head had nurtured an open-door policy, which she was now encouraging in her own department. She said: “He was very open and transparent in his practice, invited people in any time.” This model of deprivatized leadership practice supported the development of Krissy’s own assessment literacy and leadership.

Vivien invited specific colleagues to collaborate with her on assessment as she was eager for dialogue and professional feedback. She explained that she liked to “work with a few people and then they’ll see the benefit and then that benefit will be passed on through the department.” This ripple effect has been repeatedly noticed. The ITLs used a variety of these assessment leadership moves to listen, invite, and encourage their colleagues during assessment learning opportunities. The most common assessment leadership move was being a sounding board for others. The ITLs were present to listen to colleagues’ ideas, problems of practice, or curiosities. They respond by paraphrasing and asking probing questions. They

encouraged brainstorming and invited others into the conversation. One teacher, Krissy, described her relationship with colleagues as follows:

And then, by listening attentively to what they're already doing, asking appropriate questions at just the right time, prying into just the right thing that they've said, where we can uncover needs in their learning, where it becomes evident that maybe there's something they struggle with, or they're not secure in, or that they want to investigate. And by asking just a few questions at the right time it, sort of, opens up into this inquiry, this work that we can do together.

By listening to colleagues, ITLs showed how they valued others' ideas. They expressed gratitude for sharing and validated others' practices and concerns. Victoria noted the impact of collegial respect when she described PL at her school:

And it's so interesting to see, for example, Emily will get up there [in front of staff] and talk. And everyone, will be listening and valuing viewpoints, so I think it's really, amazing to see. The staff here has such tremendous respect for each other, and they are like a family.

ITLs also validated small steps and encouraged further reflection by inviting colleagues and collaborators to share their experiences more widely and to reflect on the impact on students. Krissy described how she saw her role as one of providing validation. She said, "I feel an obligation as another human being to validate them and say, "You are doing good things. Let's do even better things and let's make you feel good about your teaching." Her goal was to develop assessment literacy through encouraging manageable assessment shifts in practice. At times, when ITLs were engaged with colleagues, they assured them that they could try something new. Kestra described how her own risk-taking

gave her the ability to encourage others. She said, “So when I want to take these risks, I just want to do it because it's cool and I think it'd be great for the students, and the students would have fun and I would have fun and I don't have to read the same assignment over and over again. And they would be more connected and that sort of stuff.” The ITLs encouraged risk-taking and innovation. Gus described the importance of risk-taking when he said, “I was able to gain expertise by making more mistakes faster than anyone else. And that's really what it was. That's how I became that leader. I ended up gaining knowledge very fast, but through lots of mistakes.” One of the ITLs, John, was offered a headship, which he turned down. However, he had a pitch for engaging teachers in assessment conversations. His invitation was as follows: “How would you like to mark less but have your students learn more?” By framing the invitation this way, John was hoping that people would be intrigued and open to change.

ITLs engaged in noticing, naming, and nurturing each other's assessment practices. They noticed when colleagues were using effective and research-based practices. They shared what they knew about those practices and invited ideas and experiences to nurture their thinking. Krissy told of an experience where one colleague had noticed the effects of non-traditional assessment practices on students and approached a colleague and said: “Oh, I'm noticing you're doing things differently. Could we talk about it and could I learn from that?” This act of recognizing practice and encouraging sharing was impactful on the teachers involved. ITLs also were in for the long haul and followed up with colleagues. After an initial conversation or sharing of ideas, ITLs would often remember to follow-up with colleagues so they could dig deeper into the assessment idea or practice. Some did this via email or text and others used planning time to communicate.

The data revealed a pattern that emerged. ITLs were distinguished as idea and action people who love to deepen their assessment practices. Ideas are gathered from research, best practice, or other colleagues. These ideas are then contextualized for their own classrooms. ITLs want to put ideas into action, often collaboratively, and usually in small steps. However, they are also cautious as they navigate assessment literacy and leadership. As Kestra noted: “Don’t give advice when you’re not asked, unless you ask them if they want advice, and then you can give advice.” ITLs seek feedback, extended ideas, solutions to problems, and collaborators. Deprivatizing practice was a way of enacting informal teacher leadership.

Vivien likes to try new things and encourages others to take risks as well. She became aware of problem-based learning (PBL) after seeing some information on Twitter and decided that this might be the hook to increase student engagement. After some initial reading, she began talking to colleagues and getting their input on what PBL would look like in an English classroom. Vivien described her invitational, paced, and collaborative approach with colleagues as follows: “There’s no, ‘We’re going to do it my way.’ For me, it’s all about, ‘This is what I want to do. Can you help me? Can you see what I don’t see?’”

Diana and Katherine convinced their colleagues to join them in trying new assessment practices for specific periods of time. With regards to exploring strategies to triangulate evidence of student learning, Diana said: “I convinced them to try a few things and they did it for a month and they liked it.” Diana’s tactics were scaffolded and included providing a suggestion, or strategy for colleagues to try, followed up with a conversation about how they used the strategy, how they would change the strategy to fit their students’ needs, and prompts for them to further share their reflective experiences. On the other hand, Katherine invited colleagues to join her in the practice of explicitly share learning goals with

students. When discussing the breadth of work that needs to be accomplished around assessment, Tim noted that chunking and scaffolding learning, like we do for students, is necessary to shift practice in a manageable way. Like Diana, Tim said that setting small steps, or partial implementation are processes:

Maybe you do one learning goal per week or you don't maybe negotiate criteria, you don't provide as many formative assessments, not as much detailed feedback. I mean there's lots of ways to cut corners and sometimes you have to because I think personally, if I followed the philosophy I'd never go home.

In addition to invitations and encouragement, finding people to show and share their pedagogical practices with was a strategy all the ITLs used. Harpreet said:

I think it's my duty to them and to myself but as a leader I would say showing my colleagues, it's not imposing the idea, but showing. "This is what I'm doing. What do you think? Give me some feedback." Again, just sharing with the colleagues, never imposing.

Vivien described her knowledge-broker responsibilities to her team as: "bringing ideas to the team and being receptive to their critiques, or that sort of thing." Gabriella described the mini-talks they had in the department at lunch. She suggested that you cannot ask people to come to lunch meetings, but those who are there, benefit and come back when they can. She further explained how she shared ideas: "[I share] informally when questions are asked and I share formally in department meetings and in other meetings. I will not give unsolicited advice. I will share when asked. I will share using Google Docs and in person."

Philomena's assessment leadership move was to publicly share and talk in the workroom. By describing what she was doing, she was inviting conversation and questions.

Monica described how after Philomena shared her practice:

People are kind of intrigued ... she's [Philomena's] getting people on board to say, "Hey, maybe that's something I can try." It's not just about giving information; it's also about kind of encouraging people to look at the way they do things and to maybe try to change that.

The ITLs used a variety of assessment leadership moves to show and share their assessment practices. They invited people to reflect and provide feedback on their shifts in their thinking and assessment practice. ITLs explored research and shared their findings in meetings and during just-in-time experiences when a related topic surfaced in conversation. They were innovative risk-takers who were constantly refining their assessment practices and sharing their assessment strategies in their workrooms, in the staff room, and in PL Networks via Twitter. ITLs knew that sharing successes is a powerful move. They often used short stories or narratives to illustrate their assessment practices and described the impact of those strategies on students. Many of the ITLs were exploring how to triangulate evidence of student learning. They shared their strategies for collecting evidence and data as a way to deprivatize their practice and invite collaboration.

Using a third point allowed the ITLs to direct the conversation away from specific pedagogical practices and judgments to an outside text, or text as expert, which they could then discuss. Victoria states: "We've learned the third point, always go to that, and so then it's not necessarily coming from me, it's coming from, well this is what the board says."

Similarly, when discussing policy, Vivien noted:

The background explanation is there, the "what do we do when" is there in those policies and it gives us a common language, a data point, a third thing. If you're

having a disagreement with someone it's like, "Yeah but the policy says this and we work for the board and so we have to do what they say."

Whether the text be *Growing Success*, board assessment guides, or other literature on assessment, it was an impactful strategy. Katherine used policy to drive conversations: "It's an important tool," she said, when describing how to support colleague in their learning around assessment.

Being Curious and Asking Questions

A common leadership strategy among the ITLs to model professional curiosity. All the ITLs and their colleagues asked questions of themselves and others and wanted to be asked questions. Krissy described how she asked others questions focused on student learning needs when she said:

I start asking questions about students, and where they're struggling and what issues they're having. And then, ideally, to make it better for students as well as for teachers who aren't comfortable in engaging students in the assessment process.

The practice of asking effective questions was seen as a courteous and inquiry focused way of exploring practice and opening up to new thinking, particularly related to assessment.

Susan explained how she modelled curiosity through an assessment leadership move when she stated: "Either questioning the practices that are already taking place or being a little bit of a devil's advocate and saying, 'Are we really assessing this particular criteria in the curriculum or are we looking for something else?'"

Dean noted how his colleague asked him how a new assessment practice connected with his previous practice. This one question allowed him to safely transition to a new idea, still valuing his previous thinking, but shifting it forward. Harpreet provided significant

reflective prompts that she used to drive her assessment curiosities and informal teacher leadership. When she explored a new idea or strategy, she asked herself: “Is it making an impact? Is that improving their learning at the end of the day? And is it improving my instruction practices as an individual?” Dinusha stated that she needed her colleagues to ask her questions, to challenge her thinking and to move her forward. The ITLs perceived questioning as an essential component of their practices and the data revealed that this leadership strategy resulted in meaningful and engaging assessment conversations. By asking these questions and being curious, ITLs were aiming to be responsive to student learning and surfacing teacher understandings. This, in turn, led to co-constructing assessment literacy.

Co-Constructing Assessment Literacy

The actions associated with assessment literacy and leadership were varied and had great breadth, but all the ITLs collaboratively built assessment literacy through the co-construction of assessment tools, tasks, and supports. Jacqueline described this component of her collaborative practice with Vivien when she said:

We talked a lot about formative and summative assessment. And we looked at—we construct our works together if we’re not doing it with the kids. She does more co-constructing with the kids, I don’t find it as beneficial a practice. But we would work on rubrics together, we would work on, “What’s our criteria? How do we want to do this? Is this formative assessment really learning towards summative assessment?”

Many ITLs supported students’ assessment literacy and then shared this practice with colleagues. John described how he developed assessment literacy among students and encouraged them to be advocates for their assessment rights with other teachers:

There are a lot of students that will say, “Well, how come my other teachers aren’t

doing this?” And I might say, “Well, we’re trying. We’re trying to help other people. I’m showing other people this. You can tell other teachers too. Like, you know, in this class we tried this [assessment practice] and this [outcome] happened.” And I said, “Try not to name names if you can avoid it, but if you do that's fine.” People can say, “I can't control what the kids are saying.” So, I think when I'm in class, I explain to the kids what the board has to offer.

Gabriella described how she shared her assessment understandings with students through conversations around grading practices, achievement chart categories, learning goals, and success criteria. She felt that for her English Language Learners and students who are new Canadians, these conversations were significant as they often clarified Canadian approaches to assessment that some students may not be familiar with. ITLs described how they built rubrics, assessment tasks, learning maps, learning goals, and success criteria. They also publicly deprivatized practice and designed and led formal and informal PL opportunities for colleagues. Most importantly they discussed the importance of collaborative reflection as a way to build assessment literacy. Specifically, Amara modelled reflection in action and reflection on action when she described her collaborative assessment practices with Victoria in their shared art program: “We’re kind of like reflecting as we're going, but then we’re going to probably have, a debrief meeting at the end of the week and figure out what to change and what to keep.”

Part of reflection is noting failures and admitting to errors. Like Gabriella, Dean openly admitted to perceived errors and failures and asked others for their thoughts. Dean talked through his thinking when he said: “I was wondering as I was talking and moving

beyond grades of course, ... about these things if I was – if one piece (of previous assessment practice) was contradicting the other, and what do I do with that if that’s the case?”

Similarly, Mashelle described her ongoing personal reflective practice as follows.

I guess just reflecting back on what worked and what didn’t work with the grade 10 program and just trying to implement those changes and trying to, again, like I was saying, bring in those transformative social practices and getting the students actually involved.

Making their thinking and practice visible resulted in increased colleague engagement.

According to the ITLs, other colleagues were beginning to reflect more openly on assessment strategies and seeking guidance in the form of best practice.

Conclusion

This chapter presented the findings of the qualitative research conducted over two years with 11 ITLs and their 17 collaborators. The data provided evidence that helped to clarify the perceived nature and purpose of ITLs. Participants’ narratives revealed that they were responsive leaders who developed collaborative and reciprocal relationships. They are focused on results and ground their practice in a reflective stance. As such, it was clear that ITLs were constructivist teacher leaders who needed to solve meaningful and contextual problems connected to student learning. ITLs acted as advocates for learning, among students, teachers, and themselves. They strove to build capacity in other teachers. They navigated the complexity of the organizational factors by noting the varying conditions of their work to build effective relationships, use resources innovatively, leverage PL for personal needs and develop their own assessment literacy. Although not all the ITLs had previous facilitation or leaderships training, they all used five foundational strategies to move conversations forward with specific moves related to assessment.

CHAPTER FIVE: DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

This chapter begins with an overview of the study, which blends a focus on informal teacher leadership and classroom assessment practices to explore secondary school teachers' perceptions of how they collaboratively construct and implement classroom assessment policy and practice. The key findings and implications that emerged from this 2-year constructivist inquiry were grounded by the following question: What are informal secondary school teacher leaders' perceptions of how they collaboratively construct and implement classroom assessment policies and practices? The research was also guided by three subsidiary questions. These questions reflect the constructivist ontological assumption that the social milieu will shape actors' responses (Finnemore & Sikkink, 2001). They are:

1. What is the perceived purpose and nature of ITLs' roles when constructed by teacher leaders and their teacher colleagues?
2. How do ITLs navigate the organizational factors and conditions as they engage in collaborative work related to classroom assessment policies and practices?
3. How do ITLs leverage specific strategies to collectively support and implement classroom assessment policies and practices?

The chapter then presents the implications of the findings and their connection to current teacher leadership literature and assessment policy and practices. The application of constructivist leadership theory and constructivist research is explained as they relate to the informal teacher leadership findings. Finally, this chapter offers recommendations to improve the theory and practice of teacher leadership, particularly as it relates to ITLs. It then leads to recommendations for policy at the provincial, district, and school level related to assessment and teacher leadership. This chapter concludes with proposed next steps and final thoughts.

Overview of Results

This constructivist inquiry provided insight into the informal teacher leadership practices that exist in a diverse and large school district. It surfaced perceptions and contexts of their roles. It presented the strategies often used by ITLs to initiate and foster assessment conversations. The analysis outlines how regardless of context, ITLs focus on supporting learning in students, themselves, and colleagues and they do so by maintaining four strategic stances. The data revealed that ITLs hold stances that show how they were responsive to their leadership and learning contexts, reciprocal lead learners, reflective practitioners; and results oriented as they look for impact on student learning and their own self-efficacy as a teacher leader. They focused on what worked well and extended or tried other assessment strategies when they did not meet with success in the form of increased student learning. They unlearned and challenged existing assessment strategies and practices that they knew to be ineffective. The conditions that existed for ITLs were diverse and had great breadth, but all the ITLs in this study experienced contexts that included the following conditions: collaborative relationships, access to resources, PL, assessment literacy, and obstacles.

The ITLs in this study used five leadership strategies, with supportive assessment leadership moves, to support assessment conversations. The leadership strategies employed were strategies that the ITLs had developed out of leadership practice and PL, or strategies that had developed because of the translation of practice from classroom instruction. A subset of these broader leadership moves were assessment leadership moves, which were identified as more specific leadership tactics (moves) related to developing a collaborative understanding of assessment practice aligned to policy. The leadership strategies were articulated and described by various ITLs and colleagues with noted success. First, the ITLs

believe that PL should have no boundaries and attended to a philosophy of learning whenever, wherever, and however, supporting Yow's (2007) contention that teachers who engage in policy interpretation often do so quietly and strategically. Participants also relied on their social and political capital and interpersonal skills to support colleagues. To do this, they leverage existing structures to engage in assessment conversations. They listen, invite, and encourage reflective dialogue around assessment practice. The ITLs are focused on deprivatizing practice and actively showing and sharing elements of their own practice. They express authentic curiosity and ask questions when they feel they can. Lastly, they invite collaborative construction of meaning and assessment tasks, tools, and strategies.

Discussion

The data from this research were analyzed according to the questions asked of research participants. The findings support and extend the existing literature on the purpose and nature of teacher leadership, explore the organizational factors and conditions impacting teacher leadership, and identify the strategies used by teacher leaders. This research outlines how ITLs are the unseen movers and shakers in schools because of their focus on student and PL. Without a formal title, ITLs leverage their social and political capital to engage colleagues in meaningful assessment collaborations.

Purpose and Nature of Informal Teacher Leadership

ITLs and collaborators in this study engaged in rich conversation about their assessment leadership and learning practices, which illustrated their perceptions of informal teacher leadership. The participants were eager to share their narratives and lived experiences and felt validated and confident in their grassroots, negotiated, and complex leadership practices. Consistent with Lieberman and Friedrich (2010), they describe how their identity

as a teacher leader had evolved over a course of time. Their leadership practices were responsive to the people and contexts in which they worked and grounded in a focus on learning. Their assessment leadership showed how they engaged in self-exploration of assessment practice and their responsiveness to policy and student learning needs. All the ITLs shared rich examples of success, frustration, and curiosity, like the narratives shared by participants in Lieberman et al.'s (2017) TLLP study. However, added to this perception of teacher leadership was the set of leadership strategies and moves that they used to foster assessment conversations while working in their collaborative teams.

The ITLs valued their collaborators as trusted individuals who would provide professional feedback and continue to support their explorations to increase student and their own learning. The engagement in informal teacher leadership was co-constructed. This extends descriptions of teacher leaders as those with individually constructed roles to include the notion of co-constructing the role and negotiating the role between informal teacher leadership and their collaborators (Killion & Harrison, 2006). Their frankness and enthusiasm fed the authentic findings of this research. In their recent book, *Teacher Learning and Leadership*, Lieberman et al. (2017) note that:

We are at a pivotal moment where there is growing concern about the limitations of “top-down” or “bottom-up” educational change—improvement cannot be simply driven down by a system into classrooms, nor can it be based on individual practices that are not shared and supported more widely. (p. 11)

The ITLs in this study have influence that is built collaboratively with a clear focus on learning and predicated on effective leadership strategies and moves. One of the factors that does not affect ITLs is managerial responsibilities. This differentiated ITLs from formal

teacher leaders, who often hold such duties (York-Barr & Duke, 2004). None of the participants felt constrained by administrative duties or requirements to liaise between administration and other colleagues. ITLs were responsive, reciprocal, results oriented, and reflective. Shared leadership practices were visible in schools where ITLs operated with a more collaborative approach to leadership. Administrators with ITLs in the building held a learning and leadership stance that was open and encouraged discourse. This environment fostered further leadership and engagement in discussion of student learning with a strong assessment lens.

The findings revealed that ITLs ground their purpose in learning. Teacher leadership with a focus on life-long learning is addressed by Angelle and DeHart (2011) and Katzenmeyer and Moller's (2009). However, the tri-fold focus on learning for students, self, and others found in this research extends other definitions of teacher leadership that are concentrated primarily on improving student learning (Angelle & DeHart 2011; Stein, 2014). Collinson's (2004) research indicates that "exemplary teachers consistently indicate that their primary emphasis is on leading learning, for students, themselves, and other adults in the learning community" (p. 325). The research participants all articulated a clear focus on improving learning for students; however, they simultaneously recognized that they needed to support their own PL and they preferred to do so collaboratively with colleagues, reinforcing Collinson's ideas and extending traditional notions of teacher leadership.

ITLs used strategies, not rules, collaborative alliances, not departmental structures, and influence, not power to make changes to assessment practices, illustrating how informal teacher leadership is a politically and socially constructed reality. These micropolitical notions are explained by Hoyle (1982) when he states that micropolitics "embraces those

strategies by which individuals and groups in organizational contexts seek to use their resources of power and influence to further their interests” (p. 88) but that it is “difficult to disentangle the personal, the professional and the political at a substantive level” (p. 89) resulting in interests often being pursued collaboratively.

Flessa’s (2009) exploration of micropolitical maneuvering reflects Hoyle’s (1982) understanding of the micropolitics but extends it to the ideas of distributed leadership in schools. Angelle and DeHart (2011) note that teacher leaders have credibility by peers which allows them to affect change. This aligns with Yow’s (2007) findings that teacher leaders use strategies to quietly shift policy and practice. The strategies used by ITLs included developing communities, like those described by Achinstein (2002) as:

a group of people across a school who are engaged in common work; share to a certain degree a set of values, norms, and orientations towards teaching, students, and schooling; and operate collaboratively with structures that foster interdependence.
(pp. 421-422)

Teacher leaders create an impact in schools because of their pedagogical skill and social and political capital. Despite this recognition, many teacher leaders eschew the “leadership” label as it does not fit their construct of leadership enacted from within the classroom (Angelle & DeHart, 2011; Clarke, 2009; Glover & Miller, 1999). Evidence of the reluctance to be identified as a teacher leader is present in the literature. Andrews and Crowther (2002), Katzenmeyer and Moller (2009), Leithwood and Jantzi (1998), and Little (1990) all note that this identification as a teacher leader results in teachers being pulled physically or philosophically away from the practices of teaching students and put them at odds with the normative notions in teaching, such as lack of hierarchy among teachers,

valuing recent classroom practice and that teacher work resides in the classroom. These normative notions situate teacher identity within the classroom and can be in response to pressure from colleagues and/or fear of negative repercussion. When asked about their role as a teacher leader, three participants were vocal in eschewing the title and responded by stating that they were merely doing their job and that they were not looking for formal positions of responsibility. The refusal of the leadership label indicates a more systemic and vocal distrust of traditional and or hierarchical notions of leadership and a preference for shared leadership models. This notion connects to Gharmrawi's (2013) research in which teacher leaders attended to the importance of being perceived as equal to other teachers despite their leadership role. Teacher leaders have added challenges because of the complexity of recent shifts in classroom assessment practices and the micropolitical climate that exists in each school. The implications of this finding are that some ITLs were refuting the traditional notion of hierarchy and forging their own co-constructed leadership identities to operate within complex micropolitical situations. ITLs were leveraging their influence, as derived from Hoyle's (1982) explanation which includes accessible sources of personality, expertise, access to information and resources.

However, as a deeper understanding of the breadth and diversity of teacher leadership increases, more ITLs are using the term, but defining it for their own contexts. With this act, teachers are exerting their influence by taking hold of the leadership within schools and challenging traditional notions of leadership residing with only administrators and formal teacher leaders. This reconstruction of the definition of teacher leadership requires current norms to expand the construct to better reflect the diversity of teachers taking on these roles. As Flessa (2009) suggests when referring to the work of Cuban (1988), leadership has three

components: instructional, managerial, and political. For ITLs, their form of leadership includes instructional and political aspects. Nine of the ITLs in this study self-identified as teacher leaders and clearly articulated their understanding of their roles. This confidence in their own role definition challenges often cited research conducted with formal teacher leaders which explored role confusion (Schmidt, 2000) or the research exploring ambiguity among department heads by Mayers and Zepeda (2002). Additionally, when ITLs were asked about their teacher leadership role responsibilities, many struggled with the notion of their individual and collaborative efforts as being a role. More were inclined to indicate that their informal teacher leadership efforts were a facet of their personal response to their professional identity. This supports Frost's (2014) contention that the term 'informal role' connotes additional responsibility as opposed to an aspect of being a teacher, building on the constructivist belief that every teacher has the ability to lead (Lambert, 2003).

Ten of the ITLs in this study described their efforts as a professional responsibility, not a moral one. Some ITLs were disinclined to use the term "moral purpose" (Barber & Fullan, 2005, para. 5) as a way to describe their leadership efforts as an ITL, but were more inclined to describe it as a permeating aspect of all their work and a guaranteed aspect of their professional responsibilities as outlined by the Ontario College of Teachers' (OCT's) *Standards of Practice for the Teaching Profession*. ITLs spoke about professional identity first and ethical responsibilities second. This would indicate a shift in perception of teaching as a job to teaching as a profession. Ethics did not surface at first because the idea of teaching as a profession is now more common. The OCT (2018) website cites "Leadership in Learning Communities" as a standard, which states,

Members promote and participate in the creation of collaborative, safe and supportive

learning communities. They recognize their shared responsibilities and their leadership roles in order to facilitate student success. Members maintain and uphold the principles of the ethical standards in these learning communities. (para. 6)

This also speaks to the difference between administrative leadership and teacher leadership, illustrating a technical rational approach with the shift to looking at competencies as an example, with ethics as a component. Therefore, ITLs recognize that their goal is to support learning and to do so collaboratively, but not necessarily out of a moral responsibility, but out of a professional responsibility, shift the discourse of Fullan's notion of moral purpose and extending teacher's sense of identity as professionals.

