April 2016

Assessment Narratives: The Affordances of Video Inquiry for Formative Assessment of Multiliteracies

Mary C. Ott
The University of Western Ontario

Supervisor
Dr. Kathryn Hibbert
The University of Western Ontario

Graduate Program in Education

A thesis submitted in partial fulfillment of the requirements for the degree in Master of Education

Abstract

This case study investigating primary teachers' use of video as a multimodal tool for formative assessment of multiliteracies demonstrates a need for a more nuanced understanding of formative assessment practices. The study asked: What stories do teachers tell about student achievement when they examine multimodal (video) evidence of students at work? And, in what ways might they use this information formatively? The data sources for the study were video clips teachers provided of students at work on routine multiliteracy activities, and interviews with the teachers framed by viewing the videos together. The resulting narratives were analyzed thematically, drawing on sociocultural and sociomaterial perspectives on learning to interpret the findings. Results suggest that the method of video inquiry employed in this study can assist teachers in attending to backgrounded data and multimodal communication, and in moving from recall to justification in interpreting what they see.

Keywords

Assessment Narrative; Collaborative Inquiry; Documentation; Formative Assessment; Multimodal Assessment; Multiliteracies; Narrative Inquiry; Pedagogical Documentation; Teacher Professional Learning; Video Inquiry; Visual Methods

Acknowledgments

To my Teachers

Dr. Kathryn Hibbert. Kathy is my thesis supervisor. Thank you for introducing me to multiliteracies and narrative inquiry, the guiding spirits of this study. Thank you for influencing me before we even met, through your work on Curriculum Studies and the design of teacher AQ courses. Your teaching has opened my eyes to new possibilities - the best kind of teaching. And finally, thank you for guiding and encouraging me into the world of research. I am so grateful and privileged to have a gifted mentor.

Dr. Rosamund Stooke. I am honored that Roz agreed to be my committee member, at a time when she was trying to downsize her workload. You have a gift for giving the right thing, in the right way, at the right time. Thank you for your wisdom. Time and again your thoughtful questions, advice, and edits challenged me, led to new insights, and polished my work.

Dr. Marjorie Cooper. Thank you for showing me the research on noticing Noticing. You always seem to notice everything! But most of all, thank you Mom for inspiring me.

For my Family

Thank you to my children, Cate and Ally, for putting up with a distracted mom at times - and in the words of Olivia the pig, loving me anyway! I hope my journey opens your eyes to new possibilities too.

Most of all, thank you Mike, for encouraging and supporting me in every way. None of this is possible without you.

Table of Contents

List of Figures

List of Appendices

Chapter 1

1 Context and Background

"If you want truly to understand something, try to change it." – Kurt Lewin

Our social fingerprints are all over our research (Lather, 1992). This study was inspired by a story that troubled me from my teaching experience, so much so that I wanted to seek change. I tell it here to set the stage for the problem and questions I took up about assessment. The chapter concludes by introducing my theoretical perspective positioning assessment *as* narrative.

1.1 Introduction

All stories begin with a problem:

Joe is kind, big for his age and moves slowly, gently. I am trying to teach him to read, but its slow going. It's ok, Joe is patient with me. He is "sweet and low." Jack is quick-tempered, small, and nervously kinetic. He has no patience for anything, especially learning to read, which is turning out to be fiendishly difficult with his particular learning disabilities. They are in grade three and decode at an early grade one level, so this year they are exempt from the reading part of Ontario's Education Quality and Accountability Office (EQAO) assessments.

Last year I made the mistake of using technology with my crop of "level 1" readers on EQAO. I invested a lot of time training them, myself and other staff to use software to "read" the assessment to them so they could answer the questions. I bought into the argument that it would be good for them to learn how to use the technology, good for them to feel successful and maybe even special in a good way, and good for our school's overall grade report: "a level 1 is better than 0, and level 2 is better than 1!" Sure, I said a level 1 was better than 0, but who was I kidding? And for all the effort, what was the pay off? No one got a level 2, which was my unconscious, unexamined motivation. This

year I was grumpy. I wasn't going to be a seal trainer jumping kids through hoops. What was the best way to use my time?

I'm a Special Education Teacher, so I work on the margins. That's the way I describe special education; for me it's working with the kids who don't fit in the box. I like being on the margins. I have a little more time, and a little less oversight. Part of it is problem solving: how do I get this kid back in the box? And part of it is perspective: being on the outside, it's easier to look at the box and ask, why? So my motivation for asking how to best use my time was one part problem solving with a dash of critical pedagogy, brought on by the serendipity of running into "EQAO season" with Joe and Jack at the same time as my grad course on multiliteracies. I wasn't go to jump on the tech train again, but I didn't want to throw the baby out with the bathwater either. Multiliteracies put the digital into multimodal literacy, after all.

Multiliteracies also considers the student's context, what they bring to literacy learning, from an asset-oriented perspective (Heydon & Iannacci, 2008; Iannacci, 2006; Freebody & Luke, 2003; New London Group, 1996). So I decided to play around with Joe and Jack on our school's new iPad, asking them what they wanted to research and helping them put together presentations for their class. Joe was interested in ants and Jack liked alligators...go figure. What struck me was what I now call my ***assessment narrative****, the story I was telling myself about what Joe and Jack could do, was changing as I put on new glasses: the glasses of an asset-oriented approach and the affordances of multimodal assessment (Kress, 2000; Kalantzis, Cope & Harvey, 2003). By paying more attention than usual to visual and oral modalities, I was amazed at what Joe noticed about ants as he scanned Google images of them, and the questions he generated as a result. I was energized by Jack's excitement as he taught me how you can spot a croc from a gator by looking at the shape of the snout, drawing a red circle on the image of a croc he had cropped to illustrate his voiceover recording.*

And I wondered, what else am I missing?

1.2 Towards a Broader Conception of Assessment

The themes in my story of frustration with the molds we put students into, the role that assessment plays in creating these molds, and the potential for breaking out of them by broadening conceptions of assessment to a multiliterate, asset-oriented approach are the tensions, the driving spirit behind my research (Clandinin, Murphy, Huber & Orr, 2010). My broad definition of teacher assessment practice is work which is narratively constructed: the stories teachers tell themselves and others about student work.

1.3 Inquiry as Narrative

Growing up with stories, it is easy to think of narrative as fiction, but the broader meaning of narrative is *account*, derived from the Greek word for know. To account for something is to find meaning in a situation; therefore, I agree with Hendry (2010; who is indebted to Bruner, Bakhtin, Barthes and Ricoeur); that *all* inquiry *is* narrative. When I use the words story and narrative, I am speaking of accounts, and theorising the narrative construction of reality (Bruner, 1991; Polkinghorne, 1996). I do not claim there are no tangibles; but acknowledge that as we give accounts of our experience, what can be known and said and interpreted by others changes with the context (Hendry, 2010; Spector-Mersel, 2010). Understanding narratives as constructions may also attune us to the role of power in the stories that get told (Hibbert, Ott, & Iannacci, 2015; Hibbert, 2015; Iannacci, 2007).

My work uncovers and contends with dominant stories and counter stories (Lindemann-Nelson, 1995) of formative assessment in the literature and through this descriptive and exploratory case study (Yin, 1984; cf Cohen, Manion & Morrison, 2011). The case addresses the questions: What stories do teachers tell about student achievement when they examine multimodal (video) evidence of students at work? And, in what ways might they use this information formatively? These questions led me to engage with literature on both formative assessment, and forms of multimodal assessment. Finally, research on teacher practice implies at least a working knowledge of current perspectives on teacher

professional learning. In Chapter 2, I review the literature and locate the rationale for my contribution at the intersection of these conversations.

Chapter 2

2 Literature Review

"The assessment tail will always wag the curriculum dog" – A. V. Kelly

This chapter critically reviews the literature on formative assessment, uncovering assumptions and overlooked debates which have the effect of positioning teachers as slow or confused in adopting "the" techniques of assessment for learning. Then, counter stories with the potential to afford multimodal and/or multiliterate assessment perspectives are surveyed. The chapter concludes by highlighting the need for more research in this territory.

2.1 Formative Assessment: the Dominant Story

The Ontario Ministry of Education (MOE) released a new assessment, evaluation and reporting policy framework titled *Growing Success* in 2010. Chapter 4 of *Growing Success,* "Assessment *for* learning and *as* learning," outlines policy on the use of formative assessment and is intended to represent "new understandings...related to the role that assessment can play in the improvement of learning" (Ontario, 2010a, p. 3). The need for a new understanding is a silent recognition of a problem with the old – implicating a tension between assessment *for* learning and summative assessment, or assessment *of* learning (Ontario, 2010a). This tension reveals a counter story which will be picked up later. First though, the background to the dominant story:

The focus on formative assessment represents "a quiet revolution" (Hutchinson & Hayward, 2005; cf Clark, 2012) in the policy frameworks of nations influenced by the Organization for Economic Development (OECD) (Clark, 2012; OECD, 2003). The Assessment Reform Group (ARG) is no longer active, but its project of bringing evidence on effective assessment practices to policy makers (ARG, 1999) supported the synthesis of highly influential research reviews (Black & Wiliam, 2009; Harlen & Ruth, 2003). These reviews claim to demonstrate that formative assessment will improve both student motivation and achievement. The work of the ARG is referenced extensively in *Growing*

Success and forms the basis for the move to "assessment for learning and as learning" (Ontario, 2010a, p. 29). The theory of formative assessment espoused by ARG members Black and Wiliam (2009) offers a set of five strategies which are seminal to most of the literature on formative assessment. These are:

1. Making learning goals and success criteria transparent to students (theory and practice is vague on how and when to co-develop these with students, although much lip service is paid to improving motivation and achievement by enabling co-construction of goals and criteria, student inquiry, and self assessment; see Ontario, 2010a).

2. Eliciting information about student progress from effective questioning and appropriate learning tasks (by designing learning progressions: see Popham, 2008; others offer examples of effective tasks for getting quick feedback on student understanding; see Heritage, 2013).

3. Providing descriptive rather than evaluative feedback that learners can use either in the moment, or later to revise their work.

4. Training students as peer assessors (some attention is paid to collaborative learning culture here: Heritage, 2013; Ontario, 2010a).

5. Training students to learn to assess their own work (reasons differ, such as motivating students to "own" their learning; Ontario, 2010a; or enabling students to adjust their learning strategies to improve achievement; Popham, 2008).

Despite the revolution, there is growing concern that teachers in general (Clark, 2012) and Ontario teachers in particular, are inconsistently adopting "the" use of formative assessment (Volante & Beckett, 2011).

While Volante and Beckett (2011) operationalize formative assessment as the use of questioning techniques, feedback without grades, teaching self and peer assessment, and using summative assessment results formatively (p. 241), as the previous five points illustrate, the conceptualization of formative assessment in the research community

remains more nebulous – particularly in regards to two problematic areas: agency and the role of summative assessment.

Popham (2010) finds that in his experience, Europeans are more focussed on the student's role in formative assessment, North Americans on the teacher's role. From my teaching experience and research observations, the discourse on formative assessment in the Ontario context has focussed on points 1 to 3; the teacher's role in eliciting student thinking and providing feedback through the art of careful questioning. However, the Assessment Reform Group, who popularized the notion of formative assessment in the late 1990s with *Out of the Black Box* (ARG, 1999), did focus heavily on student motivation in relation to understanding quality criterion to improve their work. In Ontario's assessment framework, the role of motivation has been glossed as creating student "buy in" by co-constructing success criteria. This is a summary of point 1 in Black and Wiliam's framework of formative assessment. However, ARG peers Harry Torrance and John Pryor (1998, 2001) developed the idea of motivation following the work of Carol Dweck and other psychologists, finding that student orientations to learning (performance or growth) impact their response to feedback regardless of the teacher's intentions. Following a video interactional analysis of a project on formative assessment in the early years in Britain, (well known in the literature as TASK – Teacher Assessment at Key Stage 1) they summarized their findings in the character of Chris:

> Despite any general commitment to student-centredness that a teacher such as Chris might have, the motivational orientation of different children means that access to a share in that power is not equitably distributed. In turn, the motivational impact of teacher feedback is likely not only to be differentiated but also to compound the process of differentiation (Pryor & Torrance, 1998, p. 169).

This example highlights the problem of agency masked by the dominant story in the literature on formative assessment of teachers as designers or "engineers" of learning (Black & Wiliam, 2009, p. 22; Ontario, 2010a, p. 32).