The four Rs are more succinct iterations of Lambert's (2003) descriptions of constructivist learning and leadership. Lambert (1995) defines constructivist leadership as a "reciprocal process that enables ... participants in an educational community to construct meanings ... that lead toward a common purpose of schooling" (p. 32). The framing of the four R stances prioritizes the collaborative learner and learning, as opposed to other approaches and descriptions of constructivist learning which prioritize teacher action within an inquiry-based environment (Brooks & Grennon Brooks, 1999; Leadership and Teacher Development Branch, 2005; Timperley, Wilson, Barrar, & Fung, 2007). In his research on PL for science educators, Reiser (2013) asserts that "A clear implication of designing for active learning "in, from, and for practice" is the emphasis on constructing *collaborative* learning environments, in which teachers work together to understand, apply, and reflect on the reforms" (p.16). This addition and extension to the definition of teacher leadership also includes student participation and or student ability to actively engage in co-construction of meaning with teachers. ITLs describe their learning and leadership as a blended and

condensed version of these principles which are grounded in their dispositions to foster constructivist learning environments. This finding stands apart from other leadership models where leadership is more hierarchical, less collaborative, and although focused on student learning, not responsive to student learning.

ITLs' construction of professional responsibility to lead and focus on learning was grounded in the four Rs or stances, which are to be responsive, reflective, reciprocal, and results oriented. These four Rs are illustrative of the transformative shifts in education as outlined by Lieberman and Miller (2004) which include moves away "from individualism to professional community", away "from teaching at the center to learner at the centre," and "away from technical and managed work to inquiry and leadership" (p. 11). Walker and Lambert (1995) also identify principles of constructivist learning theory which connect to the findings of this study. These principles include the notion that knowledge and beliefs are formed within the learner, or in this case, the informal teacher leader. ITLs had a sense of understanding and underlying philosophical stance toward assessment that informed how they enacted their leadership role.

Even when ITLs were engaged in PL that they identified as less useful, they used their experiences, knowledge, and beliefs to forge a new focus, or influence a new direction. They also leveraged collaboration as way to engage in shared inquiry and to set personal goals that fostered self-assessment and reflection. ITLs recognized that their individual and collaborative work around assessment used a variety of processes and resulted in sometime surprising outcomes. Like the teachers in Liu and Tsai's (2017) research, the ITLs also noted safety in conversation when "teacher collaboration focuses on students' learning

performances” (p. 164). Conversations were more open when focused on student learning and not on individual teacher practice.

The ITLs in this study are responsive to the learning needs of students and colleagues, illustrating how constructivist approaches to assessment can allow educators to use an assessment process that leads to improved student learning and teacher practice (Stiggins, 2004). ITLs described how they were constantly being presented with learning situations, evidence of learning, and assessment ideas that provoked reflection and change in practice. As with the constructivist learning principles that focus on developing shared knowledge and beliefs impacted by their own experiences, the ITLs were focused on changes that they deemed to be necessary to support student learning and extend teacher capacity. Therefore, their responsiveness was a professional responsibility, which also extends to collaboratively envelop others who wanted to positively affect student learning through assessment practices. As noted previously, the OCT standards and ethics provide a framework for the kinds of leadership that teachers enact, whereas the Ontario Leadership Framework continues to frame only school-based administrator practice.

These ITLs are curious and reflective practitioners who are constantly seeking new ways of thinking and doing assessment. Lambert (2003) states that, “when actively engaged in reflective dialogue, adults become more complex in their thinking about the world, more tolerant of diverse perspectives, more flexible and open toward new experiences” (p. 28). ITLs used a reflective process to imbue experiences with meaning and to make connections to leadership and assessment. Additionally, this focus on reflection is a key component of constructivist learning. The ITLs in this study reflect independently and collaboratively with colleagues, extending existing notions of teacher leadership as an independent reflective

opportunity. The ITLs determined the assessment ideas that they wanted to explore, reviewed their current situations and contexts, and then set out a plan to try new assessment practices. These practices were often done independently, then collaboratively, and reflected both the ITLs personal thinking and their colleagues. Some ITLs noted how they felt more comfortable trying a practice first, then engaging their collaborators in the co-reflection once they had evidence of student learning.

ITLs believed in reciprocal relationships and experiences which went beyond sharing. Whether it was ideas, feedback, or mindful attention, the ITLs and their collaborators focused on building understandings and practices together. Like the teacher leaders in Gharmrawi's (2013) research participants feel that collaborative learning empowered them as leaders. Walker and Lambert (1995) define constructivist leadership, in part, as a reciprocal process because it manifests itself in relationships. In this study, the notion of reciprocal process was extended beyond developing common understandings of teaching and learning to a process that specifically included Assessment for Learning (AfL) (Black & Wiliam, 1998) as a reflective process for students and as part of their own professional dialogue. With both students and teachers, ITLs used the AfL strategies of co-constructing goals and criteria, asking pivotal and important questions, providing feedback, and self-assessing. The ITLs felt that their reciprocal relationships were empowering as they allowed educators to also use a gradual release of responsibility model when trying new assessment practices in their classroom.

Lastly, the ITLs responded to results. The constructivist learning principles consistent with Walker and Lambert (1995) constructivist leadership framework stipulate that learners assess their learning and are open to various forms of evidence of learning. The ITLs in this

study were focused on extending their own learning through the learning of students and with colleagues, they often explored students' perceptual data and achievement data to determine impact. They described being proud when they experienced success through increased student learning and noticed ripple effects among students that extended beyond their own classrooms. For example, students would request other teachers to share learning goals and success criteria so that their learning expectations could be made clearer. Lieberman and Miller (2004) suggest that teacher leaders make a difference by being advocates for effective assessment, innovators with respect to the norms of learning, and stewards for the education profession. The ITLs in this study met those expectations and others focusing on students' and colleagues' learning, seeing the impact of shifting assessment practices through changing learning behaviours.

Organizational Factors and Conditions Impacting ITLs

The second question posed in this research was exploring the organizational factors and conditions that impact ITLs. The student participants experienced five conditions that impacted their ability to learn and lead. Supportive conditions foster greater teacher efficacy and effectiveness and lead to increased student success. In their research exploring models of PL as interventions in secondary schools, Highfield and Roberstson (2015) note:

As teacher effectiveness is such an important factor in determining student achievement and attainment, the extent that teacher leadership can act as a catalyst for improving practice, changing beliefs and behaviours and positively impacting on effectiveness in the classroom is central to the intervention. (p. 211)

The five conditions that ITLs experienced were: (a) collaborative relationships, (b) access to resources, (c) PL, (d) assessment literacy, and (e) obstacles.

Collaborative Relationships

Trusting relationships are essential to collaborations that focus on and support improving student learning (Gharmrawi, 2013; Seashore Louis, 2007). Trusting relationships among educators allow positive change to happen because of support for risk-taking and non-judgmental engagement (Browning, 2014). Constructivist leadership, as a process, requires positive and trusting relationships among educators (Lambert, 1995). The ITLs all spoke to the necessity and power of trusting collaborative relationships. However, there was great variation in the amount of trust and support they experienced in their buildings. The ITLs identified some tension and conflict between themselves as ITLs and formal leaders such as vice principals, principals, and more specifically, department heads. These tensions surfaced around the amount of influence, access to resources, and how their innovative assessment practices, which differed from their colleagues, causing conflict among teachers.

Trust was developed among the participants over time, with much collaboration rooted in friendship as well as professionalism. The notion of friendship is often overlooked in teacher leadership literature. However, in this study, like in Browning (2014), friendship seemed to emanate from relationships where educators took time to get to know one another and was a strategy for building relationships. As a way to increase trust, Browning (2014) suggests that leaders engage in practices that build up the relationships. These practices include, but are not limited to, admitting mistakes, providing time to listen, making non-judgmental comments and affirmations, and holding a consultative and mentoring stance. The ITLs modelled some of these practices and added others. Having administrator or department head trust allowed ITLs to propose and explore further inquiries and strategies. When trust was not apparent, ITLs felt like they had to struggle to find support and often

sought support outside their school. As Hargreaves and Fink (2013) state, “In relationships and organizations, trust amounts to people being able to rely on each other, so that their world and relationships have coherence and continuity” (p. 508).

Access to Resources

Having access to resources in a just-in-time fashion is a supportive organizational factor for constructivist teacher leadership and learning and is one of 10 steps for transformative PL (Mezirow & Associates, 2000). In her study of teacher leaders, Mangin and Stoelinga (2008) reference French and Raven’s (1959) taxonomy for bases of power for social influence. Hoyle (1982) suggests that influence can include resource access. Accessing resources in a timely manner was important for many of the ITLs. They wanted to be able to explore an idea or try a new practice in the moment and when they had time. They wanted to be able to engage students with a practice when they felt it was most appropriate. If they had to wait for a book, iPad or app, often the moment or interest was lost. Even though many resources are now available digitally, some collaborators depended on the ITLs for their ability to retrieve both non-digital and digital resources, modelling not only knowledge brokering, but also tech brokering. Most significantly, the educators in this study wanted time to engage in PL in way that was job-embedded and did not require them to leave their schools. They consistently stated that they did not have sufficient time in their day to collaborate with colleagues and they were often unable to attend district organized after-school PL. The absence of time for PL is a consistent message in the teacher leadership literature.

Rutherford (2016) described how Ontario educators are leveraging technology, and Twitter in particular, to lead and develop their PL networks. She stated: “Tech-enabled

teacher leaders capitalize on the collaborative and participatory nature of web-based technologies such as social media and video conferencing to engage in actions that intentionally influence the knowledge and practice of others” (para. 3). This was also the case for the majority of ITLs in this study. Twelve of the participants leveraged social media and technology to develop and expand their PL networks as a tool to explore assessment literacy and leadership beyond their school. This strategy extended the definition of teacher leader beyond the school to include educators who truly co-construct their own PL network based on their interests and learning needs. The implications of technology enabled teacher leadership and its impact on teacher collaboration have been limited in the literature outside of Rutherford’s work and this requires further exploration.

Additionally, ITLs knew who to ask for resources, demonstrating another facet of French and Raven’s (1959) bases of power through access to resources and the required political acumen to navigate the micropolitical dynamics. Whether resources came from instructional coaches or coordinators, administrators, or colleagues, ITLs illustrated their ability to understand systems and navigate complex schools to get access to resources for their leadership and collaborative work. Gharmrawi (2013) identified the importance of subject leaders’ role in securing “structures within which teachers can practice leadership” (p. 156). Some of the ITLs in this study expressed the importance of their department head’s support and encouragement for their leadership and for the provision of resources. This ability to access resources was strengthened through ITLs ability to develop and maintain social connections, another component of French and Raven’s taxonomy for bases of power for social influence. However, this component is more fully contextualized for teacher leaders through the work of O’Connor and Boles (as cited in Murphy, 2005), who identify

“understanding of politics, power and authority, skill in managing interpersonal relationships and understanding of group dynamics” as three core teacher leadership competencies (p. 70). Chew and Andrews (2010) contend that “principals need to support the enabling of leadership among teachers by giving them the space, time and responsibility to make decisions about curriculum work and ensuring that these are aligned with new organizational structures and processes” (p. 59).

Of all the resources in demand, time is the most sought after and this holds true for the ITLs in this study as well. The ITLs did not hold positions of responsibility and they did not have regularly scheduled release time for their collaborative work. Additionally, as many of the ITLs grounded their identity in being responsive classroom teachers, they were often reluctant to take release time to engage in inquiry that pulled them from the classroom.

Professional Learning

There are decades of research indicating the importance of PL and leadership for educators. However, the type and quality of PL must be addressed. Lambert (1995) suggests that leadership “must be formed around the principles of constructivist learning for adults that captures these possibilities for learning” (p. 29). Easton (2008) extends this idea by stating:

It is clearer today than ever that educators need to learn, and that’s why *PL* has replaced *professional development*. Developing is not enough. Educators must be knowledgeable and wise. They must know enough in order to change. They must change in order to get different results. They must become learners. (p. 756)

However, how teachers engage in PL is significant. More and more researchers (Cochran-Smith & Stern, 2015; Donahoo, 2013; Lieberman et al., 2017) are identifying the impact of

collaborative PL which is strongly rooted in a constructivist inquiry stance. Harris and Jones (2017) state:

The prime aim of teachers inquiring together is to assess and evaluate ideas, to make professional judgements and to reject approaches that they feel have little substance or limited empirical verification. In this respect, teachers are given the responsibility, within their collaborative work, to decide if an idea or approach has any value and through their critical, collective inquiry to decide what to try and test out. (p. 332)

In this study, research participants relished opportunities to collaboratively explore their personal assessment curiosities connected to their immediate classrooms, engage in risk-taking. They were less inclined to participate in board mandated PL that was not teacher directed or relevant to their personal learning needs. Therefore, they experienced frustration when pulled for system level PD which was ineffective. However, as they were ITLs, they chose when to work and with whom, a luxury that formal teacher leaders often do not have. As Collay (2011) suggests, “Teachers attribute their own learning to peers in most cases, rather than the principal or professional developers who are not regular members of the staff. They vest authority in their own experience and in their colleagues’ technical expertise” (p. 85). This notion was loudly articulated by participants like Jacqueline and Vivien who wanted to learn from colleagues, but also wanted to be inspired by outside assessment leaders who could be seen as “research brokers” (Highfield & Robertson, 2015).

Assessment Literacy

ITLs took great effort and thought to navigate their learning organizations to support assessment literacy. Assessment literacy is foundational to teaching and learning (Huang & He, 2016; Popham, 2011a; Stiggins, 1991, 2014; Volante & Fazio, 2007). It allows educators

to support modern learners with thoughtful personalized assessment so that instruction and feedback can be tailored to student needs (Browning, 2014; DeLuca et al., 2014). As Stein (2014) notes, this requires effective teacher leaders to know their students. Classroom assessment in 2018 focuses on the process of meeting learner needs as well as the teaching expectations outlined in curriculum by collecting and analyzing evidence of student learning. That assessment literacy varies in depth and breadth among Ontario educators (DeLuca, Luu, Youyi, & Klinger, 2012; Klinger et al., 2012) was most certainly noticed among the ITLs and their collaborators. The research participants described their respective schools as having various levels of assessment literacy with some administrators and colleagues being thoughtful of assessment nuances and others sticking to traditional assessment practices. If assessment literate teachers are educators who embrace and enact assessment as a process and set and differentiate assessment purposes, this needs still to be communicated and reinforced in Ontario. Numerous definitions and characteristics exist for assessment literacy (see Huang & He, 2016; Sadler, 1998). Yet, there are also no clear connections to assessment outlined in the OCT's (2018) *Standards of Practice for the Teaching Profession*.

The skill of noticing and naming learning is not often noted in the discourse around assessment literacy. Noticing and naming learning in the moment is a strategy pulled from the early years (OME, 2016a). Engaging students in conversation about their learning requires an assessment literate teacher who understands a myriad of ways that students can demonstrate their knowledge and skill. Noticing and naming is effective when the educator is using learning goals and success criteria as the lens through which to observe (The Literacy and Numeracy Secretariat, 2015). The need to be explicit with students about the goals and purposes of learning is reinforced by Creighton, Tobey, Karnowski, and Fagen (2016). They

contend that “students benefit from teachers being explicit with them about purpose and various parts of formative assessment” (p. 18). Similarly, teachers’ ability to notice and name the effective assessment practice and use it as a tool to reflect upon and adjust their practice is also essential (OME, 2016a). This extension of assessment literacy then reconnects with the foundational reflective skills of teachers being able to adjust their own instruction and provide meaningful feedback to students to move them forward. Lastly, the participants confirmed what Wiliam (2011) identifies as a know–do gap in assessment literacy. Educators may understand effective assessment strategies, but have yet to implement these strategies in their classrooms.

Obstacles to Informal Teacher Leadership

Obstacles, temporary or inconvenient conditions, exist for all leaders; however, they are not barriers which prohibit continued leadership. Often cited obstacles to teacher leadership are role confusion, exhaustion, and lack of support at the school because of the hierarchical nature (Lieberman & Miller, 2004). Obstacles exist for the ITLs in this study as they do for other leaders, but these ITLs did not note role confusion or ambiguity, further differentiating the experiences of formal teacher leaders from ITLs. One obstacle that surfaced for many ITLs was the tension between formal and ITLs. Because the ITLs were not constrained by a formal role, they often engaged in leadership processes that had them abutting, not dove tailing with formal teacher leaders, resulting in tension or conflict. This is unfortunate, because as Gharmrawi (2013) discovered, subject heads play more of a critical role in developing leadership among teachers than administrators. This tension between formal and informal leadership roles has not yet been fully explored in the literature.

When ITLs experienced obstacles, they used their leadership acumen to maneuver.

Harris (2003) notes that ITLs have no formal authority but do have influence. While the former was occasionally seen as an obstacle, the ITLs used their micropolitical skill to co-create understanding and to share in meaning making as a way to deal with the lack of authority. Additionally, the teacher union was cited as an obstacle for some teacher leaders, particularly as their work related to assessment. Foster and St. Hilaire (2004) also noted how unions were often obstacles for teacher leaders in the U.K. as they have the power to limit the time teachers are required to meet to collaborate. Last, one obstacle that many of the ITLs experienced was developing leadership acumen. They tried strategies and moves as a way to explore their leadership experiences and to connect with colleagues. However, at times they experienced push back and resistance from colleagues who were not yet ready to explore new ideas, particularly related to assessment practices.

The literature also identifies a confluence of teacher responsibilities as obstacles to leadership (Barth, 2001; Clarke, 2009; Murphy, 2005; York-Barr & Duke, 2004). No longer is an educator simply responsible for teaching students in a classroom. Research participants identified obstacles as additional responsibilities beyond teaching and included the following: navigating committee work, teacher-led inquiry, extracurricular responsibilities, duties associated with room and office maintenance no longer done by custodial staff, dealing with technology and supporting parents. In their study of elementary teachers over a 4-year period, Vallie and Buese (2007) identified instructional practices, institutional conditions, collaboration, and learning as four areas that experienced significant change for teachers due to pressures to implement a differentiation instructional policy. This policy in turn affected teachers' relationships with students, pedagogy, and their stress levels. Barth (2001) also noted that teachers are burdened with excessive responsibilities. Despite these obstacles,

teachers maintain a professional interest in promoting effective teaching and learning environments and continue to take on teacher leadership roles.

The current era of accountability in education is repeatedly cited as problematic for teachers, teacher leaders, and administrators (Barth, 2001; Hewitt et al., 2011; Klinger et al., 2012; Wells, 2012). Additionally, large-scale assessment and accountability measures place significant pressures on teachers who are then reluctant to engage in risk-taking (Klinger & Rogers, 2011). Hargreaves (2010) suggests that because of the current culture of accountability, even educators are looking for quick fixes to increasing student achievement on standardized tests; he cites instances of a “new conservatism where collaborative interactions were pleasurable, but also hurried, uncritical, and narrow” (p. 340) as opposed to ongoing and meaningful discourse about student learning. Teacher leaders along with a PL culture based on collaboration and research will mitigate accountability stressors.

Increasingly in the United States and other jurisdictions, teacher leadership credentialing has become legislated with teacher leaders being required to certify or meet state standards (Poekert, 2012). This, coupled with the increasing pressures and responsibilities of administrators has created tension in schools. Principals are the primary influence on teacher leaders; they are also the primary gatekeepers to those who come into schools and act as supports (Abbott et al., 2011). Many administrators lack the instructional knowledge to support teacher collaboration, particularly regarding assessment (Volante & Cherubini, 2011) and as such, further tensions ensue. Additionally, administrators often self-identify as instructional leaders, yet lament insufficient time spent collaborating with teachers to lead instruction and assessment programming. This is an often cited disconnect for those who move to the role of the vice principal—their administrative role is very different from

their teaching role, leading to role confusion and frustration with the work (Armstrong, 2009; Shumate et al., 2005).

Leadership Strategies Used by ITLs

The ITLs in this study used four common leadership strategies regardless of context or other experiences that were consistent with definitions of constructivist leading and learning. In her study of leadership capacity, Lambert (2006) outlines numerous strategies or “processes” that were successfully implemented and effectively supportive of student learning. These reciprocal leadership processes (a) evoke potential in a trusting environment; (b) reconstruct, or “break set,” with old assumptions and myths; (c) focus on the construction of meaning; and (d) frame actions that embody new behaviours and purposeful intentions (p. 36). Katz and Dack (2012) classify this as learning because of its permanent change in behaviour. Lambert’s (2006) notion of constructivist learning is explained as “the reciprocal processes that enable participants in an educational community to construct meaning that lead toward a common purpose about schooling” (p. 3). Teacher leadership strategies reflect the tenets of constructivist learning and similarly, they illustrate some of Lieberman and Friendrich’s (2010) social practices used by the teacher leaders in their research. The ITLs in this study modelled these social practices when they approached colleagues, honoured teacher knowledge, created public forums to share, devolved leadership, provided multiple entry points, guided reflection, and supported an inquiry stance.

Each of the aforementioned leadership strategies had a series of specific assessment leadership moves that illustrated the strategy’s focus on assessment. Again, building off Ferris, Davidson, and Perrewé’s (2005) four dimensions of political skill, social astuteness, interpersonal influence, networking ability, and apparent sincerity, these moves supported a

collaborative approach to developing assessment literacy and leadership. First, ITLs engaged in learning whenever and wherever. They were comfortable challenging existing norms around PL to meet their own needs. Similarly, they leveraged existing PL structures for their own interests. They would take advantage of coaching sessions and collaborative inquiries which had a focus on one idea or strategy and morph it into something that better met their own needs and interest. Next, they would listen, invite, and encourage colleagues into conversations about assessment, often by deprivatizing their own practice and showing and sharing their assessment literacy. ITLs were also curious and asked questions. Whether on their own, or within a collaborative environment, the ITLs would seek additional information, ideas, and practices to explore. Lastly, the ITLs would co-construct meaning with trusted colleagues. After surfacing a curiosity, they would invite others to contribute their understanding and to co-construct instructional and assessment strategies to employ. Constructivist leadership describes teacher leadership not as a role, but as a series of actions that focus on learning, narrow on a central purpose for the learning, build relationships, and create community (Lambert, 2003). Additionally, comparisons of these leadership strategies to Ferris et al.'s (2005) four dimension of political skill can be made. And lastly, all these strategies rely on the ability to communicate effectively in person and digitally, which was a noticed strength and focus of all the ITLs in this study.

Authentic Learning in the Moment

The participants implemented constructivist leadership strategies to support conversations grounded in pedagogy and improved student learning. The foundational strategy was a shared philosophical stance that learning can and should happen whenever, wherever, and however. Lambert (2006) characterizes this as a focus on equity pedagogy,

where learning is differentiated, scaffolded, and structured to meet learners' needs. The notion of just-in-time or responsive PL was prevalent. The move toward responsive PL is well articulated in the literature (OCT, 2016; Timperley et al., 2007). It is also a focus for the OME and the OCT. The more recent *Program/Policy Memorandum 159* (OME, 2016b) presents collaborative professionalism as a component of teacher collaborative learning responsibilities and expectations. The establishment of a safe and trusting learning environment where shared beliefs and experiences are surfaced and contextualized is one of Lambert's (2006) reciprocal processes that "Evoke potential in a trusting environment" (p. 37). Holding a PL stance which believes that positive change can happen when conditions of learning are shifted from simply a trusting environment, to a learning environment will encourage ITLs and foster collaboration.

Leveraging Existing Structures

In support of responsive PL, ITLs were strategic in their ability to leverage existing structures to engage in professional dialogue they felt was appropriate for their contexts. Mashelle described how she and Scout took advantage of PL to impact their assessment practices by infusing an equity stance. Additionally, they invited the development of what Lambert (2006) and Hillman, Coddett, Gunning, and Marrero (2016) call vertical learning communities by engaging educators including administrators, teachers, instructional coaches, and colleagues into a learning conversation. As Chew and Andrews (2010) argue, "principals need to work alongside teachers during these times of processes aimed at cultural and structural transformation" (p. 70). All ITLs were a part of system or school-based PL and teams. Often these opportunities were directed by the OME or board initiatives and were perceived to be not responsive to the needs of their students. ITLs reported that they would

use their ability to engage in dialogue and take advantage of times provided for PL to explore their students' needs and to make suggested shifts in the focus of the PL.