Softening this vein, North-American researcher Margaret Heritage (2013) positions formative assessment theoretically in the field of *situative learning* (Putnam & Borko, 2000), and teachers as "designers" of learning environments that allow for student agency and practices of inquiry (p. 20). While this approach appears again to privilege the

teacher in the learning relationship, Heritage (2013) draws on Dewey's notion of mediated learning, Etienne Wenger's (1998) idea of communities of practice, and James Greeno and colleagues (1996) conceptualization of situated cognition to treat learning as "distributed among individuals and their environment, including the objects, artifacts, tools, and communities that comprise the learning context" (p.20). The taking on of a situative learning approach to formative assessment implicates the role of the environment, including the social, in the learning process, and points to another problem of agency: the privileging of the individual or the collective, which will be followed up in the section on counter stories of formative assessment.

While questions of agency remain a problem for the theory of formative assessment, if there is a commonality for its proponents, it is the need for a shift from a view of assessment as the end and evaluation of learning, or summative assessment, to assessment as evidence that continuously informs instruction (Black & Wiliam, 2009; Harlen & Ruth, 2003; Heritage, 2013; Popham, 2010). Volante and Beckett (2011) cite Stiggens (2008) as a source of the term *assessment literacy* to decry a need for teachers to be better able to make instructional decisions based on assessment results. Popham (2001) may have coined this catch phrase when he used the term "assessment illiteracy" (p. 26) to assert that educational leaders allowed standardized testing to overrun the American education system due to a failure to understand the warrants and limitations of psychometrics. Fair or not, since then, many researchers have concluded that teachers generally need more training in using data of all sorts to refine their instruction; whether that be student work and responses to questions (as described in Clark's review, 2012) or the use of information from summative assessments to make instructional adjustments (Parkinson & Stooke, 2012; Volante & Beckett, 2011).

Again, Torrance and Pryor (1998, 2001) add a layer of complexity to this story, describing two opposing orientations to formative assessment: *convergent* or *divergent*. Pryor and Torrance (1998) theorize that these orientations develop from behaviorist or constructivist epistemologies of learning, however tacitly they play out in the exigencies of classroom management and learning (p. 169). In this alternative framework of formative assessment, they raise the question whether convergent formative assessment

cycles (constantly testing the waters to find out *if* the student knows or can do something) are not just examples of continuous summative assessment. The theme of convergent and divergent assessment will also be picked up in the section on counter stories to formative assessment, but illustrates here the complexity behind a seemingly straightforward 5 point plan.

To ascertain the development of the formative assessment research conversation in Ontario k-12 education post *Growing Success*, the CBCA education database was searched in November 2013 for post 2010, peer-reviewed, scholarly research with the search terms 'growing success' OR 'formative assessment' AND Ontario. Additionally, Google Scholar was searched in April 2014 with the term 'formative assessment' AND Ontario.' In both cases, the search strategies yielded three articles: a literature review (Clark, 2012), a study conducted in Quebec (Morrisette, 2011), and only one study presenting research from an Ontario context (Volante & Beckett, 2011). Volante and Beckett (2011) used constant comparison to analyze interviews with 20 elementary and secondary teachers questioning their perceptions and use of formative assessment practices. There are unreported limitations to this study, yet it has been used to prop up Clark's (2012) generalization that teachers need more training in the use of formative assessment. The first of these unreported limitations is that the sample is contextually narrow (two urban school boards from the greater Toronto-Hamilton area. Then, the authors claim to be researching teachers' perceptions of their use of formative assessment, but the focus in the conclusion is on the researchers' evaluation of teacher practice. Finally, the finding that teachers were "moderately successful" with formative assessment was not operationally defined. Given these limitations, Volante and Beckett's work (2011) represents a "false positive" in my view, yet it has been used to support the hypothesis that teachers lack understanding of how to maximize effective assessment practices to improve student learning (Clark, 2012).

The best generalization to make of teachers' implementation of formative assessment in Ontario at this point may be to point out that there is a dominant story: a perceived lack of assessment literacy as a failure of teacher training.

2.2 Summative Assessment: A [Dominant] Counter Story

Summative assessment, from graded classroom tests to public ranking of schools on the basis of accountability assessments such as the EQAO tests in Ontario, has long been the dominant story in education – the way we do school. Formative assessment promises to improve both student motivation and achievement through the use of more informal measures of student learning such as questioning, observation, offering timely, ungraded feedback, and developing student skills in self and peer assessment (Black & Wiliam, 2009; Harlen & Ruth, 2003; Heritage, 2013; Ontario, 2010a). This culture shift (Popham, 2010) is only possible to the extent that the culture of summative assessment wanes. While it is fashionable in education discourse to say we are using formative assessment, assessment drives instruction (Kelly, 2009). Therefore, accountability testing, whether standardized or standards-based, norm-referenced or criterion-referenced, inevitably constrains curriculum (for reviews and theoretical considerations see Popham, 2001; Kelly, 2009; Murphy et al.,1998; for examples from a Canadian context see Anderson & Macri, 2009; Asselin, Early & Filipenko, 2005; Clandinin et al., 2010; Parkinson & Stooke, 2012; Volante & Beckett, 2011). In the meantime, teachers and students live in the tension of competing narratives:

> "We have two forces pulling us in different directions – more assessment and less evaluation is running up against reporting more frequently for parent satisfaction" (teacher interview cf Volante & Beckett, 2011, p. 246).

2.3 Formative Assessment: Counter stories

> "Learning cannot be designed: it can only be designed for – that is, facilitated or frustrated" – Etienne Wenger (1998)

Morrisette (2011) offers a counter story of teachers' use of formative assessment, arguing that the perception that teachers are lacking and need more training in formative assessment reflects an epistemological assumption that research on education is prescriptive and normative, presenting ideal models and measuring teachers' ability to measure up to them, rather than constructive. Her collaborative work with teachers using video analysis to understand their use of formative assessment is one of the inspirations

for my research design. The other inspiration comes not from the academic literature but from no less an important source: my professional context.

It may seem strange to put a dominant player such as the MOE in the position of offering a counter story, but the MOE is eager to pursue bottom-up change through the promotion of a collaborative learning culture, even as it pushes it through its top-down Ontario Leadership Framework (OLF). The promotion of collaborative learning is one of the five core competencies identified in the OLF (OLF bulletin # 3, 2010). In 2009, the Ontario Literacy and Numeracy Secretariat (LNS) funded collaborative inquiries into primary assessment that used documentation techniques borrowed from the full day kindergarten program (FDK) to formatively assess students in grade one (LNS monograph, 2010). It bears mentioning at this point that *documentation* is used by the MOE as a gloss for *pedagogical documentation* and *learning stories* in the Early Years program (Ontario, 2010b). In fact, the Ministry is now speaking of linking and extending practices of collaborative inquiry and pedagogical documentation from the early through to secondary school years (LNS 2015a; 2015b).

Besides the story of teacher training versus professional learning, there are other counter stories of formative assessment which relate to my intention to promote a multiliterate perspective of student achievement. These stories foreground the *process* of learning connoted by the choice of the word formative, and the work of gathering multimodal evidence to support this process. They include the research literature on multimodal assessment, pedagogical documentation, learning stories, and the use of video cases in teacher education/professional development programs. The use of pedagogical documentation and learning stories drew my immediate interest because they have legitimacy in the Ontario context of Early Years education, but as I began to review the literature I realized I was looking for a broader perspective to consider the affordances of multimodal evidence and the ways that these texts can be "read" (in other words, the stories that can be told) in an educational setting.

To access literature on the theme of multimodal assessment, I searched the Eric, Proquest Education Journals, CBCA and Google Scholar databases using the search strategy

"multimod* OR multilit* AND Assessment". This process yielded approximately 100 articles. The abstracts were screened for the following inclusion criteria: the peer-reviewed research had to demonstrate some discussion of teacher process in assessment and/or the affordances of multimodal assessment. I also culled relevant articles from a course on multiliteracies led by Dr. K. Hibbert at Western University and conducted archival searches of their reference lists. These strategies and inclusion criteria narrowed the literature to 11 sources.

To develop a general understanding of various multimodal forms of teacher reflective practice that have also generated research, I consulted with experts and used keyword and title searches in the UWO catalogue, along with keyword searches using Eric, Proquest, Google Scholar, and archival searches of relevant citations. I searched using the terms 'learning stories,' 'pedagogical documentation,' 'visual narrative pedagogy OR inquiry,' and 'video case OR reflection.' To get at the idea of using these multimodal methods as tools for assessment, I narrowed the keyword searches by adding AND assessment. These search strategies yielded many relevant journal articles on all topics, and edited books on the topics of learning stories, pedagogical documentation, and the use of video case construction for teacher education.

2.4 Multimodal Assessment

The notion of multimodal assessment is an emerging concept from the field of multiliteracies (Kalantzis, Cope & Harvey, 2003; The New London Group, 1996). Thus far, it has engaged with the affordances of different modalities (Cope & Kalantzis, 2009; Kress, 2000) and the problems of assessing multimodal work, moving from theoretical considerations of process versus standardized assessment (Kalantzis, Cope & Harvey, 2003), the privileging of "linguistic competencies" (Jewitt, 2005; cf Towndrow, Nelson & Yusef, 2013, p. 331), and the evaluation of multimodal design (Kress, 2003; van Leeuwen, 2005; cf Towndrow et al., 2013, p. 334) to problems of practice of the same explored in case studies (Hung, Chui & Yeh, 2013; Newfield, Andrew, Stein & Maungedzo, 2003; Towndrow et al., 2013). The research body thus far is primarily concerned with curriculum design (Jewitt, 2003, 2008) and the evaluation of multimodal

work, which tends to place the focus on student products. The danger here is in ignoring teacher process. Multimodal work may still be evaluated in a *monomodal* (Jewitt, 2008) way, through written observation and reflections based on memories of student activity. What gets lost in translation? The work of Kress (2000) and Towndrow, Nelson and Yusef (2013) point to a different entry point into the problem; that is, teacher assessment praxis, the teacher's understanding of both the affordances of non-print modalities and the affordances of multimodal assessment for conceptualising student achievement. Towndrow and colleagues (2013) identify a need for teachers to develop "semiotic awareness" (p. 337). I argue there is a need for more research emphasis, both theoretically and empirically, on teachers' use of multimodal assessment: specifically for my interests, on forms of assessment which incorporate the visual or audiovisual. Following my conceptualization of assessment as inquiry which is narratively constructed, I now consider research on visual and audiovisual forms of teacher reflective practice, or as it is coming to be known, teacher inquiry.

2.5 Visual/Audiovisual Forms of Teacher Inquiry

My focus in sketching the literature on pedagogical documentation, learning stories, video case reflection and visual narrative inquiry is not to weigh the value of different methodologies/pedagogies, but to note the affordances of these multimodal approaches to assessment and to make connections among them to my interests in collaborative inquiry, multiliteracies, and formative assessment. The research body on the whole is oriented to learning, be that teacher or student.

Pedagogical Documentation and Learning Stories

Broadly, pedagogical documentation is characterized as "visible listening" (Rinaldi, 2012): the gathering of artefacts of children's learning, including notes, transcripts, pieces of work and/or photographs of work , and video of students at work (Forman & Fyfe, 2012) which are then used to collaboratively inquire into learning and instruction (Bowne et al., 2010; Buldu, 2010; Forman & Fyfe, 2012; Macdonald, 2007). As such it is an inherently multimodal exercise. It is intended to be an open-ended inquiry in nature,

differing in an important respect from traditional forms of portfolio assessment which tended to measure student work against established standards (Macdonald, 2007). The goal is to refine teacher practice and/or to improve student learning (Macdonald, 2007). However, pedagogical documentation as developed by the Reggio Emilio preschools in Italy emphasizes understanding learning more generally, and improving the environment for learning more specifically, than focussing on individual student achievement (Dalhberg, 2012; Forman & Fyfe, 2012; Rinaldi, 2012). The goal is for the teacher to develop and test theories of learning. For Forman and Fyfe (2012), the goal of assessment is "study" (p. 262). This difference I see in how documentation is practised relates to the problem of individual or collective focus for formative assessment which I previously identified.