During PL, many ITLs crafted theories of action or created assessment tools that furthered their interest in assessment and honoured their own curiosities. They were often slightly different from the intended purpose of the PL. This illustrates how the ITLs would engage in structures, but refocus purpose to what they considered to be a priority. ITLs would direct conversation to assessment by making connections to assessment for learning and focusing on evidence of learning during the PL sessions. This evidence of learning and other data points were often used as part of a learning loop where understandings were constructed over time and informed from multiple data points (Lambert, 2006). When digging into curriculum, ITLs often asked initial assessment questions such as: "What's the learning goal?" "How does this respond to the needs of learners?" "How would this be assessed using conversation and observation?" By leveraging the existing structures and deepening the conversation into assessment, more colleagues were engaged in the learning. Colleagues would then often follow up with the ITLs to continue the conversation. This assessment leadership move of leveraging existing structures extended assessment conversation and responded to student needs. The political acumen associated with assessment leadership moves has not been explored in the literature. Many ITLs would openly and actively participate in broader conversations that would direct the PL. As such, they volunteered to share practices that elicited additional interest in assessment and surfaced student learning gaps. The social capital of ITLs and their political and interpersonal skill allowed them to have this voice in the PL. They were able to make connections between ideas and people to shift conversations with a positive impact. Further investigation into how

teacher leaders questions inform PL is needed to understand the impact of collaborative professionalism.

Listening, Inviting, and Encouraging

In their own collaborative practice, ITLs used more specific skills of listening, inviting, and encouraging reflective dialogue around pedagogical practice to surface their own and others' professional curiosities. Lambert (2005) characterizes these learning conversations as being constructivist in nature as they involve “surfacing assumptions and beliefs inquiring into practice, making sense of what they have found, and framing new or improved action” (p. 102). Additionally, this strategy, like Lambert’s (1995) reciprocal process of “reconstruct or “break set,” with old assumptions and myths” (p. 37), allowed ITLs to gather data and invite sharing of thinking. All ITLs were curious and enjoyed listening to the narratives of colleagues so that they could understand and support. They invited sharing of practice and because of their authentic interest, many colleagues would open their classrooms and making their thinking visible to them. ITLs encouraged colleagues to try new practices, to share their experiences and nurtured curiosities. They formed loose inquiry teams which in part align with Lieberman and Friedrich’s (2010) suggestion that teacher leaders work within PL communities. This resulted in further dialogue and shared interests.

These learning conversations were also characterized by constructivism as they maintained of positive dialogue that did not lay blame on teachers or students, but was focused on proactivity, curiosity, and an asset mindset. The ITLs were focused on deprivatizing practice and actively showed and shared elements of their own practice. To model an interest in learning and assessment, ITLs invited others into their learning spaces,

both physical and theoretical. Many of the ITLs co-planned, co-taught, and debriefed with instructional coaches and instructional technology resource teachers. Through these experiences, they opened their practice and modelled a co-learning stance which colleagues witnessed and benefitted from. Campbell et al. (2017) characterize these strategies as aspects of collaborative PL led by teachers and modelling leadership. The ITLs also modelled their political skill of interpersonal influence and social astuteness through those moves.

Building off existing collegial relationships allowed ITLs to demonstrate their political skill of interpersonal influence and social astuteness. A specific assessment move associated with this was showing and sharing. ITLs purposefully and strategically showed assessment tasks and tools to colleagues. This deprivatizing of practices included inviting conversation and reflection. ITLs shared their thinking and skills strategically. They also often showed and shared small steps, in order to avoid overwhelming colleagues and to allow them to see how changed is scaffolded. By openly sharing assessment practices and strategies at staff and department meetings, ITLs would model the use of evidence of student learning to illustrate a point or to use as documentation into their practice. This example illustrates how the ITLs used their political acumen of leveraging space and time with listening, inviting, and encouraging. They explained how evidence impacted their instructional and assessment decision-making and feedback to students. Because of their open to learning stance and deprivatized practice, ITLs were often the go-to people for others who were looking for an idea. ITLs were leveraging their ability to influence in order to effect assessment change and build collaborative learning cultures and practices. They often shared their experiences as narratives and modelled triangulation of evidence by collecting students, colleagues, and their own reflections.

Research participants expressed authentic curiosity and asked questions when they could. This is in line with the findings from Campbell et al. (2017) which state that “It is ultimately joint work that leads to improvement through exploring challenging questions about practice together” (p. 42). In this study, the use of effective questioning and allowed ITLs to “cause dissonance and disequilibrium between held beliefs and new information” (pp. 36-37) creating a path way for newly co-constructed ideas and instructional and pedagogical strategies. Without this step, ITLs would not be able to move into co-construction of meaning and assessment tasks and tools.

The leadership strategies and specific assessment leadership moves that included questioning are similar to the practices noted in Rushton’s (2017) research which explored the art of asking questions to promote teacher effectiveness and the idea that questioning helps others question what they have previously taken for granted and lead them more open to change (Hoyle, 1982). ITLs raised many assessment related questions because they wanted to understand and be a part of improving learning. This strategy modelled their political acumen at networking and their sincerity. ITLs genuinely wanted to know more and to understand ideas and concepts fully to support learning of students and colleagues. Knowing who to ask for help and what questions to ask allowed them to better understand the systems within which they worked. ITLs were unafraid of negatives perceptions associated with questioning and they challenged the notion that to question is to critique. ITLs believed that questions led to information and ideas. They knew how to ask questions about policy and to connect policy to practice. They respectively challenged assessment norms and practices and asked why these were in place. ITLs modelled a willing to share a question or curiosity in

front of a whole group, reinforcing their open interest in learning in front of colleagues and students.

Co-Constructing Assessment Literacy

Educators seek practical strategies and tools that they can pick up and easily translate into their own teaching and learning environments. The ITLs demonstrated this by inviting collaborative construction of meaning and assessment tools or tasks to be used with students. Lambert (2006) describes parallel reciprocal process as necessary so that the framing of actions can lead to new behaviours and purposeful intentions. When new ideas were co-constructed, ITLs invited colleagues to turn the idea into an event, experience, or assessment task or tool. Additionally, the co-constructed events, experiences, or assessment tasks or tools needed to honour the current contexts of schools. This indicates that part of assessment literacy is connected to ITLs' ability to understand and transform contextual limitations and possibilities. In their research on school improvement through teacher leadership, Chew and Andrews (2010) recognize the "importance of a contextualized response to site-based requirements" (p. 70). Many ITLs leveraged technology to make specific assessment tools that were supportive of aspects of *Growing Success* and still were practical and easy to use. Some ITLs also shared experiences using assessment applications like Sesame, Idocio, and the district developed assessment tool. The use of technology as a tool for assessment is an emerging area for assessment researchers.

ITLs co-constructing their assessment practices. ITLs use assessment strategies to engage colleagues in co-constructing their assessment literacy and leadership. This models all four aspects of political skill. All the ITLs invited colleagues and students to better understand assessment and to co-construct strategies and practices that supported student

learning and they would scaffold experiences for colleagues. Descriptions of the scaffolding included the following steps. First ITLs would often explore curriculum to determine the required knowledge and skill that students needed to demonstrate. Then they would invite colleagues to discuss student strengths and connect them to curriculum expectations, personalizing teaching, and learning. ITLs challenged traditional norms of PD and moved towards PL when they led the discussions. All the ITLs described their reliance on third points to help move conversations from the personal to the research. This is in line with Liu and Tsai (2017) who found that using evidence of student learning creates safety among teachers to collaborate, even if trust is not yet fully established:

Although student learning effectiveness is closely associated with the instructional behaviors of teachers, this type of dialogue on student learning can facilitate teacher collaborations, and perhaps also circumvent the obstacle of teachers' potential distrust in each other, compared to discussing teachers' behaviors. (p. 165)

ITLs often supported colleagues in a process of co-creating learning goals derived from student needs and curriculum and then would lead the examination and assessment of student work. Creating assessment tools like marking schemes, rubrics, and single point rubrics was also a noted step along with co-creation of learning maps. Lastly, some ITLs collaboratively planned and facilitated PL around assessment for their departments, school, and or district.

Implications and Recommendations for Theory, Practice, and Research

This section presents implications and recommendations resulting from this constructivist inquiry and is organized in four sections: implications and recommendations for leadership theory and practice, for constructivist inquiry, for assessment policy and leadership, and lastly, for teacher leaders regarding assessment literacy and leadership. This

section frames these implications and findings in relation to the province, the board, the school, and the individual level.

Implications for Leadership Theory and Practice

Educational research focuses primarily on the role of the principal. The literature explores at great length the different forms of leadership, leadership competencies and traits, formal roles, and hierarchy. Yet, as Flessa (2009) outlines, “The largest micropolitical lesson learned from our research is that alternative that diverges most from the principal/assistant principal model conflict most forcefully with the grammar of schooling” (p. 337). This speaks to the dissonance between the literature and the complexity of schools, emphasizing the gap in recognition of the informal nature of leadership where teachers lead through social capital, enthusiasm, and trusting relationships and the micropolitics that are at play. Yet, the traditional body of leadership literature does not reflect the current realities of teaching and leading in schools (Stein, 2014). Based on the research conducted with the ITLs in this study, it is clear that existing constructivist leadership theory needs to be extended to include space that represents the reciprocal forms of collaboration that ITLs in this study experienced. As Campbell et al. (2017) note, “Understanding and valuing the nature of teachers’ professional practice and enabling their potential as leaders of educational improvement through a system of ongoing professional development, learning opportunities, and collaboration is required in policy and in practice” (p. 9).

Teacher leadership, or any form of leadership, cannot be oversimplified as the work of one individual because of the complex and interwoven nature of schools and micropolitical contexts of educational settings. Peckover et al.’s (2006) research exploring the use of a constructivist approach in a teacher leadership program, found that: “teachers

need to develop their capacity to use reciprocity in problem solving as collaborative inquirers” (p. 1). This supports the recognition that teacher leaders are not lone actors, but individuals who act as part of a process that is collaborative and reciprocal. According to Dann (2014):

Constructivism recognises that the learner is an active participant in the learning process. Implicit in this view is that the learner does not learn merely in an automatic way triggered by a stimulus (behaviourism) but actually develops ways of learning ... learning how to learn. (p. 156)

This research supports a constructivist teacher leadership approach of describing informal teacher leadership. It resists what Raskin, Bridges, and Kahn (2015) describe as the “epistobabble” that often surfaces in the discourse around constructivism and focuses on language and descriptions that educators can use to see and understand themselves as leaders.

Finnemore and Sikkink (2001) emphasize that constructivism, as a social analysis approach, asserts that human interaction is shaped by ideational factors which are shared beliefs that construct peoples’ interests and identities. The ITLs enacted both a constructivist learning approach to their own assessment learning and offered a constructivist learning approach to their students. Similarly, their assessment practices illustrated constructivist tendencies as they encouraged students’ active participation and construction of assessment opportunities and processes. In turn, a constructivist approach to leadership contends that “leadership is socially constructed and that the frameworks and assumptions of individuals affect what they perceive to be effective leadership, the way leaders enact their role, and the relationship between leaders and followers” (Kezar, Carducci, & Contreras-McGavin, 2006, p. 159). In this study, the ITLs’ approach to leadership focused on the following stances:

being responsive, reciprocal, reflective, and results oriented. Constructivist leadership emphasizes the co-construction of meaning via an inquiry stance (Cochran-Smith & Stern, 2015). As previously noted, Lambert (1998) suggests that school improvement is predicated on building a culture of inquiry that fosters “the reciprocal processes of leadership—reflection, inquiry, dialogue and action” (p. 82). Their ongoing meaning making around assessment practices and policies illustrated the shared intersubjective beliefs held by the ITLs and their collaborators, allowing them to purposefully and reflectively construct their roles and experiences as constructivist teacher leaders. Similar to Judson and Lawson’s (2007) research, the ITLs in this study sought out others who could feed their curiosities and be co-learners, illustrating the importance of collaborative construction of knowledge and skill.

Recommendations for Leadership Theory

The results of this study challenge existing notions of leadership as a set of traits/competencies or singular formal role. Knowledge of the dynamics of informal teacher leadership can therefore contribute to the theoretical base. This notion of responsive learning and leading needs to be included in constructs of constructivist leadership. Sometimes teacher leaders lead the questioning and exploration, sometimes they are a part of the journey, but both actions are involved in the construction of meaning and leadership. As Wenger (1998) notes, dynamic learning communities develop around ideas and concepts that matter to people and ITLs have the ability to determine what matters because of their immediate work with students. As such, the literature on ITLs needs to be expanded to also include teachers who are perceived by colleagues to be leaders, but not perceived by administrators to be leaders. More specifically, some administrators are reluctant to label ITLs as leaders because their questions are challenging and evocative. Often labeled as

resistors, these individuals need to be seen as curious innovators seeking to better understand, not blocked. Lastly, further exploration of the tension that exists for ITLs as they navigate the micropolitics of their schools alongside formal teacher leaders.

The foundations of constructivist leadership need to be further extended to allow for responsiveness to both student and teacher learning and the notion that leadership is often reciprocal. Judson and Lawson (2007) state that “sense making is not an individual affair but is tied to social interaction and group negotiation” (p. 491). Similarly, the notion of teacher leadership needs to be expanded. Katzenmeyer and Moller’s (2009) state that teacher leaders lead within and beyond the classroom, identify with and contribute to a community of teacher learners and leaders, influence others toward improved educational practice, and accept responsibility for achieving the outcomes of that leadership. However, not all ITLs lead all the time. They respond to the contextualized needs with which they are faced and they often learn reflective and questioning strategies. These additional ideas extend the aforementioned definitions of teacher leadership.

Recommendations for the Province Regarding Informal Teacher Leadership

Falk (2015) describes how the Teacher Learning and Leadership Program (TLLP) in Ontario puts traditional PD aside and opts for an inquiry-based approach to PL that honours and values teacher curiosity and a constructivist stance. School districts in Ontario increasingly use the collaborative inquiry model for learning. However, as the research participants in this study noted, the rigidly implemented structures for collaborative inquiry at the district level often result in a new form of forced PL that does not authentically allow teachers to inquire into areas of interest. Rather, it delineates an inquiry based on large scale achievement data and board initiatives. Lieberman et al. (2017) indicate that this may happen

when districts are given direction to support PL, but these districts have not yet moved beyond the knowledge infusion model prevalent in the 1980s and 1990s to a knowledge creation model where teachers are trusted leaders. As such, it is the recommendation of this study that the province extend the support for the TLLP and provide financial support and human capital at the district level for teachers to engage in authentic inquiry connected to the students in their classrooms. The structures in place for this learning should be collaborative and constructivist in nature and led by teacher leaders in order to create, share, and determine the impact of their own PL models that support teacher leadership. As Harris and Jones (2017) note, “Putting professional collaboration at the heart of educational change and reform is an important shift in thinking about large-scale change” (p. 332). With existing legislation which states that educators must engage in ongoing reflective practices (OME, 2016b, p. 3), groups and individuals must also be invited into the conversations that focus on developing a practice.

Recommendations for Administrators Regarding Informal Teacher Leadership

Administrators also have room to deepen their understanding of teacher leadership and value its potential. To do this, they need to develop trusting relationships. Bryk and Schneider (2002) found “organizational trust” to be a necessary component of schools that improved student learning. As a way to foster trust, administrators need first to understand and value the role of ITLs. Clearly, this is a challenge, as the notion is evolving and distinguishing between formal and informal leadership is unfamiliar to many as it is not clear in theory or research. It is recommended that all administrators engage in professional learning with the goal of better understanding how to foster and maintain teacher leadership. Administrators can act as constructivist leaders by communicating understandings and co-

constructing roles as a way to avoid role confusion and diffused definitions of teacher leadership (Margolis & Huggins, 2012) and to also push back against the persistent practice of teacher isolation (Little, 1990). Mangin and Stoelinga (2008) note the significance of ITLs as they hold a central position that acts as a hub between teachers, students, and administrators. Next, administrators need to understand the conditions within which ITLs can positively influence student learning. Some administrators may need to provide permission or invitations to informal teachers so that they will explore new ideas and encouragement to offer learning opportunities to colleagues.

PL for administrators should explore different modes of shared leadership, including constructivist teacher leadership. Some teachers simply need validation that their efforts are indeed leadership and have an impact. Others simply need to be recognized. Unlike distributed leadership where administrators identify teachers with whom to share leadership opportunities (Hallinger & Heck, 2010), informal teacher leadership needs to be noticed, named, and supported when actions are initiated by teachers. Additionally, because Gharmrawi (2013) indicates the importance of subject leaders to the development of ITLs, administrators need to hire formal teacher leaders who have the skills and capacity to support ITLs. This more constructivist form of teacher leadership values teachers in their classrooms and supports their stay in the classroom. Liu and Tsai (2017) contend, “a verifiable fact is that due to uncoordinated processes of teacher collaboration, observing teaching practice in a small group of teachers did not lead to, nor facilitate, teachers’ conversations on professional knowledge” (p. 163). Therefore, ITLs also need the support of process and strategies to move their collaborations from resource sharing to leading change.

Administrators need to nurture teacher leaders and encourage them to lead from

within their classrooms. Not all teacher leaders are looking for their next step to be beyond the classroom. Teachers need to see that they can lead powerfully from within their learning environments. Harris and Jones (2015) explain that a significant challenge for administrators is “to create the conditions *within* the school for teachers to learn most effectively” (para. 3). Disrupting existing ideas and pathways for leadership needs to start with teachers sharing their narratives and inviting vertical learning with administrators (Zimmerman, 2006). Finally, administrators need to invite ITLs into conversations around policy implementation and practice so as to align their work together, not to provide top-down directives. This supports Mangin and Stoelinga’s (2008) findings of the need to align positions, values, and communication, and extends this notion to be one of co-construction and authentic engagement, not just the notion of touching base with informal leaders.

Implications for Constructivist Inquiry

Constructivist inquiry was the chosen methodology for this study as it is considered a reliable research method for use in social and political science (Finnemore & Sikkink, 2001). Mir and Watson (2000) note how constructivist research is context driven with researchers playing a role within the process of theory creation and that the separation of theory and practice is not possible. These beliefs were well grounded in this research as both the participants and myself noted how each context drove the individual and collective perceptions of ITLs in supporting assessment literacy and leadership in this district. This provided unlimited opportunities to reflect on both my research and my practice as an instructional coordinator for assessment. However, there were obvious tensions that arose because of the intersection of researcher methodology and epistemology. As Charreire Petit and Huault (2008) note, “the method used must be consistent with the value system inherent

in a given epistemology” (p. 86). With this assertion in mind, when observation turned to conversation in this constructivist inquiry, the belief that “adhesion to a constructivist framework requires the use of methods truly based on co-construction of knowledge between researchers and actors, and that firmly place interaction between researcher and agent at the heart of the analytical approach” (Charreire Petit & Huault, 2008, p. 87) was reinforced.

Recommendations for Constructivist Inquiry

The intersection of researcher and participants’ thinking when engaged in co-construction of meaning requires further exploration in the literature supporting constructivist inquiry. More specifically, the role of values as a principle of constructivist design and the criteria of trustworthiness merits additional research. Extending the research of Brown Wilson and Clissett (2011) who explored the basic idea of quality using constructivist principles in research would add to the body of literature on constructivist inquiry and create space of intersections between the researcher and the participant.

Implications for Assessment Policy and Leadership

Clear implications for assessment policy surfaced in this research. Assessment literacy continues to be an important area of need for educators, students, and stakeholders. However, the participants indicated that although the current assessment policy has strength, it is already outdated, unclear in some areas, and its implementation was insufficient. Interestingly, the then Ontario Minister of Education Miztie Hunter and Ontario Premier, Kathleen Wynne recently announced an upcoming refresh of curriculum and assessment (Rushowy, 2017). Specifically, there is indication in a shift away from the assessment of Learning Skills and Work Habits as noted in the current policy documents to a focus on transferable skills. This would be in-line with the shift that has recently taken place in British

Columbia (British Columbia Ministry of Education, n.d.). This also aligns with the numerous research participants' comments in this study. Additionally, since these comments were made by Minister Hunter, a review of assessment in Ontario, which includes classroom assessment and the assessments administered via the EQAO was conducted.

Interpretation of specific policy statements and the assessment leadership that goes along with it is required. The discussion of assessment literacy and leadership have been sidetracked by political bantering of the term “professional judgment” by union and district officials. Teachers are striving for autonomy in assessment decisions, but not all are basing their professional judgment on curriculum and student evidence. This is not just a struggle for teachers. As a measure to support teachers with their decisions that are rooted in professional judgment, the Ontario Secondary School Teachers Federation (OSSTF) has offered PL on this topic for two consecutive years. However, the audience in the district where the research was conducted was consistently limited with only 50-100 attending per year. All the research participants referenced *Growing Success* (OME, 2010a) as a policy document that they refer to, but struggle to implement. Research participants themselves misinterpreted concepts from *Growing Success*. The document was cited as insufficient, unclear, and lacking thoughtful implementation.

Furthermore, understanding and application of assessment leadership by administrators was noted by ITLs as limited. Because the notion of assessment literacy in Ontario continues to be unclear and evokes discomfort in many administrators who have not been in the classroom recently to enact assessment for learning and other more modern assessment practices, assessment leadership by administrators is not often visible. The findings suggest that administrative teams use ITLs' expertise by having them plan and lead

assessment PL. Diana described how her administration team allowed her to lead all the assessment related PL. Similarly, the second team led all the school wide PL on assessment with minimal consultation from their administrators. In Ontario, assessment leadership is framed by two documents: the *School Effectiveness Framework* (OME, 2013d) and the *Ontario Leadership Framework* (OLF; OME, 2012). Although the former clearly defines components of assessment literacy, the latter does little to help understand assessment leadership. In fact, there are only three references to assessment under the heading of Improving the Instructional Program. The OLF includes the following statements,

The principal has knowledge and understanding of effective pedagogy and assessment. ... Monitoring progress in student learning and school improvement, school leaders: assist staff in understanding the importance of student assessment for, of, and as learning. ... Providing instructional support School leaders: actively oversee the instructional program, coordinate what is taught across subjects and grades to avoid unnecessary overlap while providing needed reinforcement and extension of learning goals. (OME, 2013d, p. 13)

Recommendations for Ministry and Board Assessment Policy and Leadership

Growing Success (OME, 2010a) is the policy document that is foundational to much of the conversation around assessment in the province of Ontario and in the district involved in this study. However, the policy is now 8 years old and ITLs and other educators find the limitations in the policy frustrating. Lack of flexibility in some areas such as how to report are compounded with lack of clear language to support triangulation of evidence in final evaluations and in other areas. John described this clearly when he spoke about the various interpretations of the policy document by teachers and the resulting conflicts grounded in an

individual's professional judgment. In addition, as teachers increasingly explore and move to "gradeless" classrooms (i.e., teacher assessment practice that focuses primarily on the use of assessment *for* learning and does not provide evaluative feedback in the form of grades, with the exception of required reporting periods, (see Chiaravalli, 2017; Kohn, 2000; Sackstein, 2015), *Growing Success* and district policies create barriers to this work. Therefore, it is recommended that as the OME revisits the assessment, evaluation, and reporting policy, with specific considerations given to non-evaluative feedback and reporting practices. Further clarifying the idea of triangulation of evidence of learning will also allow educators to more fully understand and equitably implement how to focus on process using different modes of communication of learning. In light of the increase in access to technology and social media, flexibility in reporting needs to take place so that educators can authentically report learning at the most important time, not simply designated times. This will also reflect the global move to communicating learning, not just grade reporting. The OME must further encourage use of performance-based assessment in balance with other forms of assessment to foster transferable skills like innovation, creativity, critical thinking, and collaboration.

It is also recommended that the ministry of education require school boards to be more responsive to assessment practices when developing board improvement plans linked to assessment. Moving educators' philosophical approaches to assessment is difficult because of shifting policies (Highfield & Robertson, 2015). Educators continue to replicate the assessment practices that they experienced despite the research and policy that indicate that non-traditional assessment and authentic assessment support student learning and achievement. Hollingworth (2012) found varying degrees of uptake and understanding of formative assessment practices by teachers in her study; she noted this breadth by describing

teachers who posted clear learning targets and co-create success criteria with students and others who used quizzes as a form of feedback to students. It is recommended that assessment policy in Ontario is updated with the thoughtful voices of practitioners at the table to surface best practice along with research. A detailed and well-supported implementation plan needs to be made visible to educators with expected goals and supports in place. This can be done in addition to clarity of purpose within board improvement plans.

To ensure effective development, interpretation, and implementation of assessment policy, policy needs to be frequently and thoughtfully reviewed by educators. It is recommended that time is provided to educators to do this within authentic contexts. PL requirements are established at the ministry and then further pushed out by boards. These requirements need to embed assessment as part of every aspect of PL. Pellegrino, Wilson, Koenig, and Beatty (2014) clearly state that if attention is not paid to inadequacies and struggles with current assessment policies, similar errors will be replicated with future policy. Like the evaluative processes of the *Assessment is for Learning* policy in Scotland (Hayward, 2015), where the policy eventually dovetailed seamlessly with curriculum documents, policy analysts and researchers need to explore how assessment policy is supporting student learning and educator assessment literacy. Not only does this reflect the needs of the community for whom the policy will serve, but it will also reflect the intent of assessment—looking to evidence of learning and support, adjust, and move forward with a new co-created goal. With regards to assessment practices, Bennett and Armstrong (2012) contend that they need to “become less focused on documenting what has and has not been learned and more focused on charting the learning journey for continued success” (pp. 269-270). Additionally,

to improve assessment literacy, administrators also need to develop a deep understanding of the purpose and practices involved in assessment policy and practice.

In addition to authentic and contextually appropriate assessment PL, it is recommended that time is provided to explore and develop assessment resources. For the most part, assessment leadership has been up to teachers, with the support of key players in the Canadian classroom assessment scene such as O'Connor, Cooper, Davies, and Earl. Teachers in Ontario often access resources and ideas from international assessment experts such as Wiliam, Stiggins, and Brookhart. The OME's Edugains website is now more stocked with materials that support the implementation of *Growing Success* (OME, 2010a). Also, school board supports vary, but do exist in the form of board generated monographs, instructional coaches, and coordinators to support implementation of learning and practices around classroom assessment practices. Regardless of the availability of resources and access to supports, teachers still struggle to implement and engage students in current assessment strategies as they have not fully engaged with the pedagogical thinking and philosophical stance behind them; this is the required step if assessment policy is to be effectively interpreted and implemented. Furthermore, teachers cannot work in silos or isolation as they strive to improve the quality of their assessment practices.

Time is most importantly needed to close gaps in assessment literacy for all educators. The know–do–understand gap in assessment literacy needs to be extended from know–do to include understand. Some educators are familiar with strategies, use them, but do not reap the full rewards from the evidence of learning because they lack the understanding of how to interpret evidence, so they can adjust instruction and provide meaningful feedback to students. Having a collaborative and reflective practice will help bridge the know–do gap.

Collaborative development of assessment literacy and leadership needs to take place to explore and further expand educators' own understanding of assessment as well as to develop visible assessment practices that are positively impacting student learning.

It is no surprise that there is insufficient assessment literacy and leadership in practice and educators, whether they are teachers or administrators, have little direction or vision around assessment competencies. As a result, there is need to update assessment policy to include links to leadership. This can be further supported by changes to the OLF and linked to the School Effectiveness Framework. In addition to inclusions about assessment in the OLF, the framework can also be adjusted to clarify assessment competencies for teachers. This could be further supported by adjustments to the OCT's *Standards of Practice for the Teaching Profession* and adjustments to the education act to include a more purposeful focus on assessment. An adjusted education act, competencies in a revised OLF, and inclusion of professional standards related to assessment would then align more coherently with policy and the needs of learners.

The notions of assessment literacy and leadership need to be further developed in conjunction with stakeholders and used a way to improve student learning. Along with a clearer focus and supports from the OME, the OCT also must emphasise the importance of assessment literacy and leadership by adjusting the *Standards of Practice for the Teaching Profession* to better reflect the knowledge and skills required to implement effective and equitable assessment practices in classrooms and to lead others to do so as well. Lastly, there also remains a gap in the curricula of many faculties of education regarding the development of assessment literacy for pre-service teachers (Volante & Fazio, 2007). New teachers are not socialized to be assessment literate. They require additional specific assessment support through the New Teacher Induction Plan and job-embedded collaborative opportunities

building on assessment knowledge and skill. Furthermore, if teachers are to enact these revised assessment policies, training and reflection must begin in the faculties of education and continue throughout an educator's professional practice.

Recommendations for Administrators

Administrators need to embark on the assessment journey with their ITLs. Harris and Jones (2017) assert that “those in formal leadership positions in schools have a critical and ongoing role to play in supporting, energising, facilitating, and participating in collaborative PL” (p. 332). Engaging in vertical PL (which combines administrators and teachers), honouring assessment curiosity, and supporting shifts in practice, will allow all educators to challenge traditional practices and move toward assessment practices that focus on student learning. Ng (2017) found that vertical teams “require even greater levels of trust and openness than horizontal teams because they are composed of teacher who do not work together on a regular basis” (p. 129), yet this structure will over time deepen trust and assessment literacy. Administrators need to recognize the shifting and evolving understanding of assessment and how this, at times, will result in conflicting understandings around values and beliefs.

Aligning assessment literacy with leadership competencies is also necessary. Just as educators are expected to share learning goals with students, administrators need to share and invite reflection on PL goals. Just as educators who are expected to collaboratively examine effective assessment strategies, administrators need to explore how these impact students as well. The essential key is to be a partner with teachers in learning and leading assessment. This is grounded in an asset mindset that sees teachers are competent in their practices and as constantly striving to serve students better.

Implications for Teacher Leaders Regarding Assessment Literacy and Leadership

The roles and responsibilities for teachers have changed significantly, requiring teachers to be leaders as well as teachers (Stein, 2014). In the current research context, much still needs to be done to explore the construct of teacher leadership. More specifically, the variety of roles that exist for teacher leaders as informal and formal leaders needs to be surfaced and supported. In the Ontario context, much can be done to support a Canadian, if not Ontario construct of teacher leadership. First, ITLs and collaborators need to understand that their efforts have value and contribute to both teacher and student learning as Mangin and Stoelinga (2008) found in their research. As Collay (2011) suggests, teacher leaders need to reflect and develop narratives to be able to link their knowledge to leadership (p. 139). By creating these explicit links between teacher actions and leadership, others will better understand the multifaceted construct of educational leadership and notice that teachers are impactful. Mangin and Stoelinga suggest that the power of informal teacher leadership can be used to support school goals. However, to truly empower teacher leaders, they need to be a part of the co-construction and enactment of the school goals, therefore shifting the notion of formal leaders as decision-makers and informal leaders as providers of support and ground work. Hattie (2003) identifies teachers as having the most impact on student learning. Yet research remains limited on the impact of teachers on other educators PL.Narratives connecting assessment literacy to assessment leadership need to be more widely surfaced and shared to better understand how teacher leadership, and more specifically, informal teacher leadership can be leveraged as a positive impact on teacher and colleague learning. Therefore, teacher leaders need to continue deprivatizing practice, inviting co-learning, and supporting contexts for learning and questioning.

Secondly, ITLs need to identify critical friends to support reflective practice (Wright & Adam, 2015). Constructivist teacher leadership needs to embody the stance that “the process of constructing meaning always is embedded in a particular social setting of which the individual is a part” (Duit & Treagust, 1998, p. 8). The establishment of these collegial and collaborative relationships will model for others the need for deep understanding of pedagogy and practice and the role of reflective conversation to do so.

Recommendations for Teacher Leaders Regarding Assessment Literacy and Leadership

For ITLs to continue developing their own assessment literacy and leadership, the recommendations based on this research land firmly on two points: (a) Be transparent and inviting with all stakeholders about your assessment practices and how they support student learning, and (b) be fearless in conversations with colleagues to recognize effective practice and challenge assessment practices that do not support student learning. These two points require attitudinal focus grounded in shifts in practice. Educators need to open doors, deprivatize practice, and openly invite conversation around assessment. These have not been traditional teacher practices. One illustrative reason is to create safety for PL. Dean spoke to this when he described teacher frustration and fear of change. This leads to an unanswered research question, why are some teacher leaders recognized as such by colleagues, but not their principal? The connection to practice then is for school administrators to develop strategies to better understand the distinction between teachers who are curious and offer thoughtful critique and those who have a fixed mindset and offer unsubstantiated criticism.

Recommendations for Teachers

Ontario educators need to further develop assessment literacy by acknowledging and

closing the know–do–understand gap. They can do this by addressing philosophical challenges and implementing both thoughtful consideration to purpose and process into assessment planning and leveraging informal teacher leadership. Like the work of the TLLP at the provincial level, teachers need to collaboratively explore problems of practice and curiosities related to assessment. Supportive structures must empower teachers to take risks, research, and reflect collaboratively. More specifically, by leveraging existing supports such as PL networks and teacher and administrator leadership, educators should continue to plan, act, observe, and review their assessments to meet the needs of learning.

Through collaboration and the development of a balanced assessment culture, educators will be able to better monitor, promote, and understand student learning (Erkens, 2008; Gordon et al., 2014). One goal is to move the understanding and implementation of AfL from a procedural series of steps, to an embedded approach that speaks to the spirit or intent of AfL (Marhsall & Drummond, 2006). Hayward (2015) described the George Street Research (2007) conducted in Scotland, as shifting assessment practice that took a technical approach to assessment, to one built on the foundational principles and ideas of assessment for learning. By involving students in the assessment process through the use of processes that includes student friendly learning goals, clear and possibly co-created success criteria, peer and self-assessment, and goal setting, Ontario educators will continue to take-risks in their assessment practice and move students forward in their learning. However, despite support, systems need to anticipate and prepare for challenges. Jurisdictions and systems also need to continue to support assessment literacy with the provision of meaningful support materials and access to personalized PL for all educators.

Furthermore, reflecting on Popham’s (2009b) four-level conceptualization of

formative assessment will allow educators to see where they are in their practice and where to move next. Popham's first level describes when teachers use evidence to adjust instruction with the second level adding students into this decision-making as they determine the tactics they will implement to move their own learning forward. The third level involves a shift in classroom climate from one on grading to learning with the fourth level including broader implementation of formative assessment. Adding a step prior to level one, where teachers are using strategies to elicit evidence of student learning and not using the data toward a grade, is needed for the Ontario context. This would result in five-level conceptualization and better reflect the realities of assessment practices in Ontario.

Making clearer connections between growth mindset (Dweck, 2010) and AfL will also support student risk-taking, using and learning from mistakes, and seeing themselves as learners. Similarly, this connection will support educators as they also see themselves as learners in a new assessment environment. When teachers begin to use evidence of student learning as data to inform their instructional practices, they will be able to engage in reflective processes to determine which strategies work and whether pacing for students was appropriate and see how assessment can lead to more than just a grade (Jakicic, 2008).

In 2006, Earl and Katz stated, "When assessment is designed with purpose in mind, learning for all students can improve" (p. iv) and this thought continues to be echoed and reinforced (Gordon, et al., 2014) in Ontario. More recently, Conley (2014) observed that, "the time is ripe for a major change in educational assessment" (p. 1). The purpose has long been clear and the timing is right for changes in assessment practice. However, with so many obstacles in place, it is perhaps time to reconstruct what assessment means. Popham (2009b) suggest that a broader, yet more specific understanding of assessment needs to take hold

among educators. When educators understand the practice of assessment more fully, a more forthright focus on student learning will emerge, with student needs at the center.

Some teachers may omit to set aside time for reading, whether the sources be professional readings or research-based materials. Problematically, research can be inaccessible to many teachers because of the lack of synthesized information, the inability to comprehend academic research, or a sense of disconnect between research and the practical work that goes on in a classroom. This results in a need for knowledge brokers or facilitators who can translate research and policy to practice (Highfield & Robertson, 2015). Teacher leaders can act as these knowledge brokers when they collaboratively explore policy and research to make connections to practice. Therefore, collaborative structures and mentorship are needed for teacher leaders as they access and interpret research.

ITLs focused on developing their assessment literacy and many returned to key prompts used in the assessment for learning discourse, but with application to their own reflective assessment practice. These questions stemming from the work of Black and Wiliam (2009) are included in *Growing Success* (OME, 2010a) and are as follows:

- Where am I (or we) going? [in my/our assessment practices]
- Where am I (or we) now? [in my/our assessment practices]
- How do I (or we) get there?

Beyond these three questions, other prompts include:

- Who will be an authentic collaborator who can be a critical friend and able to provide effective, professional feedback?
- What is the impact of assessment practices on students' learning? My learning? My colleagues' learning?

The ITLs in this study explained their informal leadership roles and described their contextualized experiences and learning needs as they developed assessment literacy and leadership. This suggests that leaders must spend time understanding their own frameworks and assumptions as well as others in the leadership process (Chandler, 2008). To honour their thinking, as is the nature of constructivist research, the following recommendations made by ITLs to continue their work on assessment are included. One research participant emphasized that educators need to know where you are in your assessment learning so you can set goals. By identifying strengths and needs teachers can scaffold their own PL. Another participant encouraged colleagues to read in preferred text forms (e.g., blogs, books or tweets about assessment), but to stay informed with new ideas that allow them to keep questioning and learning. Inviting others into a collaborative reflective process and encouraging feedback to model assessment in your PL was another recommendation made by participants as a way to develop trusting and professional relationships. Other research participants recommend sharing assessment goals, thinking, and practices, celebrating student success, being honest about assessment practice and understandings, and being comfortable and confident when challenging assessment policy and practice.

These authentic recommendations not only reflect the notions of assessment for and as learning, but feed into constructivist leadership constructs by emerging in learning, inviting learning, and sharing learning. Additionally, these suggestions extend current reflective practices to better realize Schön's (1995) identified three important elements for reflection which are:

- being conscious (though not necessarily clearly articulated),
- being critical (ongoing critique/evaluation) and

- being spontaneous (openness to respond to whatever arises).

The roll out of *Growing Success* (OME, 2010a) was insufficiently supported by the OME and as such, it did not meet the needs of educators or students. Vivien, an experienced teacher, illustrated this point when she explained that some schools understand the implications of the policy and others are still fighting the notion of a policy which guides their assessment practice. Similarly, Harpreet, a newer teacher explained how her experience with assessment policy was connected to *Growing Success* in teacher's college, but focused on the minutia of grading practice and grading software such as MarkBook as a teacher, illustrating a disconnect between policy and practice. Because of the insufficient support, change in assessment practice has been a slow, inconsistent, and a lengthy process. This illustrates the importance of supporting change from both policy and practice perspectives. Teachers need to actively participate in developing assessment literacy and leadership to bridge the theory-practice gap. Katherine faced opposition from colleagues in the form of apathy and reluctance to shift assessment practice. She described her biggest barrier as non-reflective teacher practice. More specifically, she noted how her colleagues would not engage in reflection around their assessment practice to explore how it aligns or does not align with assessment policy. To narrow this down, an assessment for learning model needs to be implemented for developing assessment literacy and leadership. All stakeholders need to be a part of setting goals, criteria for effective practice and implementation, questioning, and reflection. This may be perceived as a form of reflective cycle or collaborative inquiry. But again, educators need to be a part of the development of the learning process as well as setting the learning goals. This has been a gap in PL as supported by the OME and districts.

Final Thoughts

This research contributes to the body of literature by honouring the voices of ITLs in secondary schools in Ontario. Many questions have grown from this exploration of ITLs and assessment literacy. These questions include the following four:

- How are administrators supported to develop their own assessment literacy and leadership?
- Is there a need for a teacher leadership framework in Ontario?
- How do we overcome student and parent misconceptions of assessment?
- How do we support the bridging of the know-do-understand gap in assessment literacy using authentic collaborative inquiry?

I will continue to explore the notion of teacher leadership and informal teacher leadership in Ontario as I see it as the missing ingredient in making Ontario one of the truly great assessment models in education.

The participants in this study were authentic and dedicated ITLs illustrating constructivist teacher leadership. Harris and Jones (2017) observe that authentic teacher leadership is predicated on affording teachers the opportunity to create new knowledge rather than simply re-cycling or re-circulating what is already known:

It is predicated on the fact that there is no ceiling on improvement or what can be achieved by teachers working collectively. The true power of teacher leadership resides in the shared ability to create and innovate, along with the freedoms to do so. It is certainly not about maintaining the status quo but rather pushing the boundaries of professional practice. (para. 6)

These ITLs modelled their inquiry stance through their dedication to learning—their

students' learning, their colleagues' learning, and their own. They believed that assessment was essential to effective instruction and practice. They modelled assessment for learning in their practice. They led with conviction and curiosity and a trust and high regard for collaboration.

References

- Abbott, R., Macdonald, D., Hay, P., & McCuiag, L. (2011). “Just add facilitators and stir”: Stimulating policy uptake in schools. *Educational Management, Administration & Leadership*, 39(5), 603–620. doi:10.1177/1741143211408452
- Achinstein, B. (2002). Conflict amid community: The micropolitics of teacher collaboration. *Teachers College Record*, 104(3), 421–455. doi:10.1111/1467-9620.00168
- Ackerman, R., & Mackenzie, S. V. (2006). Uncovering teacher leadership. *Educational Leadership*, 63(8), 66–70.
- Adduci, L. L., Woods-Houston, M. A., & Webb, A. W. (1990). *The department chair: Role ambiguity and role strain*. Philadelphia, PA: Research for Better Schools.
- Akert, N., & Martin, B. N. (2012). The role of teacher leaders in school improvement through the perceptions of principals and teachers. *International Journal of Education*, 4(4), 284–299. doi:10.5296/ije.v4i4.2290
- The Alberta Teachers’ Association. (2008). *Teacher leadership in assessment*. Edmonton, AB: Author.
- Allen, A. (2014). Using Foucault in education research. *British Educational Research Association online resource*. Retrieved from <https://www.bera.ac.uk/researchers-resources/publications/using-foucault-in-education-research>
- Altrichter, H., & Holly, M. L. (2005). Research diaries. In B. Somekh & C. Lewin (Eds.), *Research methods in the social sciences* (pp. 24–49). Thousand Oaks, CA: Sage.
- Anderson, G., & Cohen, M. I. (2015). Redesigning the identities of teachers and leaders: A framework for studying new professionalism and educator resistance. *Education Policy Analysis Archives*, 23(85). doi:10.14507/epaa.v23.2086

- Anderson, K. D. (2004). The nature of teacher leadership in schools as reciprocal influences between teacher leaders and principals. *School Effectiveness and School Improvement, 15*(1), 97–113. doi:10.1076/sesi.15.1.97.27489
- Anderson, K. D. (2008). Transformational teacher leadership in rural schools. *The Rural Educator, 29*(3), 8–17.
- Anderson, M. (2011). The struggle for collective leadership: Thinking and practice in a multi-campus school setting. *Educational Management Administration & Leadership, 40*(3), 328–342. doi:10.1177/1741143212436955
- Andrews, D., & Crowther, F. (2002). Parallel leadership: A clue to the contents of the “black box” of school reform. *The International Journal of Educational Management, 16*(4), 152–159. doi:10.1108/09513540210432128
- Angelle, P. S., & DeHart, C. A. (2011). Teacher perceptions of teacher leadership: Examining difference by experience, degree, and position. *NASSP Bulletin, 95*(2), 141–160. doi:10.1177/0192636511415397
- Angelle, P. S., Nixon, T. J., Norton, E. M., & Niles, C. A. (2011, November). *Increasing organizational effectiveness: An examination of teacher leadership, collective efficacy, and trust in schools*. Paper presented at the University Council for Educational Administration, Pittsburgh, PA.
- Angelle, P. S., & Teague, G. (2014). Teacher leadership and collective efficacy: Teacher perceptions in three US school districts. *Journal of Educational Administration, 52*(6), 738–753. doi:10.1108/JEA-02-2013-0020
- Appleton, J. V. (1997). Constructivism: A naturalistic methodology for nursing inquiry. *Advances in Nursing Science, 20*(2), 13–22. doi:10.1097/00012272-199712000-00003

- Armstrong, D. E. (2009). *Administrative passages: Navigating the transition from teacher to assistant principal*. New York, NY: Springer.
- Assessment Reform Group. (2002). *Assessment for learning: 10 principles*. Retrieved from http://www.qca.org.uk/libraryAssets/media/4031_afl_principles.pdf
- Aubrey-Hopkins, J., & James, C. (2002). Improving practice in subject departments: The experience of secondary school subject leaders in Wales. *School Leadership & Management*, 22(3), 305–320. doi:10.1080/1363243022000020426
- Avolio, B. J., & Gardner, W. L. (2005). Authentic leadership development: Getting to the root of positive forms of leadership. *The Leadership Quarterly*, 16, 315–338. doi:10.1016/j.leaqua.2005.03.001
- Bae, C. L., Hayes, K. N., O'Connor, D., Seitz, J. C., & Distifano, R. (2016). A coding tool for examining the substance of teacher PL and change with example cases from middle school science lesson study. *Teaching and Teacher Education*, 60, 164–178. doi:10.1016/j.tate.2016.08.01
- Ball, S. J., Maguire, M., Braun, A., & Hoskins, K. (2011) Policy actors doing policy work in schools. *Discourse: Studies in the Cultural Politics of Education*, 32(4), 625–639. doi:10.1080/01596306.2011.601565
- Balyer, A. (2012). Transformational leadership behaviors of school principals: A qualitative research based on teachers' perceptions. *International Online Journal of Educational Science*, 4(3), 581–591.
- Bangs, J., & Frost, D. (2012). *Teacher self-efficiency, voice and leadership: Towards a policy framework for international education*. Cambridge, UK: Education International Research Institute. Retrieved from http://download.ei-ie.org/docs/webdepot/teacher_self-efficacy_voice_leadership.pdf

- Banks, G. C., McCauley, K. D., Gardner, W., L., & Guler, C. E. (2015). A meta-analytic review of authentic and transformational leadership: A test for redundancy. *The Leadership Quarterly*, 27, 634–652. doi:10.1016/j.leaqua.2016.02.006
- Barber, M., & Fullan, M.. (2005). “Tri-level development”: Putting systems thinking into action. *Education Week*, 24(25), 32–35. Retrieved from <https://www.edweek.org/ew/articles/2005/03/02/25fullan.h24.html>
- Barbour, R., & Schostak, J. (2005). Interviewing and focus groups. In B. Somekh & C. Lewin (Eds.), *Research methods in the social sciences* (pp. 41–48). Thousand Oaks, CA: Sage.
- Barnes, M. (2015). *Assessment 3.0: Throw out your grade book and inspire learning*. Thousand Oaks, CA: Corwin Press.
- Barth, R. S. (2001). Teacher leader. *Phi Delta Kappan*, 82(6), 443–449. doi:10.1177/003172170108200607
- Bascia, N. (1996). Teacher leadership: Contending with adversity. *Canadian Journal of Education*, 21(2), 155–169. doi:10.2307/1495087
- Bascia, N. (2001). Do teacher unions demonstrate potential to promote positive forms of pedagogical, curricular and organizational change that benefit student learning? *Journal of Educational Change*, 2(1), 65–70. doi:10.1023/A:1011512213936
- Beachum, F., & Dentith, A. (2004). Teacher leaders creating cultures of school renewal and transformation. *The Educational Forum*, 68(3), 276–286. doi:10.1080/00131720408984639
- Bennett, N., Newton, W., Wise, C., Woods, P. A., & Economou, A. (2003). *The role and purpose of middle leaders in schools*. Retrieved from http://dera.ioe.ac.uk/5118/14/download_id%3D17364%26filename%3Drole-purpose-of-middle-leaders-in-schools-full-report_Redacted.pdf

- Bennett, R. E. (2011). Formative assessment: a critical review. *Assessment in Education: Principles, Policy & Practice*, 18(1), 5–25. doi:10.1080/0969594X.2010.513678
- Bennett, S., & Armstrong, D. (2012). Putting the focus on learning: Shifting classroom assessment practices. In C. F. Webber & J. L. Lupart (Eds.), *Leading Student Assessment* (pp. 263–282) New York, NY: Springer. doi:10.1007/978-94-007-1727-5_13
- Berry, B., Norton, J., & Byrd, A. (2007). Teachers as leaders: Lessons from networking. *Educational Leadership*, 65(1), 48–52.
- Birenbaum, M., DeLuca, C., Earl, L., Heritage, M., Klenowski, V., Looney, A., ... Wyatt-Smith, C. (2015). International trends in the implementation of assessment for learning: Implications for policy and practice. *Policy Futures in Education*, 13(1), 117–114. doi:10.1177/1478210314566733
- Birks, M., Chapman, Y., & Francis, K. (2008). Memoing in qualitative research: Probing data and processes. *Journal of Research in Nursing*, 13(1), 68–75. doi:10.1177/1744987107081254
- Birks, M., & Mills, J. (2011). *Grounded theory: A practical guide*. Los Angeles, CA: Sage.
- Birky, V. D., Shelton, M., & Headley, S. (2006). An administrator's challenge: Encouraging teachers to be leaders. *NASSP Bulletin*, 90(2), 87–101. doi:10.1177/0192636506290155
- Black, P. (2015). Formative assessment—An optimistic but incomplete vision. *Assessment in Education: Principles, Policy & Practice*, 22(1), 161–177. doi:10.1080/0969594X.2014.999643