Learning stories are conceptualised as inquiries into learning dispositions (Carr, 2001; Carr & Claxton, 2002; Carr & Lee, 2013; Daniels, 2011) which are based upon photographs and accompanying narratives of students at work. The goal is to discover traits which support learning (Daniels, 2011), and then to create supportive environments to foster them (Carr & Lee, 2013). Learning stories are assessments conceived as "ethnographic case study observations" using "qualitative and interpretive narrative methods" (Carr, 2001, p.18). The inquiry may be conducted individually, which is an important consideration given the difficulty of releasing teachers to work collaboratively (Macdonald, 2007; Wong, 2009), and the difficulty in finding a shared language (Bowne et al, 2010). However, according to Carr (2001), it is essential to develop that shared language, in order to share the findings with colleagues, students and parents, and in these settings to collaboratively agree on the assessment. The purpose of this collaborative process of justification is to establish credibility for the findings; in Carr's words, moving beyond "anecdote, hope and belief" (Carr, 2001, p. 13).

Both learning stories (Carr, 2001) and pedagogical documentation (Forman & Fyfe, 2012) bring forward the notion of *assessment as research*, share the impetus to study learning collaboratively, and purport to use the findings formatively for the creation of supportive environments. The challenge and opportunity is in the open-ended nature of the inquiries: the issue of what to look *for*. Here we encounter another counter-story to

the dominant story of formative assessment. Carr and Lee (2012) align themselves with Black and Wiliam's model of formative assessment in the intent to use learning stories to make instructional decisions, but they note the distinction Torrance and Pryor (1998; cf Carr & Lee, 2012, p. 20) make between *divergent and convergent assessment*. Convergent assessment asks *if* the student understands, divergent assessment seeks to uncover *what* the student understands. Similarly, pedagogical documentation as put forward by Forman and Fyfe (2012) positions assessment as *study* which: "Enables teachers to plan responsive curriculum that supports individual and group development. Assessment of this nature is not focused on what children cannot do but what they can do" (p. 262). Another counter story of formative assessment emerges here, in asking whether the purpose of assessment for learning is to notice from a deficit or asset point of view (Carr, 2001).

To summarize the literature on the theor (ies) of formative assessment, a broader perspective than the list of 5 pedagogical moves we began with is required. Figure 1: Orientations to Formative Assessment, maps the terrain of formative assessment when both dominant and counter stories are taken into account. This perspective takes in not just approaches but their underlying orientations.

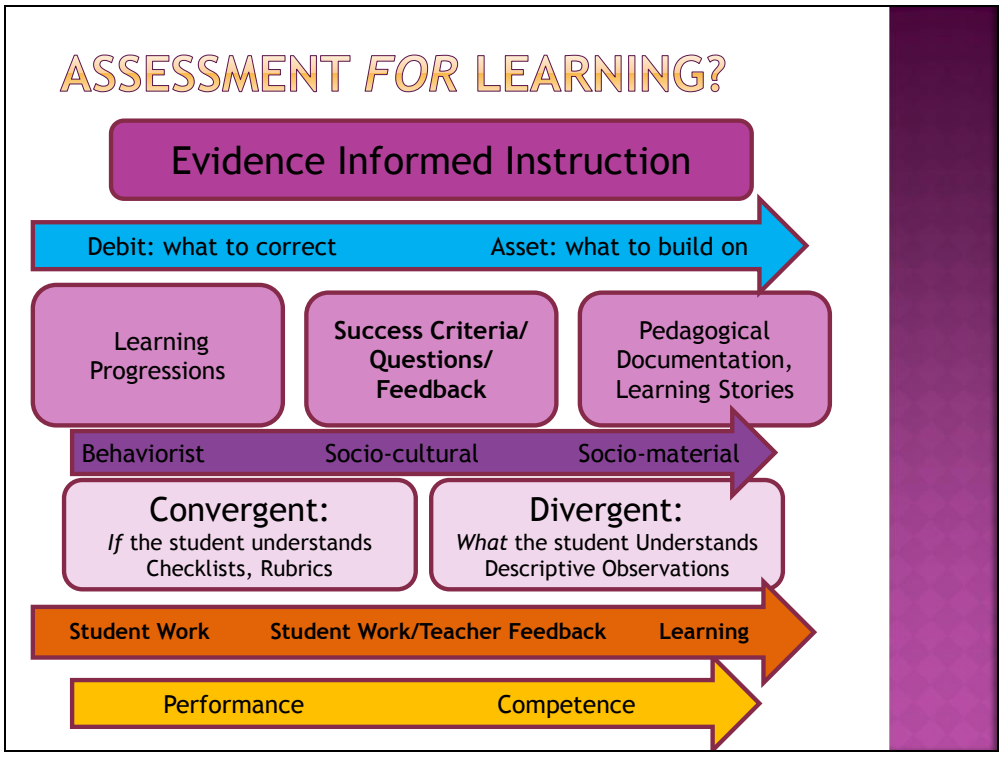

Figure 1. Orientations to Formative Assessment

The boxes in figure 1 map approaches to formative assessment; the arrows represent orientations on a continuum. The central purple arrow highlights theories of learning: behaviorist, sociocultural, and sociomaterial. The blue arrow shows how we notice (deficit versus asset-oriented ways of seeing: Carr, 2001; Heydon & Iannacci, 2008); the red arrow shows what to notice: student work as an end product, student or teacher learning, or study of the learning environment. The orange arrow maps motivations for noticing: students or teachers may find themselves together or at cross-purposes when performance or growth goals are factored into the dynamic (Pryor & Torrance, 1998). Together the arrows show a continuum that relates to the approaches that tend to align with them.

2.6 Affordances of Multimodal Assessments

A common affordance of pedagogical documentation and learning stories to multimodal assessment is in the legitimization of multimodal data collection. In particular, Forman and Fyfe (2012) note that video has unique advantages over photographs and artefacts of

student work by better documenting the process, and then "uploading" (p. 256) the memory of the event so that the focus of the inquiry becomes interpretation rather than description. What the literature on these assessment models lacks, which connecting the literature to the theory of multiliteracies could add, is guidance on how to interpret the visual (note Towndrow et al.'s 2013 call for *semiotic awareness*). Further, a common challenge and opportunity both assessment models share is the open-ended nature of the inquiries: What to look for. Again, as divergent assessments, they align with the asset-oriented approach to learning adopted by the theory of multiliteracies (New London Group, 1996; Luke & Freebody, 2003). Connecting divergent formative assessment with a strengths-based, multiliterate conception of literacy makes pedagogical sense.

Video Case Construction and Visual Narrative Inquiry

Picking up the thread of the challenge in what to look for, a common theme in the research on video case reflection is the importance of attending, or "noticing," or "professional vision" (Borko, 2004; Marsh & Mitchell, 2014; Rosaen, 2015; Rosaen, Lundeberg, Cooper, Fritzen & Terpstra, 2008; van Es & Sherin, 2010). van Es and Sherin (2002) operationalize noticing as listening and viewing with the aim of interpreting (p. 573). The aim of video case construction is to support teacher reflection and professional development by learning to attend to what is important or noteworthy in a situation, and to make connections from specific contexts to broader principles of teaching and learning (Sherin, 2004). In this intention, video case construction serves a similar purpose to pedagogical documentation.

Video case construction aids teacher noticing by capturing moments in time and supporting memory; it may also enable teachers to break out of routines by shifting the mode of representation (Rosaen et al., 2008; Sherin, 2004). In a case study of three teaching interns, Rosaen and colleagues (2008) assert from their comparison of memory-aided reflection to video-aided reflection that reflections from videos are more specific in terms of next steps. Their research also suggests that video-aided reflections tend to place less emphasis on the teacher and more on the students. I characterize this last finding as placing the self in context. It is also interesting that the authors comment briefly on the

different forms of written reflection the interns produced: Memory-aided reflections were written in sentence form, which follows the logic of succession in time; video-aided reflections tended to be quick jot notes, perhaps more reflective of the logic of display in space that the visual affords (Kress, 2000).

Lemon (2007) defines visual narrative inquiry as a verbal or written narrative supported with visuals, noting that images evoke memories around which stories can be constructed (Clandinin & Connelly, 2000; cf Lemon, 2007, p. 179), and also enable multiple perspectives to be considered (Lemon, 2007, p. 179). Lemon also notes Grimmet's (1990, cf Lemon, 2007, p.181) three conceptualizations of teacher reflection as knowledge used to direct practice, knowledge used to inform practice, and knowledge used to transform practice. While narrative inquiry traditionally aligns itself with transformative practice (Iannacci, 2007; Latta & Kim, 2010), I locate my own conceptualisation of assessment as a narratively constructed, reflective practice as both knowledge to direct and to transform: a formative orientation aligned with the pedagogy of multiliteracies (New London Group, 1996).

2.7 Summary

In summary, the affordances of multimodal forms of teacher reflective practice for formative assessment are to specify, contextualise, represent multimodally, differentiate perspective, and legitimise. Legitimization arguments are built upon the quality and justifiability of multimodal evidence to afford opportunities not just to remember but revisit, not just to describe but interpret (Forman & Fyfe, 2012; Sherin, 2004). A recurring problem is the matter of attending: What are we looking for? Which segues into: What next? In my experience of Ontario's assessment policy framework (2010) however, the questions "what for?" and "what next?" are treated as part of a teaching/assessment learning cycle without any consideration of: Why?

In the context of Ontario elementary education, the purpose of formative assessment is to improve student achievement (Ontario, 2010a), and the hallmark of student achievement is print literacy. Of the research I surveyed, only two peer-reviewed studies (Buldu, 2010;

Macdonald, 2007) set out to investigate the formative role that pedagogical documentation can play in improving "literacy." Both studies use literacy as a code for linguistic competency, both began with the premise that the researcher pre-taught the teachers the "look-fors", and both studies falter, in my view, in providing specifics to support their claims that literacy was, in fact, improved. The LNS (2010) collaborative inquiry into documentation used formatively in grade one is a step in the direction I chose to go, but it left off in the same place as others, focusing on teacher perception of documentation rather than exploring in greater detail its impact on instructional decisions.

There is a need for research which promotes a multiliterate conception of literacy, along with research that supports the professional learning of teachers in inquiring into their practice (Morrisette, 2011; Ontario Leadership Framework bulletin # 3, 2010). However, the literature on multimodal assessment to date is predominantly focussed on curricular design and problems of evaluation, which places more emphasis on student product than teacher process. Further, this body of research has only recently begun to add empirical data to support theoretical constructions (Hung et al., 2013; Towndrow et al., 2013). There is also a need for more contextual and critical research on formative assessment and documentation as educational practices newly taken up in Ontario. This case study investigating teachers using videos of classroom activity formatively adds necessary exploratory data to the fields of multiliteracies, formative assessment, and teacher professional learning. My hope is that by raising issues through collaborative inquiry, it may also contribute to teachers' expanding conceptualization of literacy beyond linguistic competence.

Chapter 3

3 Methodology

The data sources, methods, analytics and ethics of the study are rationalised in this chapter. The research is operationalized as an exploratory narrative case study of a proposed methodology: video inquiry for the formative, collaborative assessment of multiliteracies.

3.1 Purpose and Objectives

The purpose of this research twofold: to investigate the affordances of video as a multimodal assessment tool to support a teacher's asset-oriented (Heydon & Iannacci, 2008; Luke & Freebody, 2003) multiliterate (New London Group, 1996), approach to formative assessment; and to propose the methodology of *video inquiry* as an open, collaborative, assessment inquiry model. The objectives are:

1. To study a case of teachers using video as a tool of formative assessment used divergently (to explore what the student can do as an open inquiry, rather than convergently by regarding achievement against a set of predetermined skills (Pryor & Torrance, 1998; Carr, 2001).

2. To connect the research bases on video case for teacher education, multiliteracies, and documentation. Each of these literatures speaks to the affordances of video for inquiry.

3. To extend the notion of assessment as a form of inquiry (Carr, 2001; Delandshere, 2002; Forman & Fyfe, 2012; Torrance & Pryor, 2001).

3.2 Study Design

What assessment narratives are produced when teachers view video evidence of students at work across modalities? And, how might they use this information formatively? My

purpose, objectives, and research questions frame this research design as an exploratory narrative case study (Creswell, 2013; Cohen, Manion & Morrison, 2013).