- Black, P., Harrison, C., Hodgen, J., Marshall, B., & Serret, N. (2010). Validity in teachers' summative assessments. *Assessment in Education: Principles, Policy & Practice*, 17(2), 215–232. doi:10.1080/09695941003696016
- Black, P., & Wiliam, D. (1998). Inside the black box: Raising standards through classroom assessment. *Phil Delta Kappan*, 80(2), 139–144, 146–148.
- Blase, J. J. (1989). The micropolitics of the school: The everyday political orientation of teachers toward open school principals. *Educational Administration Quarterly*, 25(4), 377–401. doi:10.1177/0013161X89025004005
- Bogdan, R., & Biklen, S. (1982). *Qualitative research for education: An introduction to theory and methods*. Boston, MA: Allyn & Bacon.
- Boone, S. C. (2015). Teacher leaders as school reformers. In N. Bond (Ed.), *The power of teacher leaders: Their roles, influence, and impact* (pp. 105–119). New York, NY: Routledge.
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27–40. doi:10.3316/QRJ0902027
- Boyd, K. A. (2011). *High school principals' perceptions of teacher leadership* (Doctoral dissertation). California State University, Long Beach, CA. Retrieved from <https://pqdtopen.proquest.com/doc/903700325.html?FMT=ABS>
- British Columbia Ministry of Education. (n.d.). *BC's new curriculum: Core competencies*. Retrieved from <https://curriculum.gov.bc.ca/competencies>
- Brooke, J., & Miles, M. (2006). From scientific management to social justice ... and back again? Pedagogical shifts in the study and practice of educational leaders. *International Electronic Journal of Leadership in Learning*, 10(21). Retrieved from <http://iejll.journalhosting.ucalgary.ca/iejll/index.php/iejll/article/view/621>

- Brookhart, S. (2004). Classroom assessment: Tensions and intersections in theory and practice. *Teachers College Record*, 106(3), 429–458. doi:10.1111/j.1467-9620.2004.00346.x
- Brookhart, S. (2008). *How to give effective feedback to your students*. Alexandria, VA: ASCD.
- Brookhart, S. (2011). Educational assessment knowledge and skills for teachers. *Educational Measurement: Issues and Practice*, 30(1), 3–12. doi:10.1111/j.1745-3992.2010.00195.x
- Brookhart, S. (2015). Graded achievement, tested achievement, and validity. *Educational Assessment*, 20, 268–296. doi:10.1080/10627197.2015.1093928
- Brookhart, S., Guskey, T. R., Bowers, J. H., Smith, J. K., Smith, L. F., Steven, M. T., & Welsh, M. E. (2016). A century of grading research: Meaning and value in the most common educational measure. *Review of Educational Research*, 86(4), 803–848. doi:10.3102/0034654316672069
- Brooks, J. S., Hughes, R. M., & Brooks, M. C. (2008). Fear and trembling in American high school: Educational reform and teacher alienation. *Educational Policy*, 22(1), 45–62. doi:10.1177/0895904807311296
- Brooks, M. G., & Grennon Brooks, J. (1999). The courage to be constructivist. *Educational Leadership*, 57(3), 18–24.
- Brosky, D. (2011). Micropolitics in the school: Teacher leaders' use of political skill and influence tactics. *The International Journal of Educational Leadership Preparation*, 6(1). Retrieved from <https://files.eric.ed.gov/fulltext/EJ972880.pdf>

- Brown, K. E., & Medway, F. J. (2007). School climate and teacher beliefs in a school effectively serving poor South Carolina (USA) African American students: A case study. *Teaching and Teacher Education*, 23(4), 529–540.
doi:10.1016/j.tate.2006.11.002
- Brown, M., Rutherford, D., & Boyle, B. (2000). Leaderships for school improvement: The role of the head of department in UK secondary schools. *School Effectiveness and School Improvement*, 11(2), 237–258. doi:10.1076/0924-3453(200006)11:2;1-Q;FT237
- Brown Wilson, C., & Clissett, P. (2011). Involving older people in research: Practical considerations when using the authenticity criteria in constructivist inquiry. *Journal of Advanced Nursing*, 67(3), 677–686. doi:10.1111/j.1365-2648.2010.05500.x
- Browning, P. (2014). Why trust the head? Key practices for transformational school leaders to build a purposeful relationship of trust. *International Journal Leadership in Education*, 17(4), 388–409. doi:10.1080/13603124.2013.844275
- Bryant, A., & Charmaz, K. (2007). Grounded theory research: Methods and practices. In A. Bryant & K. Charmaz (Eds.), *The Sage handbook of grounded theory* (pp. 1–28). Thousand Oaks, CA: Sage.
- Bryk, A. S., & Schneider, B. L. (2002). *Trust in schools: A core resource for improvement*. New York, NY: Russell Sage Foundation.
- Buckner, K. G., & McDowelle, J. O. (2000). Developing teacher leaders: Providing encouragement, opportunities and support. *NASSP Bulletin*, 84(35), 35–41.
doi:10.1177/019263650008461607
- Burrell, G. & Morgan, G. (1979). *Sociological paradigms and organisational analysis*. Portsmouth, NH: Heinemann.

- Bush, T. (2011). Becoming a school principal: Exciting opportunity or daunting challenge? *Educational Management Administration & Leadership*, 39(5), 514–515.
doi:10.1177/1741143211409506
- Butler, D. L., & Winne, P. H. (1995). Feedback and self-regulated learning: A theoretical synthesis. *Review of Educational Research*, 65, 245–281.
doi:10.3102/00346543065003245
- Calvert, L. (2016). *Moving from compliance to agency: What teachers need to make PL work*. Oxford, OH: Learning Forward and NCTAF.
- Camburn, E., Rowan, B., & Taylor, J. E. (2003). Distributed leadership in schools: The case of elementary schools adopting comprehensive school reform models. *Educational Evaluation and Policy Analysis*, 25(4), 347–373. doi:10.3102/01623737025004347
- Cameron, C., & Gregory, K. (2014). *Rethinking letter grades: A five-step process for aligning letter grades to learning standards* (2nd ed.). Winnipeg, MB: Portage & Main.
- Campbell, C., Lieberman, A., & Yashkina, A. (2016). Developing professional capital in policy and practice: Ontario's Teacher Learning and Leadership Program. *Journal of Professional Capital and Community*, 1(3), 219–236. doi:10.1108/JPCC-03-2016-0004
- Campbell, C., Osmond-Johnson, P., Faubert, B., Zeichner, K., & Hobbs-Johnson, A. (with Brown, S., DaCosta, P., Hales, A., Kuehn, L., Sohn, J., & Steffensen, K.). (2017). *The state of educators' PL in Canada: Final research report*. Oxford, OH: Learning Forward.
- Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, & Social Sciences and Humanities Research Council of Canada. (2010). *Tri-council policy statement: Ethical conduct for research involving humans*. Ottawa, ON: Her Majesty the Queen in Right of Canada. Retrieved from <http://www.pre.ethics.gc.ca/eng/policy-politique/initiatives/tcps2-eptc2/Default/>

Center for Teaching Quality. (2018). *About CTQ: Inspired by the power of education*.

Retrieved from <https://www.teachingquality.org/about-ctq/>

Charmaz, K. (2005). Grounded theory in the 21st century: Applications for advancing social justice studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 507–535). Thousand Oaks, CA: Sage.

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Thousand Oaks, CA: Sage.

Charreire Petit, S., & Huault, I. (2008). Revisiting constructivist research works on knowledge. *Management Learning*, 39(1), 73–91. doi:10.1177/1350507607085173

Chew, J. O. A., & Andrews, D. (2010). Enabling teachers to become pedagogical leaders: Case studies of two IDEAS schools in Singapore and Australia. *Educational Research, Policy, & Practice*, 9, 59–74. doi:10.1007/s10671-010-9079-0

Chiaravalli, A. (2017, April 13). Why teachers are going gradeless. *The Observer*. Retrieved from <http://observer.com/2017/04/teachers-going-gradeless-education-reform-grades/>

Chow, A., & Leung, P. (2011). Assessment for learning in language classrooms. In R. Berry & B. Adamson (Eds.), *Assessment reform in education. Education in the Asia-Pacific Region: Issues, concerns and prospects* (Vol. 14, pp. 135–154). Dordrecht, Netherlands: Springer. doi:10.1007/978-94-007-0729-0_10

City, E. A., Elmore, R. F., Fiarman, S. E., & Teitel, L. (2011). *Instructional rounds in education: A network approach to improving teaching and learning*. Cambridge, MA: President and Fellows of Harvard College.

Clark, I. (2012). Formative assessment: A systematic and artistic process of instruction for supporting school and lifelong learning. *Canadian Journal of Education*, 35(2), 24–40.

- Clarke, K. (2009). *Secondary school department heads as teacher leaders: A study in suburban Ontario* (Master's thesis). Brock University, St. Catharines, ON. Retrieved from <http://www.dr.library.brocku.ca/handle/10464/4207>
- Coburn, C. E. (2005). The role of nonsystem actors in the relationship between policy and practice: The case of reading instruction in California. *Educational Evaluation and Policy Analysis*, 27(1), 23–52. doi:10.3102/01623737027001023
- Cochran-Smith, M., & Stern, R. (2015). The role of inquiry in teacher leadership. In N. Bond (Ed.), *Perspectives on teacher leadership* (pp. 196–209). Indianapolis, IN: Phi Delta Kappan.
- Coldren, A. F., & Spillane, J. P. (2007). Making connections to teaching practice: The role of boundary practices in instructional leadership. *Educational Policy*, 21(2), 369–396. doi:10.1177/0895904805284121
- Collay, M. (2006). Discerning professional identity and becoming bold, socially responsible teacher leaders. *Educational Leadership and Administration*, 18, 131–146.
- Collay, M. (2011). *Everyday teacher leadership*. San Francisco, CA: Wiley.
- Collinson, V. (2004). Teachers caught in acts of leading, teaching, and learning. *Teacher Education and Practice*, 17(4), 363–385.
- Conley, D. T. (2014). A new era for educational assessment. *Education Policy Analysis Archives*, 23(8). doi:10.14507/epaa.v23.1983
- Connelly, F. M., & Clandinin, D. J. (1990). Stories of experience and narrative inquiry. *American Educational Research Association*, 19(5), 2–14.
- Cooper, D. (2010) *Talk about assessment: High school strategies and tools*. Toronto, ON: Nelson Education.

- Cooper, S. K., Kintz, T. & and Miness, A. (2016). Reflectiveness, adaptivity, and support: How teacher agency promotes student engagement. *American Journal of Education*, 123(1), 109–136. doi:10.1086/688168
- Council of Ministers of Education, Canada. (2015). *Celebrating 50 years of pan-Canadian leadership in education*. Retrieved from https://www.cmec.ca/11/About_Us.html
- Coyle, M. (1997). Teacher leadership vs. school management: Flatten the hierarchies. *The Clearing House*, 70, 236–239.
- Creighton, S., Tobey, C. R., Karnowski, E. R., & Fagen, E. (2015). *Bringing math students into the formative assessment equation: Tools and strategies for the middle grades*. Thousand Oaks, CA: Corwin Press.
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. London, U.K.: Sage.
- Creswell, J. W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (2nd ed.). Upper Saddle River, NJ: Pearson Education.
- Creswell, J. W. (2012). *Educational research: Planning, conducting and evaluating quantitative and qualitative research* (4th ed.). Boston, MA: Pearson.
- Crowther, F., Ferguson, M., & Hann, L. (2009). *Developing teacher leaders* (2nd ed.). Thousand Oaks, CA: Corwin Press.
- Danielson, C. (2006). *Teacher leadership that strengthens professional practice*. Alexandria, VA: ASCD.
- Dann, R. (2014). Assessment as learning: Blurring the boundaries of assessment and learning for theory, policy and practice. *Assessment in Education: Principles, Policy & Practice*, 21(2), 149–166. doi:10.1080/0969594X.2014.898128

- Darling-Hammond, L. (2006). Constructing 21st century teacher education. *Journal of Teacher Education*, 57(3), 300–314. doi:10.1177/0022487105285962
- Darling-Hammond, L., Bullmaster, M. L., & Cobb, V. L. (1995). Rethinking teacher leadership through professional development schools. *The Elementary School Journal*, 96(1), 87–106.
- Dauksas, L. (2010). Should I stay or should I go? How teacher leadership can improve teacher retention. *Journal of Scholarship & Practice*, 7(2), 27–32.
- Davies, A. (2007). *Making classroom assessment work* (2nd ed.). Courtenay, BC: Connections.
- Day, C., & Sammons, P. (2013). *Successful leadership: A review of international literature*. Berkshire, UK: CfBT Education Trust. Retrieved from <https://files.eric.ed.gov/fulltext/ED546806.pdf>
- De Lima, J. Á. (2008). Department networks and distributed leadership in schools. *School Leadership & Management*, 28(2), 159–187. doi:10.1080/13632430801969864
- DeLuca, C., & Klinger, D. A. (2010). Assessment literacy development: Identifying gaps in teacher candidates' learning. *Assessment in Education: Principles, Policy & Practice*, 17(4), 419–438. doi:10.1080/0969594X.2010.516643
- DeLuca, C., Klinger, D. A., Pyper, J., & Woods, J. (2015). Instructional rounds as a PL model for systemic implementation of Assessment for Learning. *Assessment in Education: Principles, Policy & Practice*, 22(1), 122–139. doi:10.1080/0969594X.2014.967168
- DeLuca, C., Luu, K., Youyi, Y., & Klinger, D. A. (2012). Assessment for learning in the classroom: Barriers to implementation and possibilities for teacher professional learning. *Assessment Matters*, 4, 5–29.

- Denton, C. A., & Hasbrouck, J. (2009). A description of instructional coaching and its relationship to consultation. *Journal of Educational and Psychological Consultation*, 19(2), 150–175. doi:10.1080/10474410802463296
- Denzin, N. K. (2001). The seventh moment: Qualitative inquiry and the practices of a more radical consumer research. *Journal of Consumer Research*, 28(2), 324–330.
- Denzin, N. K., & Lincoln, Y. S. (Eds.). (2005a). *The Sage handbook of qualitative research* (3rd ed.). Thousand Oaks, CA: Sage.
- Denzin, N. K., & Lincoln, Y. S. (2005b). The discipline and practice of qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 1–32). Thousand Oaks, CA: Sage.
- Department of Education, University of Oxford. (n.d.). *Oxford universities support leadership development in city primary schools*. Retrieved from <http://www.education.ox.ac.uk/about-us/oxford-universities-support-leadership-development-in-city-primary-schools/>
- Desautels, J., Garrison, J., & Fleury, S. C. (1998). Critical-constructivism and the sociopolitical agenda in constructivism and education. In M. Larochelle, N. Bednarz, & J. Garrison (Eds.), *Constructivism and education* (pp. 253–270). Cambridge, UK: Cambridge University Press.
- de Villiers, E., & Pretorius, S.G. (2010). Democracy in schools: Are educators ready for teacher leadership? *South African Journal of Education*, 31, 574–589.
- Dolph, D. (2017). Challenges and opportunities for school improvement: Recommendations for urban school principals. *Education and Urban Society*, 49(4), 363–387. doi:10.1177/0013124516659110

- Donahoo, J. (2013). *Collaborative inquiry for educators: A facilitator's guide to school improvement*. Thousand Oaks, CA: Corwin Press.
- Duit, R., & Treagust, D.F. (1998). Learning in science: From behaviourism towards social constructivism and beyond. In B. Fraser & K. Tobin (Eds.), *International handbook of science education* (Part 1, pp. 3–25). Dordrecht, Netherlands: Kluwer.
- Dweck, C. (2010). Mind-sets and equitable education. *Principal Leadership*, 10(5), 26–29. Retrieved from <http://eschs.weebly.com/uploads/2/5/1/7/25174886/mind-sets-and-equitable-education.pdf>
- Dyer, C. (1999). Researching the implementation of educational policy: A backward mapping approach. *Comparative Education*, 35(1), 45–61.
- Earl, L. (1995). Assessment and accountability in education in Ontario. *Canadian Journal of Education*, 20(1), 45–55.
- Earl, L. (2006). Assessment: A powerful lever for learning. *Brock Education*, 16(1), 1–15.
- Earl, L. M. (2004). *Assessment as learning: Using classroom assessment to maximize student learning*. Thousand Oaks, CA: Corwin Press.
- Earl, L., & Katz, S. (2006). *Rethinking classroom assessment with purpose in mind: Assessment for learning, assessment as learning, assessment of learning*. Retrieved from <http://www.wncp.ca/media/40539/rethink.pdf>
- Earl, L. M., Katz, S., Herbert, M., Elgi, S., Jodouin, H. & Clark, R. (2010). *Classroom assessment in Ontario secondary schools: In teachers' hands*. Toronto, ON: Ontario Teachers' Federation.
- Easton, L. B. (2008, June). From professional development to professional learning. *Phi Delta Kappan*, 89(10), 755–761. doi:10.1177/003172170808901014

- Education Quality and Accountability Office. (2017). *Mandate*. Retrieved from www.eqao.com/en/about-eqao/about-the-agency/mandate
- Emira, M. (2010). Leading to decide or deciding to lead? Understanding the relationship between teacher leadership and decision making. *Educational Management Administration & Leadership*, 38(5), 591–612. doi:10.1177/1741143210373738
- Erkens, C. (2008). Developing our assessment literacy. In T. R. Guskey (Ed.), *The teacher as assessment leader* (pp. 11–30). Bloomington, IN: Solution Tree.
- Erlandson, D. A., Harris, E. L., Skipper, B. L., & Allen, S. D. (1993). *Doing naturalistic inquiry: A guide to methods*. Newbury Park, CA: Sage.
- Fairman, J. C., & Mackenzie, S. V. (2014). How teacher leaders influence others and understand their leadership. *International Journal of Leadership in Education: Theory and Practice*, 1–27. doi:10.1080/13603124.2014.904002
- Falk, B. (2015). Teacher leadership for educational quality and equity: Learning across Singapore, Canada, Finland, and the United States. *The New Educator*, 11(2), 105–106. doi:10.1080/1547688X.2015.1026781
- Ferris, G. R., Davidson, S. L., & Perrewé, P. L. (2005). *Political skill at work: Impact on work effectiveness*. Palo Alto, CA: Davies-Black.
- Ferriter, W. M. (2008) Yes, I can: Responsible assessment in an era of accountability. In T. R. Guskey (Ed.), *The teacher as assessment leader* (pp. 55–86). Bloomington, IN: Solution Tree.
- Finnemore, M., & Sikkink, K. (2001). Taking stock: Constructivist research program in international relations and comparative politics. *Annual Review of Political Science*, 4, 391–416. doi:10.1146/annurev.polisci.4.1.391

- Firestone, W. A., & Martinez, M. C. (2007). Districts, teacher leaders, and distributed leadership: Changing instructional practice. *Leadership and Policy in Schools*, 6(1), 3–35. doi:10.1080/15700760601091234
- Fitzgerald, T., & Gunter, H. (2006). Leading learning: Middle leadership in schools in England and New Zealand. *Management in Education*, 20(3), 6–9.
- Flessa, J. (2009). Educational micropolitics and distributed leadership. *Peabody Journal of Education*, 84, 331–349. doi:10.1080/01619560902973522
- Flick, U. (2002). *An introduction to qualitative research* (2nd ed.) London, UK: Sage.
- Flick, U. (2009). *An introduction to qualitative research* (4th ed.) London, UK: Sage.
- Fontana, A., & Frey, J. H. (2005). The interview: From neutral stance to political involvement. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 695–728). Thousand Oaks, CA: Sage.
- Foster, R., & St. Hilaire, B. (2004). The who, how, why, and what of leadership in secondary school improvement: Lessons learned in England. *Alberta Journal of Educational Research*, 50(4), 354–369.
- Foucault, M. (1983). The subject and power. In H. Dreyfus & P. Rabinow (Eds.), *Michel Foucault: Beyond structuralism and hermeneutics* (2nd ed., pp. 208–226). Chicago, IL: The University of Chicago Press.
- Fram, S. M. (2013). The constant comparative analysis method outside of grounded theory. *The Qualitative Report*, 18(1), 1–25.
- Frankland, S. (2007). Perspectives of teachers and students towards assessment. In S. Frankland (Ed.), *Enhancing teaching and learning through assessment: Deriving an appropriate model* (pp. 64–76). Dordrecht, Netherlands: Springer.

- French, J. R. P., & Raven, B. (1959). The bases of social power. In D. Cartwright (Ed.), *Studies in social power* (pp. 150–167). Ann Arbor, MI: Institute for Social Research.
- Frost, D. (2011). *Supporting teacher leadership in 15 countries: International teacher leadership project Phase 1*. Cambridge, UK: Leadership for Learning University of Cambridge Faculty of Education.
- Frost, D. (2012). From professional development to system change: Teacher leadership and innovation. *Professional Development in Education*, 38(2), 205–227.
doi:10.1080/19415257.2012.657861
- Frost, D. (2014, September). Non-positional teacher leadership: A perceptual motion miracle. In G. Miljevic (Chair), *Changing teacher professionalism: Research and practical interventions in Europe and beyond*. Symposium conducted at the meeting of the European Conference on Educational Research, Porto, Portugal.
- Frost, D., Roberts, A., Barnett, P., Bullen, A., Herbert, C., Chiriac, M., ... Montgomery, C. (2009). *Teacher leadership in action*. Proceedings of the 33rd Collaborative Action Research Network International Conference, Athens, Greece. Retrieved from http://www.teacherleadership.org.uk/uploads/2/5/4/7/25475274/frost_et_al._-_carn_09.pdf
- Fullan, M. G. (1997). Broadening the concept of teacher leadership. In S. D. Caldwell (Ed.), *Professional development in learning-centered schools* (pp. 34–49). Oxford, OH: National Staff Development Council.
- Fullan, M. (2002). The change leader. *Educational Leadership*, 59(8), 16–21.
- Gabriel, J. G. (2005). *How to thrive as a teacher leader*. Alexandria, VA: ASCD.

- Gates, G., & Robinson, S. (2009). Delving Into teacher collaboration: Untangling problems and solutions for leadership. *NASSP Bulletin*, 93(3), 145–165.
doi:10.1177/0192636509354375
- Ghamrawi, N. (2013). In principle, it is not only the principal! Teacher leadership architecture in schools. *International Education Studies*, 6(2), 148–159.
doi:10.5539/ies.v6n2p148
- Ghrayeb, O., Damodaran, P., & Vohra, P. (2011). Art of triangulation: An effective assessment validation strategy. *Global Journal of Engineering Education*, 13(3), 96–101.
- Gibson, S. A. (2011). Coaching conversations: Enacting instructional scaffolding. *Mid-Western Educational Researcher*, 24(1), 5–20.
- Gigante, N. A., & Firestone, W. A. (2008) Administrator support and teacher leadership in schools implementing reform. *Journal of Educational Administration*, 46(3), 302–331. doi:10.1108/09578230810869266
- Gilad, E. (2014). A management practicum programme in teacher education: From teacher to teacher-leader. *International Journal of Learning & Development*, 4(3), 26–34.
doi:10.5296/ijld.v4i3.5888
- Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory*. Chicago, IL: Aldine.
- Glover, D., & Miller, D. (1999). The working day of the subject leader and the impact of interruptions on teaching and learning in secondary schools. *Educational Research*, 41(3), 341–349. doi:10.1080/0013188990410308
- Godt, P. T., (2010). Leadership in reading. *Illinois Reading Council Journal*, 38(2), 56–61.

- Goos, M., Dole, S., & Makar, K. (2007). Designing professional development to support teachers' learning in complex environments. *Mathematics Teacher Education and Development*, 8, 23–47.
- Gordon, E. W., McGill, M. V., Sands, D. I., Kalinich, K. M., Pellegrino, J. W., & Chatterji, M. (2014). Bringing formative classroom assessment to schools and making it count. *Quality Assurance in Education*, 22(4), 339–352. doi:10.1108/QAE-07-2014-0034
- Gregory, K., Cameron, C., & Davies, A. (1997). *Setting and using criteria*. Merville, BC: Connections.
- Gronn, P. (2008). The future of distributed leadership. *Educational Administration*, 46(2), 141–158. doi: 10.1108/09578230810863235
- Guba, E. G. (1978). *Toward a methodology of naturalistic inquiry in educational evaluation*. Los Angeles, CA: University of California, Center for the Study of Evaluation.
- Guba, E. G. (Ed.). (1990). *The paradigm dialog*. Thousand Oaks, CA: Sage.
- Guba, E. G., & Lincoln, Y. S. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.
- Guba, E. G., & Lincoln Y. S. (1989). *Fourth generation evaluation*. Newbury Park, CA: Sage.
- Guba, E. G., & Lincoln Y. S. (2005). Paradigmatic controversies, contradictions, and emerging confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 191–214). Newbury Park, CA: Sage.
- Gulikers, J. T. M., Biemans, H. J. A., Wesselink, R., & van der Wel, M. (2013). Aligning formative and summative assessments: A collaborative action research challenging teacher conceptions. *Studies in Educational Evaluation*, 39(2), 116–124. doi:10.1016/j.stueduc.2013.03.001

- Guskey, T. (2009). *The teacher as assessment leader*. Bloomington, IN: Solution Tree.
- Guskey, T. (2015). *On your mark: Challenging the conventions of grading and reporting*. Bloomington, IN: Solution Tree.
- Hall, P., & Simeral, A. (2015). *Teach, reflect, learn: Building your capacity in the classroom*. Alexandria, VA: ASCD.
- Hallinger, P. (2005). Instructional leadership and the school principal: A passing fancy that refuses to fade away. *Leadership and Policy in Schools*, 4(3), 221–239.
- Hallinger, P., & Heck, R. H. (2010). Leadership for learning: Does collaborative leadership make a difference in school improvement? *Educational Management Administration & Leadership*, 38(6), 654–678. doi:10.1177/1741143210379060
- Hallinger, P., & Murphy, J. F. (2013). Running on empty? Finding the time and capacity to lead learning. *NASSP Bulletin*, 97(1), 5–21. doi:10.1177/0192636512469288
- Hannay, L. M., Smeltzer Erb, C., & Ross, J. (2001). Building change capacity within secondary schools through goal-driven and living organisations. *School Leadership & Management*, 21(3), 271–287.
- Hargreaves, A. (2010). Leadership, change, and beyond the 21st century skills agenda. In J. Bellanca & R. Brandt (Eds.), *21st century skills: Rethinking how student learn* (pp. 327–348). Bloomington, IN: Solution Tree.
- Hargreaves, A., & Fink, D. (2013). Resourcefulness, restraint and renewal. In M. Grogan (Ed.), *Jossey-Bass reader on educational leadership* (pp. 492–524). San Francisco, CA: Jossey-Bass.
- Harlen, W. (2004). *A systematic review of the evidence of the impact on students, teachers and the curriculum of the process of using assessment by teachers for summative purposes*. London, UK: Evidence for Policy and Practice Information and Co-ordinating Centre, Social Science Research Unit, Institute of Education

- Harris, A. (2005). Leading or misleading? Distributed leadership and school improvement. *Journal of Curriculum Studies*, 37(3), 255–265. doi:10.1080/00220270500038602
- Harris, A., & DeFlaminis, J. (2016). Distriuted leadership in practice: Evidence, misconceptions and possibilities. *Management in Education*, 30(4), 141–146. doi:10.1177/0892020616656734
- Harris, A., & Jones, M. (2015, June 10). Improving learning through leadership [Blog post]. Retrieved from <http://www.scelscotland.org.uk/blog/improving-learning-through-leadership/>
- Harris, A., & Jones, M. (2017). Leading PL: Putting teachers at the centre. *School Leadership & Management*, 37(4), 331–333. doi:10.1080/13632434.2017.1343705
- Harris, A., & Muijs, D. (2002). *Teacher leadership: A review of the research*. Retrieved from https://www.researchgate.net/publication/238508986_Teacher_Leadership_A_Review_of_Research
- Harris, A., & Townshend, A. (2007). Developing leaders for tomorrow: Releasing system potential. *School Leadership and Management*, 27(2), 167–177.
- Hart, A. (1994). Creating teacher leadership roles. *Educational Administration Quarterly*, 30(4), 472–497. doi:10.1177/0013161X94030004005
- Hattie, J. (2003, October). *Teachers make a difference: What is the research evidence?* Paper presented at the Australian Council for Educational Research Annual Conference on Building Teacher Quality, Melbourne, Australia. Retrieved from <http://www.educationalleaders.govt.nz/Pedagogy-and-assessment/Building-effective-learning-environments/Teachers-Make-a-Difference-What-is-the-Research-Evidence>

- Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. New York, NY: Routledge.
- Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. New York, NY: Routledge.
- Hattie, J., & Jaeger, R. (1998). Assessment and classroom learning: A deductive approach. *Assessment in Education: Principles, Policy & Practice*, 5, 111–122.
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77, 81–112.
- Hayward, L. (2015). Assessment is learning: The preposition vanishes. *Assessment in Education: Principles, Policy & Practice*, 22(1), 27–43.
doi:10.1080/0969594X.2014.984656
- Heifetz, R., Grashow, A., & Linsky, M. (2009). *The practice of adaptive leadership*. Boston, MA: Harvard Business School Publishing.
- Hellsten, L. M., Noonan, B., Preston, J. P., & Prytula, M. P. (2013). Principals' perceptions of assessment leadership: A study of the assessment practices of school principals in Saskatchewan (Canada). *International Studies in Educational Administration*, 40(3), 57–75.
- Hewitt, P. M., Denny, G. S., & Pijanowski, J. C. (2011). Why teacher leaders don't want to be principals. *Journal of Scholarship and Practice*, 8(1), 13–23.
- Hickey, W. D., & Harris, S. (2005). Improved professional development through teacher leadership. *The Rural Educator*, 26(2), 12–16.

- Highfield, C., & Robertson, J. (2015). Developing a conceptual framework for considering the complexities of PL and development in the secondary school context. *American Journal of Educational Research*, 3(5), 610–618. doi:10.12691/education-3-5-13
- Hillman, P., Coddett, A., Gunning, A., & Marrero, M. (2016). Vertically articulated professional learning communities: Building collaboration and practice amongst K-12 science teachers. *Open Online Journal for Research and Education*, 5, 1–7.
- Hollander, J. A. (2004). The social contexts of focus groups. *Journal of Contemporary Ethnography*, 33(5), 602–637. doi:10.1177/0891241604266988
- Hollingworth, L. (2012). Why leadership matters: Empowering teachers to implement formative assessment. *Journal of Educational Administration*, 50(3), 365–379. doi:10.1108/-9578321211223356
- Hoyle, E. (1982). Micropolitics of educational organisations. *Educational Management and Administration*, 10, 87–98.
- Huang, J., & He, Z. H. (2016). Exploring assessment literacy. *Higher Education of Social Science*, 11(2), 18–27. doi:10.3968/8727
- Hunzicker, J., Lukowiak, T., Huffman, V., & Johnson, C. (2009). Tomorrow's teacher leaders: Nurturing a disposition of leadership. *Academic Leadership*, 7(4), 93–98.
- Ingram, D., Seashore Louis, K., & Schroeder, R. G. (2004). Accountability policies and teacher decision making: Barriers to the use of data to improve practice. *Teachers College Record*, 106(6), 1258–1287. doi:10.1111/j.1467-9620.2004.00379.x
- Jackson, K. M. & Marriott, C. (2012). The interaction of principal and teacher instructional influence as a measure of leadership as an organizational quality. *Educational Administration Quarterly*, 48(2), 230–258. doi:10.1177/0013161X11432925

- Jacobs, J., Beck, B., & Crowell, L. (2014). Teacher leaders as equity-centered change agents: Exploring the conditions that influence navigating change to promote educational equity. *Professional Development in Education*, 40(4), 576–596.
doi:10.1080/19415257.2014.896272
- Jakicic, C. (2008). Assessment that makes sense. In T. R. Guskey (Ed.), *The teacher as assessment leader* (pp. 33–52). Bloomington, IN: Solution Tree.
- James, N. (2008). *Authenticity*. In L. M. Given (Ed.), *The Sage encyclopedia of qualitative research methods* (Vols. 1 & 2, p. 73). Thousand Oaks, CA: Sage.
- Jones, L., & Somekh, B. (2005). Observation. In B. Somekh & C. Lewin (Eds.), *Research methods in the social sciences* (pp. 138–145). Thousand Oaks, CA: Sage.
- Jordan, M. E., Kleinsasser, R. C., & Roe, M. F. (2014). Wicked problems: Inescapable wickedity. *Journal of Education for Teaching*, 40(4), 415–430.
doi:10.1080/02607476.2014.929381
- Judson, E., & Lawson, A. E. (2007). What is the role of constructivist teachers within faculty communication networks? *Journal of Research in Science Teaching*, 44(3), 490–505.
- Kamberelis, G., & Dimitriadis, G. (2005). Focus groups: Strategic articulations of pedagogy, politics and inquiry. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 887–908). Thousand Oaks, CA: Sage.
- Kappler Hewitt, K., Childers-McKee, C., Hodge, E., & Schuler, R. (2013). *Postcards from the schoolhouse: Practitioner scholars examine contemporary issues in instructional leadership*. Ypsilanti, MI: National Council of Professors of Educational Administration.
- Katz, S., & Dack, L. A. (2012). *Intentional interruption: Breaking down learning barriers to transform professional practice*. Thousand Oaks, CA: Corwin Press.

- Katz, S., Earl, L., & Ben Jaafar, S. (2009) *Building and connecting learning communities: The power of networks for school improvement*. Thousand Oaks, CA: Corwin Press.
- Katzenmeyer, M., & Moller, G. (2009). *Awakening the sleeping giant: Helping teachers develop as leaders* (3rd ed.). Thousand Oak, CA: Corwin Press.
- Kemp, S. J. (2012). Constructivist criteria for organising and designing educational research. *Constructivist Foundations*, 8(1), 118–125.
- Kent, A. M., Green, A. M., & Feldman, P. (2012). Fostering the success of new teachers: Developing lead teachers in a statewide teacher mentoring program. *Current Issues in Education*, 15(3), 1–16.
- Kerry, T. (2005). The evolving role of the head of department. *London Review of Education*, 3(1), 65–80. doi:10.1080/14748460500036284
- Kezar, A. J., Carducci, R., & Contreras-McGavin, M. (2006). *Rethinking the “L” word in higher education: The revolution of research on leadership*. San Francisco, CA: Wiley.
- Killion, J., & Harrison, C. (2006). *Taking the lead: New roles for teachers and school-based coaches*. Oxford, OH: National Staff Development Council.
- Klentschy, M. (2008). Developing teacher leaders in science: Attaining and sustaining science reform. *Science Educator*, 17, 57–64.
- Klinger, D. A., & Rogers, W. T. (2011). Teachers’ perceptions of large-scale assessment programs within low-stakes accountability frameworks. *International Journal of Testing*, 11(2), 122–143. doi:10.1080/15305058.2011.552748
- Klinger, D. A., & Saab, H. (2012). Educational leadership in the context of low-stakes accountability: The Canadian perspective. In L. Volante (Ed.), *School leadership in*

- the context of standards-based reform: International perspectives* (pp. 69–93).
Dordrecht, Netherlands: Springer.
- Klinger, D. A., Volante, L., & DeLuca, C. (2012). Building teacher capacity within the evolving assessment culture in Canadian Education. *Policy Futures in Education*, 10(4), 447–460. doi:10.2304/pfie.2012.10.4.447
- Knight, J. (2007). *Instructional coaching: A partnership approach to improving instruction*. Thousand Oaks, CA: Corwin Press.
- Koh, K. H. (2011). Improving teachers' assessment literacy through professional development. *Teaching Education*, 22(3), 255–276. doi:10.1080/10476210.2011.593164
- Kohn, A. (2000, January). Getting rid of grades: Case studies [Web log post]. Retrieved from <http://www.alfiekohn.org/blogs/getting-rid-grades-case-studies/>
- Kohn, A. (2011). The case against grades. *Educational Leadership*, 69(3), 28–33.
- Koustelios, A., Theodorakis, N., & Goulmaris, D. (2004). Role ambiguity, role conflict and job satisfaction among physical education teachers in Greece. *The International Journal of Educational Management*, 18(2), 87–92.
- Lambert, L. (1995). Introduction. In L. Lambert, D. Walker, D. P. Zimmerman, J. E. Cooper, M. D. Lambert, & M. E. Gardner (Eds.), *The constructivist leader* (pp. xi–xiv). New York, NY: Teachers College Press.
- Lambert, L. (1998). *Building leadership capacity in schools*. Alexandria, VA: ASCD.
- Lambert, L. (2002). A framework for shared leadership. *Educational Leadership*, 59(8), 37–40.
- Lambert, L. (2003). Leadership redefined: An evocative context for teacher leadership. *School Leadership & Management*, 23(4), 420–430.
- Lambert, L. (2006). Lasting leadership: A study of high leadership capacity schools. *The Educational Forum*, 70(3), 238–254. doi:10.1080/00131720608984900

- Lambert, L., Zimmerman, D. P., & Gardner, M. E. (2016). *Liberating leadership capacity: Pathways to educational wisdom*. New York, NY: Teachers College Press.
- Larrabee, T. G., & Morehead, P. (2010). Broadening views of social justice and teacher leadership: Addressing LGB issues in teacher education. *Issues in Teacher Education*, 19(2), 37–52.
- Leadership and Teacher Development Branch. (2005). *PL in effective schools: The seven principles of highly effective PL*. Melbourne, Australia: Author. Retrieved from <http://www.education.vic.gov.au/documents/school/teachers/profdev/proflearningeffectivesch.pdf>
- Lee, J. S., Sachs, D., & Wheeler, L. (2014). The crossroads of teacher leadership and action research. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 87(5), 218–223. doi:10.1080/00098655.2014.924896
- Leithwood, K. (1992). The move toward transformational leadership. *Educational Leadership*, 49(5), 8–12.
- Leithwood, K. (2003). Teacher leadership: Its nature, development, and impact on schools and students. *Leadership in Education*, 103, 103–107.
- Leithwood, K., Day, C., Sammons, P., Harris, A., & Hopkins, D. (2006). *Successful school leadership: What it is and how it influences pupil learning*. Nottingham, UK: National College for School Leadership and Department for Education and Skills.
- Leithwood, K., & Jantzi, D. (1998, April). *Distributed leadership and student engagement in school*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA. Retrieved from <https://files.eric.ed.gov/fulltext/ED424645.pdf>

- Leithwood, K., & Mascal, B. (2008). Collective leadership effects on student achievement. *Educational Administration Quarterly*, 44(4), 529–561. doi:10.1177/0013161X08321221
- Leithwood, K., Seashore Louis, K., Anderson, S., & Wahlstrom, K. (2004). *How leadership influences student learning*. New York, NY: Wallace Foundation.
- Leong, W. S. (2014). Knowing the intentions, meaning and context of classroom assessment: A case study of Singaporean teacher's conception and practice. *Studies in Educational Evaluation*, 43, 70–78. doi:10.1016/j.stueduc.2013.12.005
- Levinsson, M., Hallström, H., & Claesson, S. (2013). Problems in developing formative assessment: A physics teacher's lived experiences of putting the ideas into practice. *Assessment Matters*, 5, 116–142.
- Lieberman, A. (2015). Teachers at the forefront. In N. Bond (Ed.), *The power of teacher leaders: Their roles, influence, and impact* (pp. 3–4). New York, NY: Routledge.
- Lieberman, A., Campbell, C., & Yashkina, A. (2017). *Teacher learning and leadership: Of, by and for teachers*. New York, NY: Routledge.
- Lieberman, A., & Friedrich, L. (2010). *How teachers become leaders: Learning from practice and research*. New York, NY: Teachers College Press.
- Lieberman, A., & Miller, L. (2004). *Teacher leadership*. San Francisco, CA: Wiley.
- Lieberman, A., Saxl, E. R., & Miles, M. B. (2006). Teacher leadership: Ideology and practice. In M. Fullan (Ed.), *The Jossey-Bass reader on educational leadership* (pp. 403–420). New York, NY: Teachers College Press.
- Lincoln, Y. S., & Denzin, N. K. (2005). Epilogue: The eighth and ninth moments—Qualitative research in/and the fractured future. In N. K. Denzin & Y. S. Lincoln

- (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 1115–1126). Thousand Oaks, CA: Sage.
- Lincoln, Y., & Guba, E. (1986). But is it rigorous? Trustworthiness and authenticity in naturalist inquiry. In D. Williams (Ed.), *Naturalistic Evaluation* (pp. 73–84). San Francisco, CA: Jossey-Bass.
- The Literacy and Numeracy Secretariat. (2010, September). *Collaborative teacher inquiry* (Capacity Building Series). Toronto, ON: Ontario Ministry of Education. Retrieved from http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_Collaborative_Teacher_Inquiry.pdf
- The Literacy and Numeracy Secretariat. (2015, January). *Pedagogical documentation revisited* (Capacity Building Series). Toronto, ON: Ontario Ministry of Education. Retrieved from http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_PedagogicalDocument.pdf
- Little, J. W. (1990). The persistence of privacy: Autonomy and initiative in teachers' professional relations. *Teachers College Record*, 91(4), 509–536.
- Little, J. W. (2002). Locating learning in teachers' communities of practice: Opening up problems of analysis in records of everyday work. *Teaching and Teacher Education*, 18, 917–946. doi:10.1016/S0742-051X(02)00052-5
- Liu, S., & Tsai, H. (2017). Teachers' experiences of collaborating in school teaching teams. *Asian Social Science*, 13(2), 159–168. doi:10.5539/ass.v13n2p159

- Lomos, C., Hofman, R. H., & Bosker, R. J. (2011). The relationship between departments as professional communities as student achievement in secondary schools. *Teaching and Teacher Education*, 27, 722–731. doi:10.1016/j.tate.2010.12.003
- Lord, B., Cress, K., & Miller, B. (2008). Teacher leadership in support of large-scale mathematics and science education reform. In M. M. Mangin & S. R. Stoelinga (Eds.), *Effective teacher leadership: Using research to inform and reform* (pp. 55–76). New York NY: Teachers College Press.
- Loucks-Horsley, S. (2003). *Designing professional development for teachers of science and mathematics*. Thousand Oaks, CA: Corwin Press.
- Loughran, J. (2002). Teacher as researcher: The PAVOT project. In J. Loughran, I. Mitchell & J. Mitchell (Eds.), *Learning from teacher research* (pp. 3–32). Crows Nest, Australia: Allen & Unwin.
- Lumby, J. (2013). Distributed leadership: The uses and abuses of power. *Educational Management Administration & Leadership*, 41(5) 581–597.
doi:10.1177/1741143213489288
- Lunenburg, F. C. (2010). The principal as instructional leader. *National Forum of Educational and Supervision Journal*, 27(4), 1–7.
- Mackenzie, N., & Knipe, S. (2006). Research dilemmas: Paradigms, methods and methodology. *Issues in Educational Research*, 16. Retrieved from <http://www.iier.org.au/iier16/mackenzie.html>
- MacTavish, M., & Kolb, J. (2006). Encouraging teacher engagement: A new approach to performance improvement in schools. *Proceedings of the Academy of Human Resource Development International Conference* (pp. 1378–1385). Columbus, OH.

- Retrieved from <http://eric.ed.gov/?id=ED492846>
- Mangin, M. M. (2007). Facilitating elementary principals' support for instructional teacher leadership, *Educational Administration Quarterly*, 43(3), 319–357.
- Mangin, M. M., & Stoelinga, S. R. (2008). *Effective teacher leadership: Using research to inform and reform*. New York, NY: Teachers College Press.
- Manning, K. (1997). Authenticity in constructivist inquiry: Methodological considerations without prescription. *Qualitative Inquiry*, 3(1), 93–115.
- Manno, C. M., & Firestone, W. A. (2008). Content is the subject: How teacher leaders with different subject knowledge interact with teachers. In M. M. Mangin & S. R. Stoelinga (Eds.), *Effective teacher leadership: Using research to inform and reform* (pp. 36–54). New York NY: Teachers College Press.
- Margolis, J., & Huggins, K. S. (2012). Distributed but undefined: New teacher leader roles to change schools. *Journal of School Leadership*, 22(5), 953–981.
- Marks, H. M., & Printy, S. M. (2003). Principal leadership and school performance: An integration of transformational and instructional leadership. *Educational Administration Quarterly*, 39(3), 370–397. doi:10.1177/0013161X03253412
- Marshall, B., & Drummond, M. J. (2006). How teachers engage with assessment for learning: Lessons from the classroom. *Research Papers in Education*, 21, 133–149.
- Marshall, K. (2008). Interim assessments: A user's guide. *Phi Delta Kappan*, 90(1), 64–68. doi:10.1177/003172170809000116
- Marzano, R. (2010). *Formative assessment & standards-based grading*. Bloomington, IN: Marzano Research.
- Mason, J. (2002). *Qualitative researching* (2nd ed.). Thousand Oaks, CA: Sage.

- Mayer, A. P., Grenier, R. S., Warhol, L., & Donaldson, M. (2013). Making a change: The role of external coaches in school-based communities of practice. *Human Resource Development Quarterly*, 24(3), 337–363. doi:10.1002/hrdq
- Mayers, R. S., & Zepeda, S. J. (2002). High school department chairs: Role ambiguity and conflict during change. *NASSP Bulletin*, 86(632), 49–64.
doi:10.1177/019263650208663205
- Mayrowetz, D., Murphy, J., Seashore Louis, K., & Smylie, M. A. (2007). Distributing leadership as work redesign: Retrofitting the job characteristics model. *Leadership and Policy in Schools*, 6, 69–101. doi:10.1080/15700760601091275
- McCrimmon, M. (2010, January/February). Is heroic leadership all bad? *Ivey Business Journal*. Retrieved from <https://iveybusinessjournal.com/publication/is-heroic-leadership-all-bad/>
- McMillan, J. H. (2007a). Formative classroom assessment: The key to improving student achievement. In J. H. McMillan (Ed.), *Formative classroom assessment: Theory into practice* (pp. 1–7). New York, NY: Teachers College Press.
- McMillan, J. H. (Ed.). (2007b). *Formative classroom assessment: Theory into practice*. New York, NY: Teachers College Press.
- McMillan, J. H., & Nash, S. (2000). *Teacher classroom assessment and grading practices decision making*. (ERIC Document Reproduction Service No. ED447195)
- Melville, W., Jones, D., & Campbell, T. (2013). Distributed leadership with the aim of “reculturing”: A departmental case study. *School Leadership & Management*, 34(3), 237–254. doi:10.1080/13632434.2013.849681

- Melville, W., & Peacock, J. (2017). Connecting the secondary science department with national reforms: The role of the chair. *Electronic Journal of Science Education*, 21(3), 1–18. Retrieved from <http://ejse.southwestern.edu/article/view/16944>
- Melville, W., & Wallace, J. (2007). Metaphorical duality: High school subject departments as both communities and organizations. *Teaching and Teacher Education*, 23, 1193–1205. doi:10.1016/j.tate.2006.10.002
- Melville, W., Wallace, J., & Bartley, A. (2007). Individuals and leadership in an Australian secondary science department: A qualitative study. *Journal of Science Education and Technology*, 16(6), 463–472.
- Meredith, E. (2007). *Leadership strategies for teachers* (2nd ed.). Thousand Oaks, CA: Sage.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass.
- Merriam, S. B. (2001). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass
- MetLife. (2013). *The MetLife survey of the American teacher: Challenges for school leadership*. Retrieved from <https://www.metlife.com/assets/cao/foundation/MetLife-Teacher-Survey-2012.pdf>
- Mezirow, J., & Associates. (Eds.). (2000). *Learning as transformation: Critical perspectives on a theory in progress*. San Francisco, CA: Jossey-Bass.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Thousand Oaks, CA: Sage.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis* (3rd ed.). Thousand Oaks, CA: Sage.