The *narrative turn* in the social sciences follows a post-modern ontology in recognizing the constructed, contextual and interpretive nature of narrative knowing that results in a multiplicity of meanings (Spector-Mersel, 2010). The narrative turn has also been characterized by a focus on the critical questions: why, and how, these stories? (De Fina & Georgakopoulou, 2008; Frank, 2012; Iannacci, 2007; Smith & Sparkes, 2008). The case study seeks to inquire into the situatedness of a situation: what Yin (2009; cf Cohen, Manion & Morrison, p. 289) calls "a case in context." The focus on context is a key epistemological linkage with narrative inquiry (NI). The purpose of a case study is to understand the people and problems within it better, with the goal of making assertions or generalizations from the case to broader principles or theory (Cohen, Manion & Morrison, 2011; Creswell, 2013; Dyson & Genishi, 2005). The methods call for developing a rich understanding of the context by gathering multiple forms of qualitative data such as interviews, observations, and artefacts, analyzing the data inductively, and making assertions (Cohen, Manion & Morrison, 2011; Creswell, 2013; Dyson & Genishi, 2005).

3.3 Participants, Data Sources, and Consent Procedures

Following receipt of ethical approval from both Western University and the participating school board, participants were recruited to form a purposive and convenience sample (Creswell, 2013) of five teachers and their students from FDK to grade three classes in a local publically funded school board in southwestern Ontario. The number of participants and the boundary of the end of primary division were arbitrary limits to the case to keep the data set manageable for a Master of Education thesis. It was important for the purposes of the research, however, to obtain a cross section of participants from different schools and from the early years into the primary division, in order to collect data on the affordances of video inquiry from teachers working under different curriculum paradigms and material working conditions (such as staff to student ratios, access to resources in different schools, developmental level of students, etc.).

Teachers received an email recruitment letter sent to all school principals in the board, inviting them to participate in a collaborative inquiry of formative assessment and multiliteracies, using teacher recorded videos of individual or groups of students engaged in literacy activities. At follow up meetings with interested teachers, the study was explained (Teacher LOI, Appendix A) and a handout detailing the procedures to follow to collect the video data was provided (Teacher Guidelines for Video, Appendix B). At the meeting and in the handouts provided, the traditional understanding of 'literacy activities' was operationalized for teachers as *multiliteracy activities*: any activity that used one or more modes of communication identified in the Ontario curriculum of reading, writing, visual, and oral. By this definition, teachers were able to record data from activities such as math problem solving groups and dramatic play centres as well as work recorded during language instructional time.

The teacher and researcher met together with parents to obtain parent consent for the teacher and researcher to watch the recorded student work together (Parent LOI, appendix C). The intent of the shared viewing was to facilitate conversation about the teacher's assessment of the student's strengths and next instructional steps which might build on these strengths. The researcher's purpose was not to study the students, but to study the teacher's use of video in constructing formative assessment narratives, a secondary level of research on assessment data as defined by the TCPS2 (article 2.5, p. 20). The parent consent form offered a menu of options (Mitchell, 2011) to release the teacher collected data to the researcher, from viewing the video solely in the context of the interview, to providing an offline copy of the data for the purposes of presentations on the research in various contexts. The parent consent form also indicated a protocol for the parent to view the videos prior to releasing the data, if they so chose. This aligns with the ethical discussion on research collecting visual data of participants, which emphasizes the ongoing nature of negotiating informed consent in the face of increased risk to loss of anonymity (Guillemin & Drew, 2010; Mitchell, 2011; Sossi, 2014; Thomson, 2008).

3.4 Data Collection

There were two phases to data collection, a teacher phase for collecting video clips of students at work, and a researcher with teacher phase, which was the interview framed by viewing the videos together. In phase 1, the teacher was given guidelines for constructing the videos (Appendix D). The purpose of these guidelines was to allow the teacher latitude, within the boundaries of the research questions, to identify their own objects of inquiry and to record video data that would provide meaningful, context dependent information for them to use formatively. In order to operationalize formative assessment for teachers as the work of collecting evidence for instructional next steps, teachers were asked to record work in process rather than products, and to film students engaged in activities somewhat familiar to them on a learning continuum rather than novel or expert performances. There was another purpose in setting the boundaries of the case in this way. Asking the teachers to record routine multiliteracy activities focussed attention on the students' current capabilities along with the teacher's common practice. My thought was that the time required to do a video inquiry would be of greatest value formatively if teachers engaged with questions in this *zone of proximal development* (Vygotsky, 1986).

The instructions on the length of videos follow Seago's (2004) experience that the optimum length of video for the purpose of collaborative inquiry with teachers is six to eight minutes. In order to collect data on a range of multiliteracy activities and allow for multiple viewings within this time range, teachers were asked to record two to four videos of two to three minutes each.

The second phase of data collection was semi-structured interviews with individual teacher participants, which centred on viewing the classroom videos three times each. The first viewing was with the sound off. The idea of viewing once with the sound off comes from Rowe's (2012) experience that tuning out the high intensity research modality of listening to speech enabled other modalities such as the spatial and gestural to be fore-grounded. During this viewing, the teacher was asked to call out what they noticed in general about the students' engagement with the activities, followed by a collaborative discussion between the teacher and researcher focussed on the non-verbal

communication present in the data. While watching a second time with the sound on, the teacher was asked to comment on strengths they observed, which again during, and following the viewing, became an opportunity for collaborative discussion with the researcher. After watching the third time, teachers were asked what next steps they might take with the individual or groups of students of record, using evidence from the videos and the collaborative discussion of strengths to make this case (Teacher Interview Questions, appendix E).

The semi-structured format of the interview questions, the multiple viewings, and the practice of viewing first with the sound off were designed to afford a focussed, collaborative discussion that drew on multiple sources of evidence, challenges to bias, and justification of plans to make a formative assessment: a warranted assessment-as-inquiry (Carr, 2001). The purpose in framing the interview as 'before, during and after viewing' also enabled me to study the different narratives that emerged from the multiple viewings. Interviews were audio recorded and notes taken (appendix 1). The notes include information to describe the context presented in the video, along with observations about the teacher and the discussion (e.g. non-verbal cues, tone). Notes and reflections on them are kept as part of a reflexive research journal that provides an audit trail of the researcher's decisions and positionality (Iannacci, 2007; Lincoln & Guba, 1985). Interviews were transcribed, along with segments of videos that were transcribed or described, and sent to teachers for member checking.

3.5 Analysis

NI can refer to methodology as well as theory, in that narratives may be both the object of study and a means of analysis (Ellis, 2004; Smith & Sparkes, 2008; Spector-Mersel, 2010). As a critical narrative researcher (Iannacci, 2007), I am interested in a close reading (Elkad-Lehman & Greensfeld, 2011) of the stories I construct, in uncovering both the discursive practices and discourses-in-practice (Gubrium & Holstein, 2000; cf Smith & Sparkes, 2008) which frame them. Iannacci's (2007) conception of the trustworthiness of CNR includes Lincoln and Guba's (1985) recommendation to consider negative case analysis, or disconfirming data, in qualitative research. Similarly, Clandinin, Murphy,

Huber and Orr (2010) use the metaphor of tiny fissures in a rock to describe how "dominant stories" of school look smooth and uncontested, until an exploration of tensions reveals the counter stories (Lindemann-Nelson, 1995) of resistance. Tensions, inconsistencies, gaps and surprises in narratives are often the richest sites for critical exploration. I analysed both the stories that are told and what is telling the stories: the internal and external narratives (Banks, 2001; cf Sossi, 2014) of the content. The ways in which my research confirms or contests the pedagogical implications of The Theory of Multiliteracies (New London Group, 1996) and models of formative assessment (Black & Wiliam, 2009; Carr, 2001; Forman & Fyfe, 2012; Pryor & Torrance, 1998) are considered.

Rowe (2012) notes that the increasing accessibility of audio recording afforded the ubiquity of sociocultural/sociolinguistic research, and asks why the affordances of video cannot be harnessed more for research that includes multimodal data that audio alone cannot provide. Sociomaterialists such as Fenwick, Nerland and Jensen (2012) also question the over-reliance on linguistic data. Therefore, analysis of the data is influenced both by the sociocultural perspectives informing the research on formative assessment (Carr & Lee, 2012; Forman & Fyfe, 2012; Heritage, 2013; Pryor & Torrance, 1998) and multiliteracies (New London Group, 1996), and sociomaterial perspectives on professional learning (Fenwick, 2014; Fenwick, Nerland & Jensen, 2012).

Sociocultural Perspectives

The authors I have discussed in the literature review on formative assessment and multiliteracies share a common assumption that learning is socially constructed; a process of enculturation negotiated by language and setting. They are influenced by psychologists of learning such as Vygotsky on thought and language (1986), Wenger's conceptualization of communities of practice (1998; 2000), and Greeno and colleague's notion of situated cognition (1998). The situative approach (Heritage, 2010) to learning has been critiqued because it draws on the psychological study of education, which historically assumed a predetermined, testable reality (Delandshere, 2002). It is easy to advance the value of educating from a constructivist perspective, and yet, if one's

assessment model is predicated on "if" the student understands, retreat to a behaviorist orientation (Pryor & Torrance, 1998). Pryor and Torrance (1998; 2001) suggest that these approaches are not mutually exclusive, but that educators align their pedagogical choices with their purposes. Delandshere (2002), on the other hand, questions whether evaluative and formative purposes of assessment can coincide:

> "The way we assess learning is so closely related to the kind of learning we value and how we conceive of it that it does not seem possible that two completely different understandings could coexist without one overtaking the other. The political power of accountability testing and its effect on classroom practices make it impossible to change one without changing the others. Current arguments for new forms of assessment often fail to address this limitation." (p. 1466)

Delandshere (2002) advocates treating all forms of assessment as research, so that the assumptions, questions, and inferences of the inquiry are defined, aligned, and justifiable. Awareness of a problem is the first step towards a solution. My research design acknowledges the political force of both dominant and counter narratives of assessment in the cases I studied, and positions the methodology of video inquiry so that it can work within this context and yet towards a constructivist orientation: what the student is doing – and what they might do next.

Delandshere (2002) also notes that philosophers of education who take a social constructivist approach can be unclear as to how far they reject a distinction between the knower and the known. The problem of assessment for social constructivism is that it can reify such a duality. However, if assessment is not held apart from learning, or as a special case of learning, but is seen *as* learning, this limitation is addressed. Rinaldi (2012) points to the issue of bias of the knower, advising that teachers as learners work collectively, in a posture of listening, to expose and explore their positions. My own theoretical position that assessments are narrative constructions is consistent with sociocultural assumptions about knowledge. The formative and collaborative approaches I take in my methodology are designed to align with the narrative analysis.

As Fenwick and colleagues argue (2002), another limitation of sociocultural research on education is that, despite Lave and Wenger's (1991) influential acknowledgement of tools and communal activity in knowledge production and circulation, much of the focus

remains on the individual. The next section explores what it means to take up a sociomaterial perspective on learning.

Sociomaterial Perspectives

Sociomaterial perspectives on learning share the assumption that materials have a logic or mode or epistemology of design that direct our use as much as we use them (Fenwick, et al., 2012). In this respect sociomaterial questions align well with the Theory of Multiliteracies and perspectives on multimodality (Cope & Kalantzis, 2009; Kalantzis, Cope & Harvey, 2003; Kress, 2000). 'Material' refers broadly to any actor in a web of activity: bodies as well as modes of communication such as space and time, objects, texts, and discourses (Fenwick, Nerland & Jensen, 2012, p. 6). Questions from sociomaterial perspectives on learning often link the social and material into questions of practice such as: How are different human and non-human actors participating to hold together a practice? How do different locations of participation, from outside or inside a practice, affect learning? (Fenwick, Nerland & Jensen, 2012, p. 6). Sociomaterial theories that have been applied to professional learning contexts include Actor Network Theory and Complexity Theory (Fenwick, 2014). In this study, I do not use a specific theory but consider the video camera as an "epistemic object" (Fenwick, et al., 2012, p. 8), asking: How does the video camera position teachers and students in this study? A limitation here is that this question arose from the field, and was not central to the research design. I address this limitation by suggesting questions for further research from a sociomaterial perspective in the conclusion.

3.6 Collaborative Inquiry and the Ethics of Voice

Collaborative Inquiry (CI) is a proliferating branch of research from adult education with roots in action research, participatory research, and John Heron's program in new paradigm human inquiry (Kasl & Yorks, 2010). These approaches share a concern with power sharing in the conduct and reporting of research, though they manage the problem in different ways (Brooks & Watkins, 1994).