- Mills, J., Bonner, A., & Francis, K. (2006). The development of constructivist grounded theory. *International Journal of Qualitative Methods*, 5(1), Art. 3. Retrieved from http://www.ualberta.ca/~iiqm/backissues/5_1/pdf/mills.pdf
- Mir, R., & Watson, A. (2000). Strategic management and the philosophy of science: The case for a constructivist methodology. *Strategic Management Journal*, 21, 941–953. doi:10.1002/1097-0266(200009)21
- Molitor, S. (2014). *Understanding the experience of mentor teachers as teacher leaders in a secondary school context* (Doctoral dissertation). University of Toronto, ON. Retrieved from https://tspace.library.utoronto.ca/bitstream/1807/68355/1/Molitor_Suzanne_J_201406_PhD_thesis.pdf
- Moss, C. (2013). Research on classroom summative assessment. In J. H. McMillan (Ed.), *Sage handbook on research on classroom assessment* (pp. 235–255). Los Angeles, CA: Sage.
- Moss, C. M., Brookhart, S. M., & Long, B. A. (2013). Administrators' roles in helping teachers use formative assessment information. *Applied Measurement in Education*, 26, 205–218. doi:10.1080/08957347.2013.793186
- Muijs, D. (2008). Widening opportunities? A case study of school-to-school collaboration in a rural district. *Improving Schools*, 11(1), 61–73.
- Muijs, D., & Harris, A. (2006). Teacher led school improvement: Teacher leadership in the UK. *Teaching and Teacher Education*, 22, 961–972. doi:10.1016/j.tate.2006.04.010

- Muijs, D., & Harris, A. (2007). Teacher leadership in (in)action: Three case studies of contrasting schools. *Educational Management Administration & Leadership*, 35(1), 111–134. doi:10.1177/1741143207071387
- Murphy, J. (2005). *Connecting teacher leadership and school improvement*. Thousand Oaks, CA: Corwin Press.
- Nasser-Abu Alhija, F., & Fresko, B. (2010). Socialization of new teachers: Does induction matter? *Teaching and Teacher Education*, 26(8), 1592–1597.
doi:10.1016/j.tate.2010.06.010
- Neumerski, C. M. (2012). Rethinking instructional leadership, a review: What do we know about principal, teacher, and coach instructional leadership and where should we go from here? *Educational Administration Quarterly*, 49(2), 310–347.
doi:10.1177/0013161X12456700
- Neumann, M. D., Jones, L. C. S., & Webb, P. T. (2012). Claiming the political: The forgotten terrain of teacher leadership knowledge. *Action in Teacher Education*, 34, 2–13. doi:10.1080/01626620.2012.642279
- New Brunswick Department of Education and Early Childhood Development. (2011). *Framework for provincial assessments*. Fredericton, NB: Assessment and Evaluation Branch. Retrieved from
<http://people.stu.ca/~raywilliams/Meas%20&%20Eval/NBAssessment.pdf>
- Newington, L. & Metcalfe, A. (2014). Factors influencing recruitment to research: Qualitative study of the experiences and perceptions of research teams. *BMC Medical Research Methodology*, 14(10). doi:10.1186/1471-2288-14-10

- Ng, M. A. (2017). *Fostering organizational learning through vertical teacher teams in urban elementary schools* (Doctoral dissertation). Harvard Graduate School of Education. Retrieved from <https://dash.harvard.edu/handle/1/33052856>
- Nieto, S. (2007). The color of innovative and sustainable leadership: Learning from teacher leaders. *Journal of Educational Change*, 8, 299–309. doi:10.1007/s10833-007-9044-8
- Norris, N., & Walker, R. (2005). Naturalistic inquiry. In B. Somekh & C. Lewin (Eds.), *Research methods in the social sciences* (pp. 131–137). Thousand Oaks, CA: Sage.
- Nweke, W. C., & Elliot, V. L. (2014). Impediments to using or sharing what is “known.” *Georgia Educational Researcher*, 11(1), 155–169. doi:10.20429/ger.2014.110106
- Olivier, D. F., & Hipp, K. K. (2006). Leadership capacity and collective efficacy: Interacting to sustain student learning in a PL community. *Journal of School Leadership*, 16, 505–519.
- Ontario College of Teachers. (2018). *Standards of practice*. Retrieved from <https://www.oct.ca/public/professional-standards/standards-of-practice>
- Ontario Ministry of Education. (1984). *Ontario schools: Intermediate and senior*. Toronto, ON: Author.
- Ontario Ministry of Education. (2000). *Program, planning and assessment*. Toronto, ON: Author.
- Ontario Ministry of Education. (2010). *Growing success: Assessment, evaluation, and reporting in Ontario schools. First edition, covering grades 1 to 12*. Toronto, ON: Author. Retrieved from www.edu.gov.on.ca/eng/policyfunding/growSuccess.pdf.
- Ontario Ministry of Education. (2010b). *Reporting student learning: Guidelines for effective teacher-parent-student communication*. Retrieved from

- http://www.edugains.ca/resourcesAER/PrintandOtherResources/ReportingStudentLearning_Engfinal.pdf
- Ontario Ministry of Education. (2012). *Ontario leadership framework*. Toronto, ON: Author.
- Ontario Ministry of Education. (2013a). *Learning for all: A guide to effective assessment and instruction for all students, kindergarten to grade 12*. Toronto, ON: Author.
- Retrieved from <http://www.edu.gov.on.ca/eng/general/elemsec/speced/LearningforAll2013.pdf>
- Ontario Ministry of Education. (2013b). *PPM 119: Developing and implementing equity and inclusive education policies in Ontario schools*. Toronto, ON: Author. Retrieved from <http://www.edu.gov.on.ca/extra/eng/ppm/119.pdf>
- Ontario Ministry of Education. (2013c). *PPM 155: Diagnostic assessment in support of student learning*. Toronto, ON: Author. Retrieved from <http://www.edu.gov.on.ca/extra/eng/ppm/ppm155.pdf>
- Ontario Ministry of Education. (2013d). *School effectiveness framework*. Toronto, ON: Author. Retrieved from <http://www.curriculum.org/secretariat/framework/files/SEF.pdf>
- Ontario Ministry of Education. (2014). *Equity and inclusive education in Ontario schools: Guidelines for policy development and implementation*. Toronto, ON: Author. Retrieved from <http://www.edu.gov.on.ca/eng/policyfunding/inclusiveguide.pdf>
- Ontario Ministry of Education. (2016a). *The Kindergarten program*. Toronto, ON: Author. Retrieved from <https://files.ontario.ca/books/kindergarten-program-en.pdf>
- Ontario Ministry of Education. (2016b, May 31). *Policy/program memorandum no. 159*. Retrieved from <http://www.edu.gov.on.ca/extra/eng/ppm/ppm159.pdf>
- Ontario Ministry of Education. (2018). *2018-19 Teacher Learning and Leadership Program*. Retrieved from <http://www.edu.gov.on.ca/eng/teacher/tllp.html>

- Ontario Teachers' Federation. (2014). *Teaching Profession Act*. Retrieved from https://www.otffeo.on.ca/en/wp-content/uploads/sites/2/2013/09/WTT_TPA_policiesbylawsetc.pdf
- Oreg, S. (2003). Resistance to change: Developing an individual differences measure. *Journal of Applied Psychology*, 88(4), 680–693. doi:10.1037/0021-9010.88.4.680
- Organisation for Economic Co-operation and Development. (2016). *PISA 2015 Assessment and analytical framework: Science, reading, mathematics and financial literacy*. Paris, France: OECD Publishing. doi:10.1787/9789264255425-en
- Orland-Barak, L., & Hasin, R. (2010). Exemplary mentors' perspectives towards mentoring across mentoring contexts: Lessons from collective case studies. *Teaching and Teacher Education*, 26, 427–437. doi:10.1016/j.tate.2009.05.009
- Pankake, A., & Moller, G. (2007). What the teacher leader needs from the principal. *Journal of Staff Development*, 28(1), 32–34.
- Peckover, R. B., Peterson, S., Christiansen, P., & Covert, L. (2006, Summer). A constructivist pathway to teacher leadership. *Academic Exchange Quarterly*. Retrieved from http://www.thefreelibrary.com/_/print/PrintArticle.aspx?id=149613321
- Pellegrino, J. W., Wilson, M. R., Koenig, J. A., & Beatty, A. S. (Eds.). (2014). *Developing assessments for the next generation science standards*. Washington, DC: The National Academies Press.
- Pielstick, C. D. (2000). Formal vs. informal leading: A comparative analysis. *The Journal of Leadership Studies*, 7(3), 100–114.

- Pinto, L. E. (2016). Tensions and fissures the politics of standardized testing and accountability in Ontario 1995-2015. *The Curriculum Journal*, 27(1), 95–112. doi:10.1080/09585176.2016.1140061
- Pinto, L. E., Portelli, J. P., Rottmann, C., Pashby, K., Barrett, S. E., & Mujuwamariya, D. (2012). Social justice: The missing link in school administrators' perspectives on teacher induction. *Canadian Journal of Educational Administration and Policy*, 129, 1–22.
- Poekert, P. E. (2012). Teacher leadership and professional development: Examining links between two concepts central to school improvement. *Professional Development in Education*, 38(2), 169–188. doi:10.1080/19415257.2012.657824
- Popham, W. J. (2009a). Assessment literacy for teachers: Faddish or fundamental? *Theory into Practice*, 48(1), 4–11. doi:10.1080/00405840802577536
- Popham, W. J. (2009b). *Unlearned lessons: Six stumbling blocks to our schools' success*. Cambridge, MA: Harvard Education Press.
- Popham, W. J. (2011a). Assessment literacy overlooked: A teacher educator's confession. *The Teacher Educator*, 46(4), 265–273.
- Popham, W. J. (2011b). *Transformative assessment in action*. Alexandria, VA: ASCD.
- Porter, C. (2015a, February 26). Honesty and report cards prove a toxic mix. *Toronto Star*. Retrieved from <http://www.thestar.com/news/gta/2015/02/26/consistently-writing-report-cards-with-random-logic.html>
- Porter, C. (2015b, April 3). How one TDSB school gives human report cards. *Toronto Star*. Retrieved from <http://www.thestar.com/news/insight/2015/04/03/how-one-tdsb-school-gives-human-report-cards-porter.html>

- Poultney, V. (2007). The role of the effective subject leader: Perspectives from practitioners in secondary schools. *Management in Education*, 21(8), 8–14.
doi:10.1177/0892020607076655
- Pounder, J. (2006). Transformational classroom leadership: the fourth wave of teacher leadership? *Educational Management Administration & Leadership*, 34(4), 533–545.
- Quinn, T. (2003). The teacher talent trove. *Kappa Delta Pi Record*, 40(1), 26–29.
doi:10.1080/00228958.2003.10516410
- Raskin, J. D., Bridges, S. K., & Kahn, J. S. (2015). Constructivism: Where do we go from here? In J. D. Raskin, S. K. Bridges, & J. S. Kahn (Eds.), *Studies in Meaning 5: Perturbing the status quo in constructivist psychology* (pp. 300–325). New York, NY: Pace University Press.
- Reeves, D. (2008). *Reframing teacher leadership to improve your school*. Alexandria, VA: ASCD.
- Reid, J., Drake S., & Beckett, D. (2011). Exploring teacher and administrator perceptions of assessment in the face of new assessment policies. *Canadian Perspectives: Education Coast to Coast to Coast*, 1(1). Retrieved from <http://www.canadianperspectivesjournal.ca/uploads/1/5/8/2/15827834/1-1-1-sm.pdf>
- Reiser, B. J. (2013). *What professional development strategies are needed for successful implementation of the next generation science*. Invitational Research Symposium on Science Assessment: ETS. Retrieved from https://www.ets.org/research/policy_research_reports/publications/paper/2013/jvh
- Reubling, C. E., Stow, S. B., Kayona, F. A., & Clarke, N. A. (2004). Instructional leadership: An essential ingredient for improving student learning. *The Educational Forum*, 68, 243–253.

- Rigby, J. G., & Tredway, L. (2012). Action matters: How school leaders enact equity principles. In M. Khalifa, N. Witherspoon Artond, A. F. Osanloo, & C. M. Grant (Eds.), *Handbook of urban educational leadership* (pp. 329–347). Lanham, MD: Rowman & Littlefield.
- Ringler, M., O’Neal, D., Rawls, J., & Cumiskey, S. (2013). The role of school leaders in teacher leadership development. *Rural Educator*, 35(1), 34–44.
- Rizvi, M. (2008). The role of school principals in enhancing teacher professionalism. *Educational Management Administration & Leadership*, 36(1), 85–100.
- Roberts, J. (2007). Developing a network of teacher researchers to build capacity within a department, across a school and within a local authority. *Proceedings of the International Congress for Effectiveness and Improvement* (pp. 201–218). Retrieved from <http://www.fm-kp.si/zalozba/ISBN/978-961-6573-65-8/201-218.pdf>
- Rodwell, M. K. (1998). *Social work constructivist research*. New York, NY: Taylor & Francis.
- Rodwell, M. K., & Byers, K. V. (1997). Auditing constructivist inquiry: Perspectives of two stakeholders. *Qualitative Inquiry*, 3, 116–134.
- Rogers, T. W. (2014). Improving the utility of large-scale assessments in Canada. *Canadian Journal of Education*, 37(3), 1–22.
- Rottmann, C. (2011). *Organized leadership for equitable change: Union-active teachers dedicated to social justice* (Doctoral dissertation). OISE, Toronto, ON. Retrieved from https://tspace.library.utoronto.ca/bitstream/1807/29935/6/Rottmann_Cynthia_201106_PhD_thesis.pdf
- Rushowy, K. (2014, August 27). Math: Number one problem for Ontario school boards. *Toronto Star*. Retrieved from

- http://www.thestar.com/yourtoronto/education/2014/08/27/math_number_one_problem_for_ontario_school_boards.html
- Rushowy, K. (2017, September 6). Report card, curriculum changes on the way in Ontario. *Toronto Star*. Retrieved from <https://www.thestar.com/news/queenspark/2017/09/06/report-card-curriculum-changes-on-the-way-in-ontario.html>
- Rushton, K. (2017). Instructional leadership: The art of asking questions to promote teaching effectiveness. In P. Preciado Babb, L. Yeworiew, & S. Sabbaghan (Eds.), *Selected proceedings of the IDEAS conference: Leading educational change* (pp. 131–139). Calgary, AB: Werklund School of Education, University of Calgary. Retrieved from <https://prism.ucalgary.ca/handle/1880/52120>
- Rutherford, C. (2006). Teacher leadership and organizational structure: The implications of restructured leadership in an Edison school. *Journal of Educational Change*, 7, 59–76. doi:10.1007/s10833/-006-0013-4
- Rutherford, C. (2016). Tech-enabled teacher leaders: How technology is redistributing school leadership. *Education Canada*, 56(4). Retrieved <http://www.cea-ace.ca/education-canada/article/tech-enabled-teacher-leaders>
- Ryan, J. (2007). Inclusive leadership: A review. *Journal of Educational Administration and Foundations*, 18(1–2), 92–125.
- Sackstein, S. (2015). *Hacking assessment: Ten ways to go gradeless in traditional grades school*. Cleveland, OH: Times 10 Publications.
- Sadler, D. R. (1989). Formative assessment and the design of instructional systems. *Instructional Science*, 18, 119–144.

- Sandberg, J., & Alvesson, M. (2011). Ways of constructing research questions: Gap-spotting or problematization? *Organization*, 18, 23–44. doi:10.1177/1350508410372151
- Sanocki, S. J. (2013). *The process of how teachers become teacher leaders and how teacher leadership becomes distributed within a school: A grounded theory research study* (Doctoral dissertation). Western Michigan University, Kalamazoo, MI. Retrieved from <https://scholarworks.wmich.edu/dissertations/171/>
- Schmidt, M. (2000). Role theory, emotions, and identity in the department headship of secondary schooling. *Teaching and Teacher Education*, 16, 827–842. doi:10.1016/S0742-051X(00)00029-9
- Schön, D. (1995, September 28). *Reflective practice: Its implications for classroom, administration, and research* (Public lecture presented at University of Melbourne, Australia). Retrieved from <http://www.uni.edu/~eastk/109/sp08/270905.pdf>
- Schreiber, C., & Carley, K. M. (2006). Leadership style as an enabler of organizational complex functioning. *Emergence: Complexity & Organization*, 8(40), 61–76.
- Scott, S., Webber, C. F., Lupart, J. L., Aitken, N., & Scott, D. E. (2012). Fair and equitable assessment practices for all students. *Assessment in Education: Principles, Policy & Practice*, 21(1), 52–70. doi:10.1080/0969594X.2013.776943
- Scott-Williams, P., Lakin, J. M., & Kensler, L. A. W. (2015). Measuring the impact of teacher leaders. In N. Bond (Ed.), *The power of teacher leaders: Their roles, influence, and impact* (pp. 210–222). New York, NY: Routledge.
- Scribner, S. M. P., & Bradley-Levine, J. (2010). The meaning(s) of teacher leadership in urban high school reform. *Education Administration Quarterly*, 46(4), 491–522.
- Searby, L., & Shaddix, L. (2008). Growing teacher leaders in a culture of excellence. *The Professional Educator*, 32(1), 1–9.

- Seashore Louis, K. (2007). Trust and improvement in schools. *Journal of Educational Change*, 8, 1–24. doi:10.1007/s10833-006-9015-5
- Sergiovanni, T. (2005). Organization, market and community as strategies for change: What works best for deep changes in schools. In A. Hargreaves (Ed.), *Extending educational change* (pp. 296–315). Dordrecht, Netherlands: Springer.
- Shannon, P., & Hambacher, E. (2014). Authenticity in constructivist inquiry assessing an elusive construct. *The Qualitative Report*, 19(26), 1–13. Retrieved from <http://www.nova.edu/ssss/QR/QR19/shannon26.pdf>
- Shapiro, A., & Koren, A. (2007). Constructivist perspective on autonomy and accountability. *Proceedings of the 20th annual world ICSEI congress*. Retrieved from <http://www.fm-kp.si/zalozba/ISBN/978-961-6573-65-8/257-260.pdf>
- Shields, C. M. (2010). Transformative leadership: Working for equity in diverse contexts. *Educational Administration Quarterly*, 46(4), 558–589. doi:10.1177/0013161X10375609
- Shumate, B. T., Munoz, M. A., & Winter, P. A. (2005). Evaluating teacher-leaders for careers as administrators: Effects of job attributes, teacher leader role, and teaching assignment area. *Journal of Personnel Evaluation in Education*, 18, 21–38. doi:10.1007/s11092-006-9007-2
- Silva, D. Y., Gimbert, B., & Nolan, J. (2000). Sliding the doors: Locking unlocking possibilities for teacher leadership. *Teachers College Record*, 102(4), 779–804.
- Simon, M., Tierney, R. D., Forgette-Giroux, R., Charland, J., Noonan, B., & Duncan, R. (2010). A secondary school teacher's description of the process of determining report card grades. *McGill Journal of Education*, 45(3), 535–553.
- Smeets, K., & Ponte, P. (2009). Action research and teacher leadership. *Professional Development in Education*, 35(2), 175–193. doi:10.1080/13674580802102102

- Smith, C. D., Worsfold, K., Davies, L., Fisher, R., & McPhail, R. (2013). Assessment literacy and student learning: The case for explicitly developing students “assessment literacy.” *Assessment & Evaluation in Higher Education*, 38(1), 44–60.
doi:10.1080/02602938.2011.598636
- Smylie, M. (1997). Research on teacher leadership: Assessing the state of the art. In B. J. Biddle, T. L. Good, & I. F. Goodson (Eds.), *International handbook of teachers and teaching* (pp. 521–592). Dordrecht, Netherlands: Kluwer.
- Smylie, M. A., Conley, S., & Marks, H. M. (2002). Reshaping leadership in action. In J. Murphy (Ed.), *The educational leadership challenge: Redefining leadership for the 21st century* (pp. 162–189). Chicago, IL: National Society of the Study of Education.
- Smylie, M. A., & Denny, J. (1990). Teacher leadership: Tensions and ambiguities in organizational perspective. *Educational Administration Quarterly*, 26(3), 235–259.
doi:10.1177/0013161X90026003003
- Somekh, B., Burman, E., Delamont, S., Meyer, J., Payne, M., & Thorpe, R. (2005). Research communities in the social sciences. In B. Somekh & C. Lewin (Eds.), *Research methods in the social sciences* (pp. 1–4). Thousand Oaks, CA: Sage.
- Spillane, J. P. (2005). Distributed leadership. *The Educational Forum*, 69, 143–150.
doi:10.1080/00131720508984678
- Spillane, J. P., Camburn, E. M., Pustejovsky, J., Stietziel Paraja, A., & Lewis, G. (2008). Taking a distributed perspective: Epistemological and methodological tradeoffs in operationalizing the leader-plus aspect. *Journal of Educational Administration*, 46(2), 189–213. doi:10.1108/09578230810863262
- Starr, K. (2011). Principals and the politics of resistance to change. *Educational Management & Leadership*, 39(6), 646–660. doi:10.1177/1741143211416390

- Staw, B. M. (1976). Knee-deep in the big muddy: A study of escalating commitment to a chosen course of action. *Organizational Behavior and Human Performance*, 16(1), 27–44. doi:10.1016/0030-5073(76)90005-2
- Stein, L. (2014). Leadership: The teacher's imperative. *Journal of Leadership Education*, 162–169. doi:10.12806/V13/I2/A3
- Stephenson, C. E. (1961). Departmental organization for better instruction. *NASSP Bulletin*, 45(269), 9–14. doi:10.1177/019263656104526902
- Sterrett, W. (2015). Maximizing teacher leadership: The principal as facilitator. In N. Bond (Ed.), *The power of teacher leaders* (pp. 43–54). New York, NY: Routledge.
- Stewart, T. (2012). Classroom teacher leadership: Service-learning for teacher sense of efficacy and servant leadership development. *School Leadership & Management*, 32(3), 233–259. doi:10.1080/13632434.2012.688741
- Stiggins, R. J. (1991). Assessment literacy. *Phi Delta Kappan*, 72(7), 534–539.
- Stiggins, R. J. (2004). New assessment beliefs for a new school mission. *Phi Delta Kappan*, 86(1), 22–27.
- Stiggins, R. (2014). Improve assessment literacy outside of schools too. *Phi Delta Kappan*, 96, 67–72.
- Stiggins, R. J., & Chappuis, J., (2008). Using student-involved classroom assessment to close achievement gaps. *Theory Into Practice*, 44(1), 11–18.
- Struyve, C., Meredith, C., & Gielen, S. (2014). Who am I and where do I belong? The perception and evaluation of teacher leaders concerning teacher leadership practices and micropolitics in schools. *Journal of Educational Change*, 15(2), 203–230. doi:10.1007/s10833-013-9226-5

- Supovitz, J., Sirinides, P., & May, H. (2010). How principals and peers influence teaching and learning. *Educational Administration Quarterly*, 46(1), 31–56.
doi:10.1177/1094670509353043
- Sweeney, J. (2015, April 16). *The wicked problem of learning and assessment technologies*. Retrieved from <https://www.linkedin.com/pulse/wicked-problem-learning-assessment-technologies-dr-joe-sweeney>
- Temple University, College of Education. (2013). *School leadership*. Retrieved from <https://education.temple.edu/leadership>
- Third International Conference on Assessment for Learning. (2009). Position paper on assessment for learning from the Third International Conference on Assessment for Learning, Dunedin, New Zealand. Retrieved from <https://www.fairtest.org/sites/default/files/Assess-for-Learning-position-paper.pdf>
- Timperley, H. S. (2005). Distributed leadership: Developing theory from practice. *Journal of Curriculum Studies*, 37(4), 395–420. doi:10.1080/00220270500038545
- Timperley, H. (2010). *Using evidence in the classroom for PL*. Paper presented to the Ontario Research Symposium, Toronto, ON. Retrieved from <http://www.educationalladers.govt.nz/Pedagogy-and-assessment/Evidence-based-leadership/Data-gathering-and-analysis/Using-evidence-in-the-classroom>
- Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher PL and development: Best evidence synthesis iteration*. Wellington, New Zealand: Ministry of Education. Retrieved from <http://educationcounts.edcentre.govt.nz/goto/BES>

- Turner, C. (1996). The roles and tasks of a subject head of department in secondary schools in England and Wales: A neglected area of research? *School Organisation*, 16(2), 203–217. doi:10.1080/0260136960160207
- Vallie, L., & Buese, D. (2007). The changing roles of teachers in an era of high stakes-accountability. *American Educational Research Journal*, 44(3), 519–558. doi:10.3102/0002831207306859
- Verchota, J. W. (1971). The department chairman: Manager or specialist. *High School Journal*, 55, 128–132.
- Vlachou, M. A. (2015). Does assessment for learning work to promote student learning? The England paradigm. *The Clearing House*, 88, 101–107. doi:10.1080/00098655.2015.1032194
- Volante, L. (2007). Education, quality and accountability in Ontario: Past, present and future. *Canadian Journal of Educational Administration and Policy*, 58. Retrieved from https://umanitoba.ca/publications/cjeap/articles/volante_educational%20_quality.html
- Volante, L. (2012). Educational reform, standards, and school leadership. In L. Volante (Ed.), *School leadership in the context of standards-based reform: International perspectives* (pp. 249–260). New York, NY: Springer.
- Volante, L., & Beckett, D. (2011). Formative assessment and the contemporary classroom: Synergies and tensions between research and practice. *Canadian Journal of Education*, 34(2), 239–255. Retrieved from <https://files.eric.ed.gov/fulltext/EJ936752.pdf>
- Volante, L., & Cherubini, L. (2011). The challenges school administrators face in building assessment literacy. *Assessment Matters*, 3, 161–182.