I am indebted to Clough and Nutbrown (2012) in understanding research methodology to be at heart a matter of ethics. I conceptualize trustworthiness as the ethics of research methods, observed primarily in how research is conducted, and voice as the ethics of the positionality of self and others in research, discernible primarily in how research is reported.

Voice is a narrative device concerned with characterization. A researcher generally seeks to speak with an authoritative voice, sometimes with a critical voice (following Hadfield and Haw's taxonomy of voice, 2001; cf Thomson, 2008). The appeal to the credibility of these voices is founded, or ought to be, in reflexivity, an ethics of transparency in reporting one's way of looking at things (Clough & Nutbrown, 2012; Cohen & Crabtree, 2010; Lather, 1992; Iannacci, 2007). However, the concept of voice has also more recently been taken up by scholars as an issue of the rights and capacity of the researched to speak (Thomson, 2008, p. 2). While Thomson (2008) discusses issues of voice when researching children, I take her comments to be applicable to any research participants. As I take up the problem of participant voice, I will be drawing attention to two other voices I discern: the interpretive voice and the collaborative voice.

The basic ethical practices of right to informed consent and right to withdraw from participation in research can be seen as a first level of choice in voice (Hirschman, 1970; cf Thomson, 2008). However, a second layer of choice is concerned with the interpretive voice, what Smythe and Murray (2000) refer to as *narrative ownership*: whose version of the story gets told? The answer to this question, I posit, reveals the distinction Thomson (2008) makes between research *on* and research *with* participants (p. 7).

Smythe and Murray (2000) advocate acknowledging upfront with participants that the researcher's construction and interpretation of the stories they report will be informed by the participants' interpretations, but necessarily different in terms of purpose and audience. This distinction supports the understanding that the reasons and ways a story gets told vary by context. Researchers who align themselves with critical pedagogy and participatory research (Cohen, Manion, & Morrison, 2011, p. 39), on the other hand, are inclined to co-construct the research story with participants (see Clandinin & Connelly,

2000 for a narrative research example). One advantage to this approach to voice is that the theory developed is more apt to become praxis: "Too often conventional approaches to data collection such as interviews regard people solely as sources of information...in many cases the information obtained is irrelevant to the communities involved in the research" (Cohen, Manion & Morrison, 2011, p. 39). The conscious development of praxis is the goal of the collaborative inquiry/learning model espoused by the MOE (LNS, 2015a and b; OLF bulletin # 3, 2010). A second advantage to co-construction is that it honours the reality that the process of research can never be neatly predicted, and that the notion of informed consent is better described as an ongoing practice of negotiating consent (Clandinin et al, 2010).

While some narrative researchers find an imperative to co-ownership of the research story, I am inclined to Smythe and Murray's (2000) view that there is always more than one story, however much I try to position myself as a collaborative voice in the field. My answer to the problem of narrative ownership is to offer multiple purposes, entry points and exit points for my participants – opportunities for them to engage with praxis. I hope we have some shared accounts of the value of the experience. In Chapter 4, the participants are introduced.

Chapter 4

4 The Cases: Technology as Epistemology

I focus on three broad strands of analysis from this research. They are: technology as epistemology, the affordances of video inquiry, and the types of assessment narratives produced by the study. Chapter 4 introduces each case: the teachers, their settings, their inquiries; and the ways these positioned and were positioned by the video technology available. The five cases in this study represent teachers working in urban and rural settings, with students from low to high socio-economic backgrounds, in a southwestern Ontario school board. All people and place names have been fictionalized, while seeking to retain enough detail that readers can identify with the characters and their choices.

4.1 Technology as Epistemology: The IPad, Cameraphone, and Digital Camera as Knowledge Objects

In the preface to their edited book on sociomaterial perspectives on professional learning, Fenwick and colleagues (2012) discuss knowledge objects; objects which give us ways of knowing, but objects which themselves: "derive from epistemic cultures of various kinds, incorporate the logics and arrangements through which knowledge comes into being, and are circulated and collectively recognised in the given culture or community" (p. 8). An added value of a sociomaterial perspective on professional learning is the attention it brings to the often overlooked ways that material resources act on practice. Encouraging teacher participation in the use of video technology to improve assessment practice can only benefit from an attunement to "those unseen factors...beyond human intention and control" (p. 7). The findings in this chapter are a first step in that direction.

4.2 Grade 3 at Fieldcrest[1] P.S.

Nora's grade three classroom is attractive and industrious, with lots of colourful student work and "success criteria" charts posted around the walls. Her students are privileged - their parents are dentists, university professors, teachers, engineers. Fieldcrest school gets top marks in provincial standardised assessments. Nora has been teaching many years in a variety of positions in the board. She has a Master of Education degree and is interested in research and formative assessment. I am grateful to Nora for her vision; by asking if she could film math communication, this became a truly multiliteracies study. Nora also had a different take on the inquiry. Rather than studying student work on stand-alone activities, she chose to record clips throughout a math unit on geometry, tried to collect data on all her students, and studied her feedback in light of their progression in communicating the concepts. She planned her recording ahead so she could access a school iPad when she needed it. Listen to Nora as she reflects on the affordances of the video lens for her teaching:

> N: You're working in the classroom and you're seeing things and you're kind of troubleshooting in the moment things...[but] when you're videotaping, you're really focussed on student language, and the kids know not to interrupt you with: I need more tape or something like that – and you're really focussed on their thinking. So, the videos have more depth, you stay with the conversation longer, and when you play it back, you go deeper into their expressions, and how much prompting you're doing. Am I waiting long enough? Am I jumping in too quickly?
>
> M: So you started to analyse your instruction a little bit too?
>
> N: Yeah, in terms of how much feedback and wait time and so on. Early on, I was quicker to fill in vocabulary I thought they were searching for, and then later on I gave a little more wait time...Having this thing, the iPad, in between me and the student, it forced me to think – what did I just say? And I'm looking at what's on the screen, and processing it, and then I can come up with decent feedback. It gave *me* some wait time, to think how I would respond to them.

The video camera afforded Nora a performance of focussed attention: "you're really focussed on their thinking...you stay with the conversation longer." Through her

[1] All names are pseudonyms

observational stance of choosing to focus on student thinking *and* her feedback, the camera as a way of coming to know provided material cues: "it forced me to think," "it gave me some wait time," to direct her gaze both outward and inward. Nora also noted a performance affordance for some of her students: "I also found that, for the students who are reluctant to talk, being videoed was motivating."

4.3 FDK at Maple Ave. P.S.

The trees are old and lovely, and shade the small but neatly kept houses on one side of Maple Ave. Behind the school, and around the corner, however, densely clustered apartment buildings shelter families living on social assistance, including many new immigrants and refugees. The majority of students in Terrance's class are English Language Learners (ELL).Terrance, with bushy hair pulled back into a man bun, scruffy beard, and fun tie, strikes me as a hipster mad scientist– not your mother's kindergarten teacher. The room seems to be in a state of organized chaos as he whips around getting the kids and room ready to welcome their parents at the end of the day for "tea time," while his ECE partner works quietly in the background setting out the cups and treats. One child is squawking and another is removed to the office. But the afternoon I arrive for the interview, it's lunch time and Terrance is playing a calming tune on an old wooden piano while the kids sedately munch.

Terrance has an iPad in the classroom which he uses ubiquitously to document and share student learning: "Well, I use the iPad regularly throughout the day, so it doesn't faze them, if I have the iPad, and they just continue doing what they were doing." Since the iPad is enculturated as a documentation epistemology in this classroom, it may be that the performance affordance noted in the Fieldcrest example fades, at least to the teacher's consciousness.

For the purposes of this inquiry, Terrance sought to capture records of a variety of literacies in action: a student writing in a dramatic play centre for the first time, a shared writing activity on the Smartboard, a small group he had gathered for the purpose of trying to assess the alphabet knowledge of a shy JK student. His purposes generally

focussed on eliciting learning, using the iPad to both record and encourage students' task engagement. In this choice of what to film the performance aspect does come to light, as Terrance uses the iPad to position the students as performers and the teacher as encourager of the action: "So we are in a doctor's office, I'm the patient, and he is copying down some information about my health card...this is literally the first time he has done any type of literacy without prompt."

4.4 Grade 2/3 at Parkside P.S.

While Parkside's area is somewhat mixed socio-economically, it attracts young families of professionals who value the entry level home prices, larger yards and parks and strong sense of community. I follow a labyrinth of corridors in this large school to get to Katherine's grade two/three classroom. Her room is cheery with south-facing windows and colourful work and charts posted on the walls. She finds her students generally learn easily and are a joy to work with. Katherine chose to film partner work in math and language. Like all schools in this board, Parkside is focussing professional development on math instruction in the hope of improving math scores on provincial standardised testing. As an experienced teacher who is appreciative of working with support staff, Katherine also invited the instructional coach assigned to her school to work with her class on questioning strategies for oral language and reading comprehension.

Katherine chose to record videos of her students on her smart phone, but on the day of the interview she couldn't get an internet connection to download them to her laptop, so we ended up watching them on her phone. The data collection conditions were not ideal as we squished together on a couch in the staffroom with the photocopier humming in the background, but it worked. We were able to get enough information from the videos to generate questions and a progressively deeper discussion about next steps for two of the students featured in the videos. The scenario highlights the way space and technology operate in the background to help or hinder collaboration: Katherine had the time because she chose to use her prep time, but her classroom was in use and the only other room available lacked privacy. This situation was replicated by another teacher who used part

of his lunch to meet, which necessitated using a library computer to view the video clips together.

Katherine also found that some of her students were motivated by the opportunity to "perform" for the filming: "The camera being on, it keeps them focussed, they really want to show off." In another video, the gaze shifts suddenly from a pair of students discussing open and closed questions to a boy who asks Katherine a question off camera:

> K: Apparently I stopped and switched - because he's really super low, and he came over and started reading me his questions that he thought he'd written out but hadn't really written out, because he can't write...he has great ideas, or he has interesting ideas – so he started coming over and he wanted to be videotaped, so - do you want to go back to the other one?
>
> M: No, just keep going, tell me why you chose him?
>
> K: I chose him because he wanted to be videotaped, you could tell he wanted to share.

In these exchanges we see the act of filming setting up the performer/director interaction between students and teacher again.

4.5 FDK at Riverview P.S.

This small school nestles into a village peeking out of acres of corn fields. "Just turn left at the Tim Horton's!" directs the school secretary when I call. I enter the classroom and the lights are dimmed, and everything, from the walls to the new furniture, is in soothing shades of green and brown – the back to nature semiology of the FDK curriculum. Classical music quietly ripples in the background. Jane and Elaine greet me and my box of Timbits warmly, and I can tell they enjoy working together. Jane is an experienced teacher but new to the FDK program, and she and Elaine, the ECE half of the team, have approached the study as an inquiry into how to improve their use of documentation.

Jane and Elaine do not have a classroom iPad, so Jane opts to use her own from home for the inquiry. She expresses some discomfort with the risk of loss or damage to this use of her personal technology, wishing it was more readily accessible at work. She chooses to film a small group doing a letter/sound elicitation game to assess their fluency with

alphabet knowledge. She also records a group of two students working as reading partners in the hallway, because she wants to know if they are a good pairing to work independently. She and Elaine have questions about a boy "who has trouble getting to the point," so they decide to study him giving an oral presentation during group sharing time. In these choices we see Jane positioning her iPad as a data recorder. Having an ECE partner is a real help in this regard, so that she can work uninterrupted with small groups outside of the classroom. However, in order to facilitate the letter game she needed her hands free, which she solved by propping the iPad up on a chair to record the action. In this way the iPad positions her by forcing choices about how to set up situations to record.

4.6 Grade SK/1 at Highview P.S.

Chronic poverty populates the area surrounding this school, alongside its next of kin: trauma, mental illness, addictions, neglect. In this most challenging of workplaces for a teacher, often your only reward for doing a good job is an even harder assignment the next year. Christine is a scientist in a past career. She has been interrogating her work teaching Kindergarten and grade one classes for the past seven years. Last year she took on the challenge of the new FDK curriculum, a formidable remodelling to the routine comfort of her program and space. This year, she was asked to take on a Senior Kindergarten/Grade One class. The SK/1 split has its own unique set of challenges, cross-bordering Early Years and Primary pedagogy and curricula paradigms.

Christine used her own digital camera to make video recordings of a group of boys in grade one reading below the expected end of year level. She was asked by the school's Literacy Improvement Team to target this group using a new series of guided reading books, and wondered if filming them reading individually would give her different information than her observations of their group reading or doing individual running records would afford:

> I wondered if the video would point out things to me, that I wasn't able to see...*you* pointed out things that I wasn't seeing...it's tricky because, I normally

> would be jotting down running records, but when I was videoing I didn't have my hand free to do that.

The question of what Christine did or didn't see will be taken up in the next chapter, in the discussion of scripted narratives. In this section, note that by picking up the camera, she "lost" the use of her hands.

4.7 Chapter Summary

The teachers in this study made conscious choices about what to record with the video technology most readily available to them. They used their video cameras to collect data about students or activities they had questions about. The act of filming often positioned students as performers, which most students found motivating. Nora's choice to focus on the feedback she was giving to students also afforded her a performance of focussed attention. Since the act of being consciously recorded seems to inevitably elicit a performance, the positioning of "in front of" or "behind the camera" should be considered when planning video inquiry.

The teachers were also less consciously positioned by their technology to record in ways that physically and/or psychologically freed or tied up their hands, and freed or tied up their interactions with the other students in the room. There are times when setting an iPad on a tripod, or just propping it on a chair in a pinch as Jane did, may be a better data collection option. One teacher had the luxury of a quiet, separate room to record group work, but the most common experience is that teachers could only make recordings when the rest of the students were independently engaged. Christine, the SK/1 teacher, had the hardest time in this regard considering the lower independence of this age group, the small size of the classroom, and the fact that she is expected to do guided reading with her grade one students while the SK students are playing.

Christine's experience, like others in the study, also highlights the critical question of access to resources. She had "access" to a school iPad shared between four kindergarten classrooms, but did not find it accessible:

> We find it really difficult to share the iPad mini because of the students they have next door [runners], they have to lock this door, and the idea was that the door was going to be open and there would be a freer flow of students and information...and often the moment's just lost anyway, if you have to run and get it. So that's why I just used my camera.

Christine also found the extra step of having to download the video from her camera to her computer in order to view it together cumbersome.

> I probably wouldn't use video a lot, because if you take the time to video than you have to take the time to view afterward. Whereas when I'm taking anecdotal notes, when I write it down I tend to remember it. So for guided reading, for example, the video probably wouldn't be my go to...but you're right, if it's a play activity or an inquiry or something like that, then the video makes sense. As long as you take the time to go back. And that's always the problem, right?

This brings up an often overlooked resource in planning any endeavour - time. I asked Christine whether it was easier to record and review documentation last year, when she had an ECE partner in the classroom, but she felt that the time to properly reflect on the material together was still in short supply:

> The problem is that we were never given time together, even for prep or anything like that... the ECEs technically don't have prep time. So sometimes she would take photos or videos, but I would be the one looking at them. She wouldn't have the time. Sometimes we would, just at lunchtime we would just sit at the computer and eat and look at that.

It is relevant to note that while I was able to meet with the two other kindergarten teachers in this study during their prep time, their ECE partners were scheduled to be with students. The only reason one ECE was able to participate in the study was because she and her teaching partner were willing to meet after school.

This was my response to Christine's comment about the problems with using her digital camera:

> And the iPad is more user friendly – the camera picture quality was good, and you could download it to your computer, but it's just that extra step, not as good an interface...Every teacher that I've talked to has said it would be so nice to have an iPad in my classroom, and not my own, because then I worry about what's going to happen to it, but a school-based one. Right there, when I need it.

As a co-researcher with the teachers in this study, my own experience would have been better if they had all had ready access to the best available technology, such as a classroom iPad or tablet; a quiet and private space to review the videos together without interruption, and common planning time for teaching partners. With good will and good humour issues of space, time, and access to technology can be worked out to bring people together in schools to collaborate, but the cases in this study do highlight the unforeseen ways that space, time, and tools – not to mention the independence and motivations of the students - directed the video inquiries. The issue of teachers having time to collaboratively inquire must be addressed systemically and equitably. At the time of this study, the board I drew my participants from was providing funds to principals to allocate for collaborative inquiry provided it was directed to school improvement goals in math or language. My research suggests that video inquiry could support these goals by providing strength-focussed instructional next steps with an enhanced data set. In the next chapter, I lay out the affordances and the narratives we drew out of the video data.

Chapter 5

5 Affordances and Narratives Constructed by Video Inquiry

Since I conceptualize assessment *as* narrative, this study became an inquiry into the narratives produced by a new assessment methodology. There are two sets of findings discussed in this chapter. The first section: "Tuning out, tuning, in, and fine-tuning," outlines the affordances of video inquiry that I noted within and between cases. The second section: "The stories we '*have'* to tell, the stories we *need* to tell, and the stories we *can't help* telling," discusses three kinds of assessment narratives constructed by the video inquiries.

5.1 Tuning Out, Tuning In, and Fine-tuning

Tuning Out

> "I didn't even need the sound on to hear that!"(Mary).

We are familiar with stories of outstanding sensory perception that some individuals develop when they are born without one of the modalities – babies born blind who learn to echolocate, for example. But if you experience a sensory loss, even momentarily, there is a discomfort to disability. When the teachers and I watched the video clips without sound the first time, we often struggled to make sense of what we were seeing; especially if there was a lot of "talk" going on. As a viewer who was not an eye witness to the filming, it was particularly difficult to orientate myself to the context. I found myself asking seemingly surface level questions about what was happening – the type of descriptive talk that other researchers of video in education warn against (Rosean et al., 2008; Seago, 2004; Sherin, 2004; van Es & Sherin, 2002; 2010).

Rather than being a drawback, however, the experience of tuning out the audio was crucial in two key ways. First, it excavated the more unconsciously held assessment narratives of the teachers, so that their characterizations of the students or the action could be challenged with more evidence when we watched a second and third time with

the sound on. Second, far from being disabling, the loss of hearing seemed to enhance semiotic awareness by enabling the viewers to tune in more deeply to the visual and spatial modes communicating in the scenes (Rowe, 2012).

While some of the questions raised or the action in the scenes seemed to have obvious answers once the sound came on, there were occasions when the apparent was disconfirmed. For example, in one video a boy was reading and seemed to be stuck on a word:

[Sound Off] Mary: (Noticing he pauses on a word) Stuck on "says" maybe?

Christine: Yes, he kept pronouncing it "saw."

M: (Noticing boy is frequently looking up at the camera and also looking around) Looks like you're prompting him?

C: Yeah, he was really stuck there a long time, and he kept looking up and noticing "saw" on the word wall.

[Sound On] C: (Prompting boy stuck on "says") So, what are you going to do to figure that word out? What are some things you can do?

Boy: D-days?

C: (Commenting on this scene to me) So he looked up here [at the word wall, and found a rhyming words for "says"]

C: And what does this word start with? (Boy: 'S'... 'says').

In another example, a teacher commented on the action we were watching with the sound off, as a boy asked to join a group already playing with alphabet letters:

[Sound off] Terrance: This other boy just jumped in, he's new to our class...he has very low receptive speech, but he loves working on letters, and he's working on being a positive member of our social classroom...it's neat to see that there hasn't been any grabbing or hands on. I wonder how many times I've had to prompt him though?

[Sound on] Boy with weak language and social skills: Guys, can I please play with you?

T: (Commenting on clip) Interesting to hear that the boy that's struggling with some social aspects asked politely if he could play.

In these two clips from different cases, we see clear examples of how watching with the sound off raised questions, commentary, and characterizations which became propositions that could be examined with the sound on for confirming or disconfirming evidence. In their chapter on pedagogical documentation in 'The Hundred Voices of Children,' Forman and Fyfe (2012) argue that video does a better job of capturing the context of an event and uploading memory than a photograph. The cognitive load of having to recall an event taken off, Forman & Fyfe (2012) suggest, helps push the study from description to interpretation. I suggest that watching the videos without the sound became a way to upload not only the teacher's memory of the action, but a wider body of evidence so that when we turned up the volume, we were prepared to move from recall to reflection.

Tuning In

> *"Without the sound, you're able to focus on some of the visual points that you might not catch." - Terrance*

The next set of excerpts illustrates ways in which our semiotic awareness was expanded by attending to other modalities than sound. It seems likely that with more experience tuning out the aural, teacher sensibilities to other modes would be heightened by video inquiry. In this preliminary investigation, the affordances noted across cases suggest increased awareness of gaze, body and tool positioning, and group dynamics.

Gaze

Mary: What was he looking up at?

Jane: One thing I noticed was, he glanced up at me towards the beginning, but after that they really didn't do that, they really did try to do it together.

Body and Tool Positioning

Nora: I seem to be over at Mitchell's desk an awful lot!

Jane: So this is a student who brought in all these models of plasticine he made, and sometimes he has a hard time getting to the point, so we wanted to see what he was doing.

Mary: (Watching the student do 'show and tell' without showing what's in the bucket he is holding) Is he going to show it? ... Because I'm just feeling frustrated as an audience... I wonder what the kids are feeling?

Mary: I was just noticing his grip, is that typical for him?

Terrance: Yeah, he's still writing with his shoulder and not his fingers or even his elbow, he moves his whole arm with gross motor skills rather than fine motor skills.

Mary: (observing two girls solving a math patterning problem with cubes) See the way the other one sat down there? Is she giving up?

Katherine: I think she's just getting her paper out for the recording part? (As the camera rolls we see the girl checking something on the paper against their work on the desk)

M: I wonder if she got the paper out to check on her own, or if you prompted her?

K: I don't think so, I think that may be a paper we did before, and she's looking to see if it can help.

M: Using it as a resource?

Group Dynamics

Mary: (observing two girls solving a growing pattern) The girl holding the blocks seems a little more take charge, or confident about it?

Katherine: Hailey's confident, and she does like to be in charge...Next steps, I think Zehara needs to be with someone who is not as strong, so she can be a bit more of a leader.

Mary: (observing two boys "talking" about the attributes of a cylinder while they manipulate a couple of samples) I noticed the boy who is an English language learner has a strategy of mirroring his partner, if he goes off on his own, can he reproduce it?

Nora: Not to get started on his own...He is really engaged and actively working with James, so I think that's a good pairing, he doesn't really engage with a lot of the other boys.

In each of these viewings with the sound off, there is a pattern of raising questions about non-verbal action. Some of the questions are so deceptively simple: "what is he looking up at?"- and the moments so fleeting, that they are sure to have been passed over if aural

data was available, especially when students were recorded speaking. One caution with the focus on non-verbal communication is that it raised some issues which were probably peripheral to the overall literacy development of students, such as pencil grip. But following up on these questions of gaze, body positioning, and use of available resources through multiple viewings provided more evidence for the inquiries into the multiliterate strengths and resources students were drawing on. In the next section, I discuss the fine-tuning to assessment narratives that the methodology of video inquiry afforded.

Fine-tuning: The Story Changes...

I like to call the following vignette "V is for Valentine." While it features the transcript of one video inquiry in detail, it is representative of the kinds of discussions the teachers and I had in each case. It is an attempt to capture and present the methodology in action, with annotated commentary on the unfolding thinking of both participants. A discussion of this extended excerpt follows in the next section on asset-oriented assessment.

V is for Valentine

Terrance and I are watching a clip of a whole class 'shared writing' activity where he is inviting students to write a Valentine message on the Smartboard.

Before pressing play, I ask him to background the situation for me:

Terrance: So, in this video the first girl that is writing is able to read beyond the Senior Kindergarten level...So she is just writing on her own without any prompts or anything. Once she is done I believe other students come up and try to mimic what she has done on her own.

Sound off: Call out what you are noticing

The SK reader readily prints 'Happy' with a reversed 'y' on the Smartboard.

T: ***So there's a reversal that she's working on.***

Here is an example of the video record challenging the "nothing to work on" narrative teachers can have for some "strong" students.

A small girl animatedly waves her hand in the air, and is invited to come up to take the pen.

> *T: And Elise is a JK student who is pretty new to our class, and she's working on sounding letters out, sounding words out (the girl draws a heart on the board) –* ***and obviously following instructions*** *because she's supposed to be sounding out the word 'Valentine's.'*

We can see the beginnings of a "weak student" or "behaviour challenged student" narrative in this quote.

Elise begins printing V, A, (long pause while she looks around), L

> *M: So is she doing this unprompted right now or copying the word from somewhere else?*
>
> *T: This is prompted through me giving her the sounds, so I'm probably in the background making ridiculous noises...when she was stuck on a letter, she was looking around for various cues.*
>
> *M:* ***There's a resource she was drawing from.***

Once a "weak student" narrative was aired, it was hard for teachers to attend to strengths. I found it helpful to draw attention to the use of resources in the midst of a struggle, to reframe the situation as a positive.