- Volante, L., & Earl, L. (2012). Thoughts on school leadership policy, practice, and future inquiry. In L. Volante (Ed.), *School leadership in the context of standards-based reform: International perspectives* (pp. 249–260). New York, NY: Springer.
- Volante, L., & Fazio, X. (2007). Exploring teacher candidates' assessment literacy: Implications for teacher education reform and professional development. *Canadian Journal of Education*, 30(3), 749–770.
- Volante, L., & Fazio, X. (2009). Exploring teachers' and administrators' assessment literacy: Implications for classroom practice and professional development. *Journal of the International Society for Teacher Education*, 13(2), 32–42.
- Wahlstrom, K. L., & Seashore Louis, K. (2008). How teachers experience principal leadership: The roles of professional community, trust, efficacy, and shared responsibility. *Educational Administration Quarterly*, 44(4), 458–495.
doi:10.1177/0013161X08321502
- Walker, D., & Lambert, L. (1995). Learning and leading theory: A century in the making, In L. Lambert, D. Walker, D. P. Zimmerman, J. E. Cooper, M. D. Lambert, M. E. Gardner, & P. J. Ford Slack (Eds.), *The constructivist leader* (pp. 1–27). New York, NY: Teachers College Press.
- Wallace, J., Parker, L., & Wildy, H. (1995). Curriculum reform and the case of the disappearing agents. *Educational Studies*, 21(1), 41–54.
- Walumbwa, F. O., Avolio, B. J., Gardner, W. L., Wernsing, T. S., & Peterson, S. J. (2007). Authentic leadership: Development and validation of a theory-based measure. *Journal of Management*, 34(1), 89–126. doi:10.1177/0149206307308913

- Washbush, J. B. (1998). Teaching leadership as a non-positional phenomenon. *Journal of Workplace Learning*, 10(6/7), 337–339.
- Webber, C. F., Scott, S., Aitken, E. N., Lupart, J., & Scott, D. E. (2013). Leading assessment for enhanced student outcomes. *School Leadership & Management*, 33(3), 240–255. doi:10.1080/13632434.2013.773885
- Weisse, S. L., & Zentner, S. M. (2015). The impact of teacher leaders on students, colleagues, and communities: Insights from administrators. In N. Bond (Ed.), *The power of teacher leaders: Their roles, influence, and impact* (pp. 236–244). New York, NY: Routledge.
- Weller, L. D. (2001). Department heads: The most underutilized leadership position. *NASSP Bulletin*, 85(625), 73–81.
- Wellington, J. (2000). *Educational research: Contemporary issues and practical approaches*. New York, NY: Continuum.
- Wells, C. M. (2012). Superintendents' perceptions of teacher leadership in selected districts. *International Journal of Educational Leadership Preparation*, 7(2), 1–10.
- Wells, C. M., Maxfield, R. C., Klocko, B., & Feun, L. (2010). The role of superintendents in supporting teacher leadership: A study of principals' perceptions. *Journal of School Leadership*, 20, 669–693. Retrieved from <http://eric.ed.gov/?id=EJ916121>
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge, U.K.: Cambridge University Press.
- Wettersten, J. A. (1992, April). *High school department chairs as instructional leaders: Four case studies*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

- Wiggins, G. (1989). A true test: Toward more authentic and equitable assessment. *The Phi Delta Kappan*, 70(9), 703–713.
- Wiggins, G., & McTighe, J. (2005). *Understanding by design* (2nd ed.). Alexandria, VA: ASCD.
- William, D. (2011). *Embedded formative assessment*. Bloomington, IN: Solution Tree.
- William, D., & Leahy, S. (2015). *Embedding formative assessment: Practical techniques for K-12 classrooms*. Bloomington, IN: Solution Tree.
- Wilkinson, D., & Birmingham, P. (2003). *Using research instruments: A guide for researchers*. New York, NY: Routledge-Falmer.
- Williams, P. S., Lakin, J. M., & Kensler, L. A. W. (2015). Measuring the impact of teacher leaders. In N. Bond (Ed.), *The power of teacher leaders: Their roles, influence, and impact* (pp. 210-222). New York, NY: Routledge.
- Willis, J., Adie, L., & Klenowski, V. (2013). Conceptualising teachers' assessment literacies in an era of curriculum and assessment reform. *The Australian Educational Researcher*, 40(2), 241–256. doi:10.1007/s13384-013-0089-9
- Witziers, B., Bosker, R. J., & Kruger, M. L. (2003). Educational leadership and student achievement: The elusive search for an association. *Educational Administration Quarterly*, 39(3), 398–425.
- Wright, N., & Adam, A. (2015). The “critical friend” role in fostering reflective practices and developing staff cohesion: A case study in a new secondary school, New Zealand. *School Leadership & Management*, 35(4), 441-457, doi:10.1080/13632434.2015.1070821

- York-Barr, J., & Duke, K. (2004). What do we know about teacher leadership? Findings from two decades of scholarship. *Review of Educational Research*, 74(3), 255–316. doi:10.3102/00346543074003255
- Yow, J. A. (2007). The micropolitics of teacher leadership through an assumptive worlds framework. In S. Donahoo & R. C. Hunte (Eds.), *Teaching leaders to lead teachers: Educational administration in the era of constant crisis advances in educational administration* (Vol. 10, pp. 195–215). Amsterdam, Netherlands: Elsevier.
- Yukl, G. (1998). *Leadership in organizations*. Upper Saddle River, NJ: Prentice-Hall.
- Yukl, G. (1999). An evaluation of conceptual weaknesses in transformational and charismatic leadership theories. *Leadership Quarterly*, 10(2), 285–305. doi:10.1016/S1048-9843(99)00013-2
- Yusof, H., Al-Hafiz Osmā, M. N., Mohd Noor, & M. A. (2016). School culture and its relationship with teacher leadership. *International Journal of Academic Research in Business and Social Sciences*, 6(11), 272–286. doi:10.6007/IJARBSS/v6-i11/2396
- Zembylas, M., & Bulmahn Barker, H. (2007). Teachers' spaces for coping with change in the context of a reform effort. *Journal of Educational Change*, 8, 235–256.
- Zimmerman, J. (2006). Why some teachers resist change and what some principals can do about it. *NAASP Bulletin*, 90, 238–249. doi:10.1177/0192636506291521
- Zoltners Sherer, J. (2008. March). *Power in distributed leadership: How teacher agency influences instructional leadership practice*. Paper presented at the AERA conference, Washington, DC. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.307.6158&rep=rep1&type=pdf>

Appendix A

Website Post for Recruitment

Secondary School Research Participants Sought

Please accept this invitation to participate in a research project entitled, **Informal teacher leaders: Secondary school teachers' perceptions of how they collaboratively construct and implement classroom assessment policy and practice** being carried out by Kristen A. Clarke, (doctoral candidate at Brock University).

As part of this study, I wish to explore the experiences of informal teacher leaders working collaboratively to construct and implement classroom assessment policy and practices.

This research will involve 3-5 hours of your time over the course of eight months. It will involve one or two interviews, assessment related meeting observations, and document analysis.

This study has been reviewed and received ethics clearance through the Research Ethics Board at Brock University (file # 14-230) and the Peel District School Board's ethics review committee.

If you are a secondary school teacher who is currently leading or collaborating with colleagues on classroom assessment related topics and would like to take part in this research, please contact Kristen A. Clarke at kc05lv@BrockU.ca for more information.

Thank you in advance,

Kristen A Clarke Doctoral candidate Faculty of Education

Dr. Denise Armstrong Associate Professor Faculty of Education

Appendix B

Script for Initial Contact

Hello, my name is Kristen Clarke and I am a graduate student from Brock University working on my doctoral degree in education dissertation entitled: Informal teacher leaders: Secondary school teachers' perceptions of how they collaboratively construct and implement classroom assessment policy and practice. This study has been reviewed and received ethics clearance through the Research Ethics Board at Brock University (file # 14-230). My dissertation supervisor is Dr. Denise Armstrong. This constructivist inquiry blends a focus on informal teacher leadership and classroom assessment practices to explore perceptions of teacher leaders who collaboratively construct and collectively implement policy. My purpose is to provide a more in-depth understanding of the perceptions of informal teacher leaders regarding their roles and to give a voice to existing informal teacher leaders. I am looking to interview six informal teacher leaders along with two or three of their teaching colleagues; these individuals will reflect the diversity of the population in this leadership role.

Participation in this study would involve a minimum of three hours and a maximum of five hours of contact. Your participation would include the completion of an Initial Questionnaire. This Initial Questionnaire asks you to identify personal demographic details such as your age, gender and your work related details as they pertain to your work as an informal teacher leader. Only a sample of those who participate in the Initial Questionnaire will be invited to participate in the interviews. Research participants will be selected based on ethnic background, age and years in a teaching position. Participation will include an initial interview, followed by a revision of your interview transcript, a follow-up group interview with your teaching colleague and another revision of your transcript. Interviews would take

place in a mutually convenient location, after school hours and not on school property. Your participation would be confidential and you would be provided with a summary of the findings after the research is completed.

Would you be interested participating in this research?

Can I have your contact information for communication purposes?

Appendix C

Letter of Invitation



Faculty of Education
Department of Graduate and Undergraduate Studies
in Education

Brock University
Niagara Region
500 Glenridge Ave.
St. Catharines, ON
L2S 3A1 Canada
T 905 688 5550
F 905 641 5091

brocku.ca

May 21, 2015

Dear Participant,

Please accept this letter as an invitation to participate in a project entitled, **Informal teacher leaders: Secondary school teachers' perceptions of how they collaboratively construct and implement classroom assessment policy and practice** being carried out by Kristen A. Clarke, (doctoral student at Brock University). As part of this study, I wish to explore the experiences of informal teacher leaders working collaboratively to construct and implement classroom assessment policy and practices.

I am especially interested in informal teacher leadership perceived experiences, with the primary purpose of acquiring insights into the ways in which informal teacher leaders navigate this role and their collaborative work around classroom assessment. Although a number of studies examine teacher leadership, very few focus on how informal teacher leaders work with collaborators to construct and implement classroom assessment policy and practice (Collay, 2011; Frost, 2012).

As a participant, you will be invited to take part in a series of face-to-face semi-structured interviews: one individual interview for informal teacher leaders, along with one group interview for the informal teacher leader and his or her collaborators. These interviews are anticipated to last no longer than 60 minutes per session. The interview will take place at a mutually convenient time and location of your choice. With your permission, interviews will be audio recorded and subsequently transcribed by either the student researcher or a professional transcriber, both of whom have signed a confidentiality agreement for this research study. Additionally, 2-3 planning or collaborative assessment-related experiences that you engage in will be observed and with permission, audio recorded. The researcher will also take notes during these collaborations. Finally, you will be invited to share any copies of assessment related documents that you create for analysis. These documents will be returned to you.

During the interview process, I will provide questions and prompts that focus on your experiences as an informal teacher leader or as an individual working with an informal teacher leader. You will also be asked to reflect on the factors and conditions that impact your collaborative work around classroom assessment policies and practice. As the interview progresses, I will ask questions for clarification or further understanding, although my role will be to listen to you speak about your perceptions and experiences. Approximately four-six weeks

after the interviews, you will receive a copy of your interview transcript by mail as well as any conclusions, summaries and/or narratives based on it. You will have two weeks to review the transcriptions and make any adjustments you see as necessary to your contributions. You will be provided with a return envelope to return your transcriptions. Similarly, four-six weeks after the observations and document analyses, you will receive a copy of your collective comments, any conclusions, summaries and/or narratives based on them, along with your documents, by mail. At that time, you will be asked to provide additional information, clarification or correct any misinterpretations. Please return the documents within two weeks by using the self-addressed and stamped return envelope.

Participation in this study will have no bearing on your professional role and there is no evaluative or judgmental component to the study. Please be aware that your participation will be known to other participants and that there may be a possible impact on your status or reputation within this team.

Participation is voluntary and you may choose to withdraw from the study at any time and without penalty. Should you choose to withdraw, your data will be immediately destroyed and omitted from any transcriptions; any information collected will not be used in any way for the current or any future research.

I anticipate that participation in this study will be enjoyable and provide you with an opportunity to discuss and reflect on your experiences as an informal teacher leader or as a collaborator on classroom assessment practices. In addition, your responses will fill an important gap within the literature by sharing research and practice about the perceptions that teachers have of informal teacher leadership and assessment practices. This information may also inform policy makers and school board members about the challenges that informal teacher leaders face, as well as ways in which they can be mentored and supported to work toward effective classroom assessment practices.

If you wish to participate in the study, please contact Kristen A. Clarke at kc05lv@brocku.ca and complete the attached Initial Questionnaire: Research Candidate Information Profile along with the Informed Participant Consent letter. Please return these to the Kristen A. Clarke within two weeks in the attached self-addressed and stamped envelope. I would like to assure you that this study has been reviewed and received ethics clearance through the Research Ethics Board at Brock University (file # 14-230) and the Peel District School Board's ethics review committee. If you have any comments or concerns resulting from your participation in this study, please feel free to contact Brock's Research Ethics Office, at (905) 688 5550 x 3035 or by email at reb@brocku.ca.

Thank you,

Kristen A Clarke
Doctoral candidate

Dr. Denise Armstrong
Associate Professor
Faculty of Education

Appendix D

Informed Consent Form

Date:

Informal teacher leaders: Secondary school teachers' perceptions of how they collaboratively construct and implement classroom assessment policy and practice

Principal Student Investigator: Kristen A Clarke, Faculty of Education
email: kc05lv@brocku.ca

Supervisor: Dr. Denise Armstrong, Faculty of Education
905-688-5550 ext. 5166
email: denise.armstrong@brocku.ca

Dear _____ (Participant's Name)

Thank you for expressing interest in participating in my research study examining the experiences of informal teacher leaders working to collaboratively construct and implement classroom assessment policy and practices.

WHAT IS INVOLVED

As a participant in this research study, you will be asked to take part in up to two face-to-face semi-structured interviews which will be audio recorded for accuracy purposes, and will last no longer than 60 minutes per session. One interview will be for informal teacher leaders only. The second interview will be conducted with the collaborative team. The interview will take place at a mutually convenient time and location of your choice. You may choose to withdraw from the interview at any time. During the interview, I will ask you questions about your experiences as and informal teacher leader and or collaborator working with an informal teacher leader.

During the interview process, I will provide questions and prompts that focus on your experiences as an informal teacher leader or as an individual working with an informal teacher leader. You will also be asked to reflect on the factors and conditions that impact your collaborative work around classroom assessment policies and practice. As the interview progresses, I will ask questions for clarification or further understanding although my role will be to listen to you speak about your perceptions and experiences.

Additionally, I will observe and audio record 2-3 planning or collaborative assessment-related experiences that you engage in during your work around classroom assessment. These observations will be used to deepen my understanding of how you collaborate and engage in leadership within assessment contexts. You will also be invited to share copies of any assessment related materials that you create for analysis. These documents will be returned to you.

Approximately four to six weeks after the interviews, you will receive a copy of your

individual interview transcripts for your review if you are an informal teacher leader, or a group transcript with all comments made by the contributors, by mail, as well as any conclusions, summaries and/or narratives based on it. This review should take approximately two hours. You will have two weeks to review the transcriptions and make any adjustments you see as necessary to your contributions. You will be provided with a self-addressed and stamped return envelope to return your transcriptions. If you do not return the transcriptions with your comments within the two weeks, I will assume that you do not have any comments and proceed with the research.

Similarly, four-six weeks after the observations and document analyses, you will receive a copy of your collective comments, any conclusions, summaries and/or narratives based on them, along with your documents, by mail. At that time, you will be asked to provide additional information, clarification or correct any misinterpretations; this should take approximately two hours. Please return this document within two weeks by using the self-addressed and stamped return envelope.

Participation in this study will have no bearing on your professional role and there is no evaluative or judgmental component to the study. Participation is voluntary and you may choose to withdraw from the study at any time and without penalty. Should you choose to withdraw, your data will be immediately destroyed and omitted from any transcriptions; any information collected will not be used in any way for the current or any future research.

POTENTIAL BENEFITS AND RISKS

It is hoped you will benefit from having an opportunity to discuss and reflect on your experiences. In addition, your responses will fill an important gap within the literature by research and practice about the perceptions that teachers have of informal teacher leadership and assessment practices. This information may also inform policy makers and school board members about the challenges that informal teacher leaders face, as well as ways in which they can be mentored and supported to work toward effective classroom assessment practices. There are no known or anticipated risks associated with participation in this study. Please be aware that your participation will be known to other participants and that there may be a possible impact on your status or reputation within this team.

CONFIDENTIALITY

The information you provide will be kept confidential and you will be asked to select a pseudonym as part of the initial interview. This pseudonym will be used throughout the data collection phase as well as in the final written study. All potentially identifying information will be coded (and if necessary altered or removed) so that any identifying features (e.g., school, department) will remain confidential. In other words, your name and any identifying information will not appear in any verbal or written materials related to this study, (e.g., articles, presentations). Instead, anonymous quotations may be used with your permission. All written records, audio or video recordings, notes and other materials related to this research will be kept in a secured and locked cabinet in the principal investigators' offices. All paper material will be confidentially destroyed by shredding and recycling after seven years. In addition, all digital and electronic materials will be kept in password-protected files and wiped from memory after seven years. The data will be retained for a period of seven

years to allow for comparison with future studies. Access to this data will be restricted to the principal investigators, Dr. Denise Armstrong and Kristen Clarke. There are limits to the confidentiality of this study as participants are recruited through agreement to participate as part of a collective and it engages informal teacher leaders and their colleagues in collaborative interviews and observations. All audio recordings will be destroyed after transcription. The master list linking participants' names and pseudonyms will be destroyed after participants have received a final copy of the research report.

VOLUNTARY PARTICIPATION

Participation in this study is entirely voluntary. You are free to ask any questions about the research focus, methodology and your involvement at any time. If you wish, you may decline to answer any questions or to participate in any component of the study. You may decide to withdraw from this study at any time, without penalty. If you choose to withdraw from this study, your individual interview data will be destroyed. While it may not be possible to delete individual participants' comments from the group interviews, wherever possible, all attempts will be made to delete the participants' comments from the electronic and written group data.

PUBLICATION OF RESULTS

Results of this study will be used in conference presentations and publications. The school board may have access to these conference presentations and publications. Participants will be sent a summary of the research findings by mail or email prior to 30/12/2017 and they may also request copies of published articles.

If you have any questions about this study or require further information, please contact either Denise Armstrong (Denise.Armstrong@brocku.ca) or Kristen A Clarke (kc05lv@brocku.ca). This study has been reviewed and received ethics clearance through the Research Ethics Board at Brock University (file # 14-230). If you have any comments or concerns about your rights as a research participant, please contact the Research Ethics Office at (905) 688-5550 ext. 3035, reb@brocku.ca. Thank you for your assistance in this project. Please keep a copy of this form for your records.

CONSENT FORM

I agree to participate in this study described above. I have made this decision based on the information I have read in the Informed Consent Letter. I have had the opportunity to receive any additional details I wanted about the study, and I understand that I may ask questions in the future. I understand that I may withdraw this consent at any time.

Name: _____ Address: _____

Phone Number: _____ email: _____

_____ Place an x here if you agree to have your individual interview audio recorded.

_____ Place an x here if you agree to have your group interview audio recorded.

_____ Place an x here if you agree to have your collaborations audio recorded.

Signature: _____ Date: _____

Appendix E

Initial Questionnaire: Research Candidate Information Profile

Please complete the following Research Candidate Information Profile and submit it in the enclosed envelope to the head secretary at your school by Jan 30, 2015. Thank you for your participation.

Please identify the following:

1. Gender ☐ male ☐ female
2. Age ☐ 25 - 29 ☐ 30 - 39 ☐ 40 - 49
 ☐ 50 - 59 ☐ 60 - 69
3. Do you identify yourself as a member of a racialized community?
☐ Yes ☐ No

If you answered yes to question 3, which community do you identify with?

4. Departments you currently teach in _____
5. Number of years in teaching _____
6. Please list two or three colleagues with whom you collaborate on assessment related topics that I can invite to this research.

7. Briefly describe your assessment related collaborative experiences.

Appendix F

Interview Guide for Informal Teacher Leader

The following are a list of questions that will guide the interview.

1. What is the perceived purpose and nature of informal teacher leaders' roles when constructed by teacher leaders?
 - a. How do you define your role?
 - b. Describe your perceived responsibilities.
 - c. What is an informal teacher leader?
 - d. Do you see yourself as a teacher leader?
 - e. What is the purpose of your collaborative work?
 - f. How does your collaborative work support Growing Success?
2. How do informal teacher leaders navigate the organizational factors and conditions as they engage in collaborative work related to classroom assessment policies and practices?
 - a. What are the primary supports in your role?
 - b. What are the barriers or obstacles to your role?
 - c. What are some of the leadership challenges that you experience?
 - d. What experiences have you had that have impacted your ability to implement effective classroom assessment practices?
3. How do informal teacher leaders leverage specific strategies to collectively support and implement progressive classroom assessment policies and practices?
 - a. What strategies or tactics do you use to overcome challenges?
 - b. What classroom assessment practices do you focus on?

Appendix G

Interview Guide for Group Interview

The following is a list of questions that will guide the interview.

1. What is the perceived purpose and nature of informal teacher leaders' roles when constructed by teacher leaders and their teacher colleagues?
 - a. How do you collectively define your work?
 - b. Describe your perceived individual and collective responsibilities.
 - c. What is an informal teacher leader?
 - d. Do you see yourself as a teacher leader?
 - e. Why do you do participate in work with a teacher leader?
2. How do informal teacher leaders navigate the organizational factors and conditions as they engage in collaborative work related to classroom assessment policies and practices?
 - a. What are the primary supports for your work?
 - b. What are the barriers or obstacles for your work?
 - c. What are some of the challenges that you experience?
 - d. What is the purpose of your collaborative work?
 - e. How does your collaborative work support *Growing Success*?
3. How do informal teacher leaders leverage specific strategies to collectively support and implement progressive classroom assessment policies and practices?
 - a. What classroom assessment practices do you individually and collectively focus on?
 - b. What experiences have you had that have impacted your ability to implement effective classroom assessment practices?
 - c. What strategies or tactics do you use to overcome challenges?

Appendix H

Observational Field Note Tool

What I saw	What I thought
Teacher Leadership	
Assessment	

Appendix I

REB Approval



Brock University
 Research Ethics Office
 Tel: 905-688-5550 ext. 3035
 Email: reb@brocku.ca

Social Science Research Ethics Board

Certificate of Ethics Clearance for Human Participant Research

DATE: 5/25/2015

PRINCIPAL INVESTIGATOR: ARMSTRONG, Denise - Graduate and Undergraduate Studies

FILE: 14-230 - ARMSTRONG

TYPE: Ph. D. STUDENT: Kristen Clarke
 SUPERVISOR: Denise Armstrong

TITLE: Informal teacher leaders: Secondary school teachers' perceptions of how they collaboratively construct and implement classroom assessment policy and practice

ETHICS CLEARANCE GRANTED

Type of Clearance: NEW

Expiry Date: 5/31/2016

The Brock University Social Science Research Ethics Board has reviewed the above named research proposal and considers the procedures, as described by the applicant, to conform to the University's ethical standards and the Tri-Council Policy Statement. Clearance granted from 5/25/2015 to 5/31/2016.

The Tri-Council Policy Statement requires that ongoing research be monitored by, at a minimum, an annual report. Should your project extend beyond the expiry date, you are required to submit a Renewal form before 5/31/2016. Continued clearance is contingent on timely submission of reports.

To comply with the Tri-Council Policy Statement, you must also submit a final report upon completion of your project. All report forms can be found on the Research Ethics web page at <http://www.brocku.ca/research/policies-and-forms/research-forms>.

In addition, throughout your research, you must report promptly to the REB:

- a) Changes increasing the risk to the participant(s) and/or affecting significantly the conduct of the study;
- b) All adverse and/or unanticipated experiences or events that may have real or potential unfavourable implications for participants;
- c) New information that may adversely affect the safety of the participants or the conduct of the study;
- d) Any changes in your source of funding or new funding to a previously unfunded project.

We wish you success with your research.

Approved:

Jan Frijters, Chair
 Social Science Research Ethics Board

Note: Brock University is accountable for the research carried out in its own jurisdiction or under its auspices and may refuse certain research even though the REB has found it ethically acceptable.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and clearance of those facilities or institutions are obtained and filed with the REB prior to the initiation of research at that site.