> ***Sound on: Comment on strengths and any additional information***
>
> *T: I think we will find out how much the kids in the background understood as well.*

Elise is printing V, A, L as Terrance is heard in the background stretching out the sounds...

> *T: So she's able to attach consonants for sure...(in the recording, Terrance is continuing to prompt Elise for the vowel E: /e/e/e/ Emily, /e/e/e Erica!)*

Elise prints the E and hands off the pen. Neveah, another JK student, comes up for N, T, and gets stuck on I. Kids in the background can be heard saying the name of the letter in response to Terrance's sound prompts. He calls on one of the responders to come up to finish the word.

T: Now, we need a linguistic specialist, because right now do you know what that says?/Valentin/. We need to put the magic letter on the end that's going to make the "I" say its own name.

A chorus of children shout, E! Terrance comments on the recording:

So, exciting for me because I heard about 6 or 7 students on the carpet say e, and that's something we've been working on.

This part of the story highlights the affordance of back grounded data that video can provide.

Watching for strengths/next steps:

M: Ok, so strengths of the students you were filming are bringing to the activity? And also if you want to move into next steps.

T: Well, I think the strength and just affirmation for me was the magic e...Next steps, would be with Elise, with her continuing to work on distinguishing the vowel sounds. And ***the first girl, interestingly, did her y reversed, and she's someone who is well beyond where she needs to be with letters...so you just kind of get the impressions that she can do that.***

It was easier for teachers to challenge their own narratives when they were confronted with the more novel evidence of a "strong" student who needed to work on something.

M: ***For the girl that you said needed to focus on discriminating vowel sounds, do you have any insight into strengths she has in other areas that you might draw on to help her with this skill?***

To challenge the confirmation bias of the "weak student" narrative, having a fellow inquirer who is an outsider with a novel perspective can help to bring the discussion back to the positive.

T: Well, ***in the video it was pretty clear that she understood that Erica and Elephant started with the letter e****, so she does have a pretty good ability to [identify initial sounds] like that,* ***so using her skill of words that she already knows to attach those sounds to the sounds in new words.***

Video evidence afforded more specific and complex analysis of next steps.

...With Asset-Oriented Assessment

Watching each clip two to three times, with a focus on acquiring strength-based evidence to justify next instructional steps, afforded teachers the opportunity to grow progressively more detailed in their analyses. In the 'V is for Valentine story,' we see Terrance moving from recall about a student: "she's working on sounding letters out," to analysis: "distinguishing vowel sounds," to pedagogical justification: "Well, in the video it was pretty clear that she understood that Erica and Elephant started with the letter e...so using her skill of words she already knows." Recent reviews of video methodologies for professional learning in education have found similar affordances for a shift from describing work to analyzing it (Jewitt, 2012; Marsh & Mitchell, 2014; Rosean, 2015). The important point to consider here is not that video itself affords more complex thinking, but that it has useful capacities for research in general, and formative assessment in this case. One of the unique advantages of video for use in formative assessment is that it captures work over time, fore-grounding the process of work rather than the product. Watching unfinished work through video inquiry may help teachers avoid the mindset of 'continuous summative assessment' which Pryor & Torrance (1998) warn can masquerade as formative assessment.

Another key question from video case or *video elicitation* (Jewitt, 2012) research with teachers is how to develop 'noticing' or attending skills, an attunement to the significant classroom interactions in a recording worthy of more reflective work (Rosean, 2015; Rosean et al., 2008; van Es & Sherin, 2010). A primary concern of video case research in education has been how to disrupt routine ways of thinking in order to see something new; to 'break set' (Putnam & Borko, 2000) by attending to novel, unsettling, or disconfirming footage (Brophy, 2004, Sherin, 2004; Rosean et al., 2008). This study contributes to the research on noticing in video case/elicitation for teacher professional

learning by asking how applying an asset-orientation to the work of attending in video inquiry changes the stories teachers tell.

In the spirit of narrative inquiry, I call the shift we can see in Terrance's assessment narratives from recall to justification a shift from *character-driven narrative* to *plot-driven narrative*. The video inquiry progresses from an assessment of what Terrance recalls Elise doing, to a more robust assessment narrative calling on multimodal evidence of what she is doing, to a theoretical position on what Elise might do next with her skills and resources. Again, it is important to distinguish the affordances of video as a tool from the inquiry process itself. It is the methodology of using video evidence to justify pedagogy to another educator that affords a change in story.

5.2 The Assisted Gaze

This study also contributes to the developing research base on visual forms of assessment by drawing attention to the affordance of backgrounded data. Video is an assistive technology. It records what we intend, but it also captures more than we intend. Katherine showed me a video in which two girls discuss whether questions they wrote about a picture prompt were examples of open or closed questions. The girls clearly understood the difference as they elaborated for over a minute and a half on their examples. Suddenly, the frame abruptly shifted to a boy who interrupted his teacher's recording to show her his work.

> K: Apparently I stopped and switched – because Dylan's really super low, and he came over and started reading me his questions that he thought he'd written out but hadn't really written out, because he can't write...It took a long time to get the information out of him, but he obviously understood it. What I noticed there, is he couldn't verbalise it.

Notice that Katherine's original intent was to film the two girls, and then Dylan's interruption changed her intention. Her purpose at the time was encouragement, "because he really, really wanted to share." Afterwards she was glad she had caught the moment, because "I can get his thinking, without writing everything down." Video as an assistive technology can be very helpful to teachers to record student thinking, in the same way that we invite students with difficulty writing to use speech to text technology. However,

video inquiry as a methodology helped Katherine go even deeper into her analysis of Dylan's thinking and justification of next steps:

> K: Every single time he gave a question, he knew if it was open or closed, but he wasn't able to, initially, verbalize why it was open or closed. I mean he was right every time...other kids are usually able to say a closed question has a one or two word answer. But he seems to know when you specifically say, "how many words."
>
> M: So he could give you the examples, he just couldn't label the category.
>
> K: Exactly. And hopefully, as we continue, and we give further examples...and those concrete hooks...he'll be able to label them more clearly.

Dylan's work was not part of Katherine's original focus for assessment, but once on record it could become an object for analysis. In the excerpt we see the "weak student" character-driven narrative once again shifting, with an asset-oriented approach to the video evidence, to a plot-driven narrative about using Dylan's strengths and resources for next steps.

5.3 Summary of Part 1

To summarize part 1, the data suggest that the affordances of video inquiry are:

- Enhanced semiotic awareness
- Challenge to the bias of memory
- Movement from recall to reflection to justification
- Focus on process
- Attention to back grounded data

I also introduced the terms character-driven and plot-driven to describe the change in assessment narratives constructed through the video inquiries. In part 2, section 5.4, I move from describing types of assessment narratives to a discussion of what is telling the stories, by exploring the discursive strategies teachers used to get their stories told.

5.4 The Stories We *Have* to Tell, The Stories we *Need* to Tell, and the Stories We *Can't Help* Telling

Post-colonial narrative research is characterized by a focus on the critical questions why, and how, these stories? (De Fina & Georgakopoulou, 2008; Frank, 2012; Iannacci, 2007; Smith & Sparkes, 2008). Critical narrative research calls into question the cover stories (Clandinin & Connelly, 2000) people tell. The analysis of tensions in the act of storytelling, between the teller's discursive practice and the tale's discourse-in-practice (Gubrium & Holstein, 2009, Souto-Manning, 2014) can identify counter stories of resistance (Lindemann-Nelson, 1995), or point to what is and suggest what may be (Iannacci, 2007).

The Stories We 'Have' to Tell

Katherine told me this story about Sandeep as we watched a video clip of him working with a partner. Sandeep is in grade two, and in the clip he is using linking cubes to solve this question: 6 +9 = 7 + ? Katherine expected him to use the cubes to model 6 + 9, then line up seven more cubes beside this number line and fill in the missing pieces to make the two rows of cubes equivalent. This is the method she had introduced in prior lessons focussed on number lines. Instead, the video shows Sandeep reasoning with his partner about equivalency and a compensation strategy: "If I add one to the row of six, I need to subtract one from the row of nine, so there will be no remainders." Katherine was amazed by his advanced reasoning and vocabulary, but when I asked her what her next instructional step would be with Sandeep she said: "We're going to keep doing number lines – mostly because our school's focus this year is on using open number lines." Notice the tension between Katherine's statement of agency: "we're going to keep doing number lines" and the *aside*, where she tells me whose idea that really is " – mostly because our school's focus this year is on number lines." However, at the end of our interview, the audio recorder off and my coat in hand, Katherine added an *afterward*:

> "I Googled a problem, where a ball was dropped from 24 metres, and bounced 5 times, half as high on each bounce, and Sandeep had to figure out how high the fifth bounce would be...and he came back ten minutes later and it was done."

Katherine used the discursive strategies of asides and afterwards to tell me another story.

The system goal of the board I was researching, indeed a goal of the entire province, is to improve mathematics teaching and achievement driven by a perception that students are falling behind based on provincial (EQAO) and international (PISA) assessments. Of my five teacher participants, two were kindergarten teachers and the rest taught grades one to three. Each school was unique, ranging from urban to rural settings, low to high socio-economic status, and low to high school rankings on EQAO tests. Yet only the kindergarten teachers appeared exempt from the pervasive pressure to improve math scores, and approaches that favoured *institutional discourse* (Souto-Manning, 2014) over individualized teaching:

> "Because geometry and measurement was one of the things that didn't go so well" (Nora, grade 3)... "when our coach has been here, it's been for math, our focus is math this year" (Christine, SK/1)... "our school goal is math this year" (Katherine, grade 2/3).

Souto-Manning (2014) speaks of the unconscious or at least unexamined recycling of institutional discourse in personal narratives. It may be that Katherine and Nora chose to focus on math work in their video clips as they unconsciously subjected their professionalism to institutional discourse. However, sometimes people tell you what they think they have to, and find ways to do another. Kathy Hibbert coined the term *board-speak* (2004) to differentiate the cover stories teacher participants first offered about their work in research interviews. These were the stories teachers thought they had to tell because they represented school board and Ministry of Education mandates. Hibbert critiques the (govern)mentality which makes teachers feel compelled to tell these tales, even without system leaders listening over their shoulders (2015). Consciously or unconsciously, I suggest that Katherine used the discursive strategies of asides and afterwards to show how she works around such discourse-in-practice.

The Stories We Need to Tell

The stories we need to tell are the stories that trouble us, or fascinate us, or valorize us. They satisfy our drives for novelty, affirmation and explanation (Heath & Heath, 2008; Kahneman, 2011). The gaps and silences in our cover stories are the cracks in the surface

that reveal the counter stories beneath (Lindemann-Nelson, 1995; Clandinin & Connelly, 2000). I posit that the teachers in my study used the strategies of *sidebars* and *recurring themes* to get these stories told. For example, Terrance tacked on to his assessment narrative of a boy who was writing something unprompted for the first time, a story about another boy who loved to build:

> Like the child in the background that was telling me that the doll was not hot anymore, he is very math-minded, he's almost like "Rain Man" where he can tell you how many toothpicks are in the box, but his English is coming along, so getting him into dramatic play and talking with people was a struggle at the beginning of the year, but he would always build...so we would try to get him to build things for other people, and incorporate his world into other people's worlds."

Speaking again to the affordance of backgrounded data, while Terrance's intention at the time of filming was to record the boy who was writing for the first time, what really captured his attention in our viewing was the oral language and social development of the boy in the background. Telling this story was likely at the forefront of Terrance's mind because we had been speaking off the record about inquiry and play in the new kindergarten curriculum (Ontario, 2010b), and the asset-oriented approach he was attempting to incorporate into his program. Telling this story may have validated his thinking, and it also likely piqued his interest because it was something he hadn't expected to see.

Another strategy teachers used to work around my interview questions to what they really wanted to say was to return to ideas. In Nora's story about her clips of students' progression through a geometry unit, the theme of a troublesome pyramid kept surfacing. My purpose in representing this theme visually and in different ways is first, to draw attention to Reissman's (2008) contention that the different ways in which researchers prepare transcripts reflect first levels of interpretation. Reissman (2008) shares as one example a transcript written as a poem with repetitions in the text marked by codas. My second purpose is to experiment with the affordances for triangulating and illustrating findings by representing them multimodally. The first representation is a poem, constructed by dialogue between Nora and her students in the video clip, and our commentary as we watched the clip together. The second is a word cloud represented in

figure 2, generated by copying the entire transcript of our interview into a free online word cloud application (worditout.com).

The Pyramid

Is this a pyramid? Yeah! Why?
Because it has triangles.
Where does it have
Triangles?
On the
Sides.

Or you could use the word F_ Faces!
But it also has this?
Vertices! Pointy
thing!

That was another thing I realized -
The pointy thing at the top!
They were using that
Vocabulary

Next steps, we're moving on to angles...
But they overuse the word vertices a lot –
Except for pyramids, that
Pointy thing
At the
Top!

Maybe you could put the
Pyramid on its side,
So they can see that a
Vertex is
An
Angle?

Yeah, it's a progression – at the end of the year we'll review for EQAO
Because geometry and measurement was one of the things
That didn't go so well.
I still think it's

The Communication

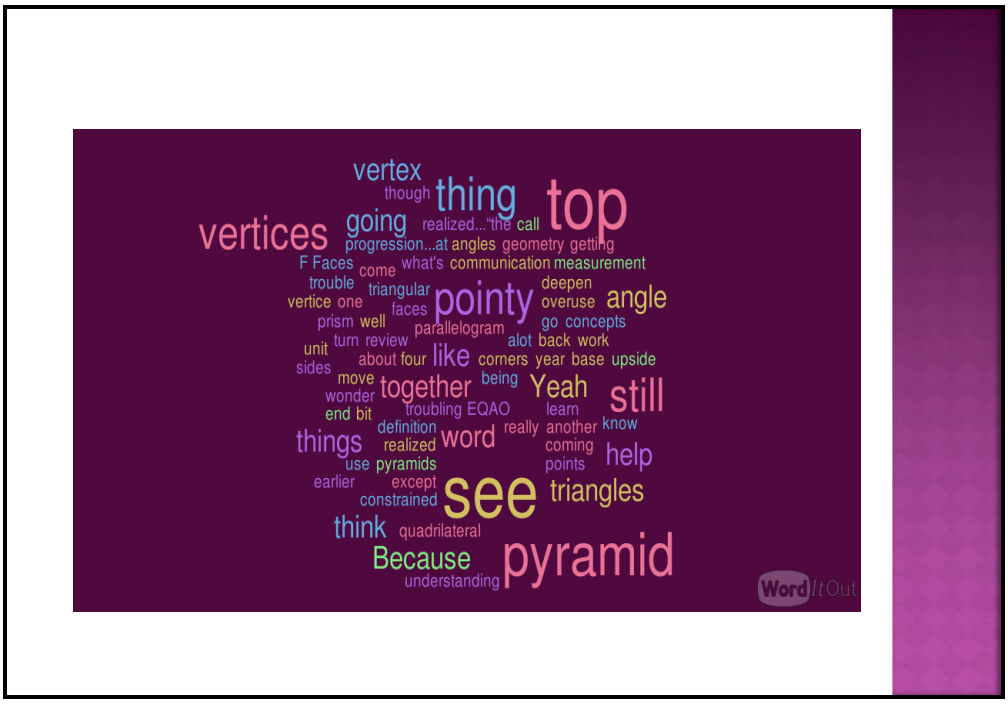

Figure 2. I Still Think it's the Communication

"That pointy thing at the top." One transcript, two ways; and from the coda in the poem to the high frequency word count in the word cloud, what's troubling Nora surfaces – and it's not what I thought. Repetition is thematic, but to what end? I offered what seemed to be an answer to the instructional problem in her cover story, about helping students recognize the vertex of a pyramid as angles coming together. I couldn't understand in the moment the gap manifested in the way she brushed my suggestion off: "Yeah – it's a progression." A close reading of the interview later suggests that what was really troubling Nora was the prospect of her students (in a highly ranked school in the board) not making the grade on the system target for EQAO this year: "I still think it's about the communication." Circling back to ideas and recurrent words could be a means, most likely used unconsciously, for Nora to express the anxiety behind the "good news" cover story she was telling about using video formatively through the geometry unit.

The Stories We Can't Help Telling

The stories we can't help telling are the ones that are scripted for us. They are the stories that shape our thinking without thinking; the stories we have been instructed to construct

(Hibbert, 2015; Stooke, 2015). By the educating of our gaze (Rose, 1999), these stories allow us to see certain things and not others. I learned to identify these stories, including the ones I was telling, in the transcripts of interviews where the teachers and I seemed to circle around and around the questions without saying or seeing anything new. Notice this phenomenon in my interview with Jane and Elaine about "the boy who couldn't get to the point."

> Jane: One of the reasons we wanted to film this boy's show and tell is for his oral language, sometimes he has a hard time getting to the point...
>
> Alexander: [On camera, holding a bucket and pointing at things inside which can't be seen]. That's Patty the platypus, and that's Snappy the snow crab, that's Slithery the snake – and I, and I made them, I made them out of modelling clay. Yes Quinton? [Where are they from?] They're from ah, they're from ah, you know that store with – you know that store, um...you know that store where, like, um...you know that store where there's ah, where there's that play stuff? [Can you tell us how you made them?] I needed a knife – but don't worry! I didn't cut myself! [laughter].
>
> Mary: [Noticing he is looking around but not at the audience as he speaks]. How's his eye contact?
>
> Elaine: Not good.
>
> M: Does he have a good sense of humour? Because I found that funny...
>
> E: He's very literal too though.
>
> M: What about the interest he displayed there?
>
> J: He always talks about movies; He always comes in wanting to describe them blow by blow.
>
> M: So I would guess that he's got an excellent recall for details...or a strong interest in stories or visuals?
>
> E: It has to be of interest to him.
>
> M: He kind of...just jumped into the middle...Do you give them a script or a plan to follow when they're presenting things?
>
> J: Not for our sharing usually.
>
> M: Right, and now that you've seen it what do you think, about his getting off track?

J: Well, I think...I think it's who he is!

There are at least two tensions operating dialogically through this conversation. First, because Alexander's speech traits were problematic to his teacher and ECE, they had a difficult time responding to my suggestions to notice his strengths and resources such as a sense of humour, or a strong interest in visual arts, without re-problematizing them. On the other hand, I realized on close reading that I too was struggling to break out of a pathologizing discourse (Heydon & Iannacci, 2008). My line of questioning about eye contact and interest in visuals was instructed by the meta-narrative of autism which regulated my expertise (Rose, 1999) as a special education teacher for many years. At first Jane's comment, "I think it's who he is!" troubled me, because I thought she was missing important cues that should signal referrals to a speech pathologist at least.

As I reflected more on the whole story, however, I came to see Jane's opinion as a more open-ended assessment narrative from her context of early childhood development; a story with more room for potential. She wasn't speaking in a negative tone, after all, she was just asserting that she didn't have the answer right now. As the interview carried on, she talked about how she had questioned a speech pathologist about similar speech traits in the past, and gotten some tips on how to handle it. The story of the boy who couldn't get to the point ended quite positively. As Jane and Elaine zeroed in on next steps, they were reminded of ways he was already responding to various non-verbal cues to help focus his responses in group discussions. It may be that from the time they made the video to the time they showed it to me, this exercise had already helped them to make those instructional adjustments. And as the interview concluded, Jane acknowledged that the idea of giving Alexander a framework for oral presentations might also help to keep him on point.

I noticed that the videos focussed on math work, group discussions, and play centres produced more questions and generative discussion than videos focussed on reading. The following story about a guided reading group illustrates this point.

> Christine shows me clips of some grade 1 boys in a guided reading group. We watch Jeremy struggle to decode the word "rocket" when there is a picture of a race car below the text.

C: He knows it's supposed to make sense...it's not making sense to him at all.

M: I like the fact that he's really persevering on that...

J: A rocket c-co-costs too much!

M: Talk to me about any strengths you see, or background knowledge he is using?

C: He – enjoys reading non-fiction much more than fiction, and so he had trouble with this story. He infers really quickly with non-fiction books...we got these new resources for grade ones, they're levelled books that are levelled really closely...so we've been invited to use them systematically. So for this level, this is the book.

C: This is Ben. A different day, a different book.

M: [Watching with sound off, noticing very slow finger tracking]. Is he reading sound by sound?

C: No, not always, this is a book at his instructional level.

B: Milly...loves...to see...her dog friends...at the park. She...runs.

M: What strengths do you see there, that you're going to continue to build on?

C: Umm. Well – one of the strengths is that he knows when something's not right...And, I don't know what to say...he uses pictures, and he stops and thinks. But we had done a picture walk, and that was one of the reasons he knew the word 'leash.' So at least he remembers information we got from the picture walk. So – that's a good question. What strengths do I want to work with, going on? I don't know what to say....I wondered if the video would point things out to me - you pointed out things that I wasn't seeing. It's tricky, because normally I would be jotting down running records.

M: I was even doing a mental 'running record' in my head – 'substitution!' and that kind of thing.

Teachers have a tight script for observing reading through the *running record* (Clay, 2001) and Developmental Reading Assessment (DRA, Beaver & Carter, 2001) methodologies they are taught in teacher education and professional development programs. These observational scripts or protocols condition us to 'see' in pre-determined ways, which is why Christine and I both had a hard time breaking set (Putnam & Borko, 2000) to assess reading in other ways – from a more open-viewing strength-based perspective, for one, or from a focus not on the reader but on the resources available to

the reader, for another. Scripts are helpful tools, but every now and then we need reminders that there are other ways to see (Murphy, 1998; 2015).

5.5 Chapter Summary

> *To be valid, these assessments must go beyond anecdote, belief and hope. They will require interpreted observations, discussions, and agreements (Carr, 2001, p. 13).*

The methodology of video inquiry, through multiple viewings with the sound off and on, affords an attunement to semiotic resources and back grounded data. In Chapter 3, we saw that video inquiry can position not only students but also teachers as the object of inquiry, affording both student and teacher work study. This chapter provides evidence of ways that the multimodal and contextual evidence afforded by video as an assistive technology can be used formatively by teachers to justify next instructional steps. However, the findings in this chapter also demonstrated that teachers construct two types of assessment narratives through the video inquiries: character-driven and plot-driven.

The move from character to plot marks a shift from past tense recall to present tense reflection to future tense theorising of next steps, which is made possible through the challenge to confirmation bias afforded by two methodological tactics of video inquiry. The first tactic is to begin with an ontology of assessment which is asset-oriented. Asset-orientation goes beyond a strength-based perspective to account not only for an individual's internal capacities, but the external resources available to them (Iannacci, 2006). This way of seeing reality sets up an epistemology of assessment that extends sociocultural theories of learning to the sociomaterial.

The second tactic of video inquiry that challenges character-driven assessment narratives is to employ collaborative inquiry. In order to find something new, it is necessary to challenge the old. A *critical friend* (Katz & Dack, 2013) can help expose the taken for granted in a colleague's perspective. In *Learning Stories*, Margaret Carr proposed a type of assessment inquiry she likened to case study: "Discussions with and observations by a number of interested parties...can be a source of what Grave and Walsh have called 'thick' description; acknowledging contradiction, ambiguity, inconsistency, and situation-

specific factors" (2001, p. 13). The methodology of video inquiry I describe in this chapter builds on the work of Carr and Lee (2012) to propose a narrative inquiry approach to the collaborative work of constructing plot-driven assessment narratives. Awareness of discursive strategies of resistance such as side-bars and recurring themes, and of the discourse-in-practice of cover stories and scripted stories, may help collaborators to push each other from descriptive to theoretical analyses.

In the concluding chapter, I link my findings back to the meta-narratives on formative assessment and evaluation that situate this study and discuss implications for research and practice.

Chapter 6

6 Conclusion

To echo Harry Pryor and John Torrance (1998), the classroom is where assessment meets social practice. This chapter revisits the meta-narratives and research narrative of this study, identifying its significance. From the findings I draw out practice-oriented suggestions, and consider possible research implications and limitations. I conclude with the contemplation: why not video inquiry?

6.1 Meta-Narratives: Assessment *of* Learning and Assessment *for* Learning

The Ontario Ministry of Education has signalled its interest in using both formative assessment (assessment *for* and *as* learning) and collaborative professional learning to improve student achievement (LNS 2014; 2015a; Ontario, 2010a). It is also interested in using documentation techniques from the Full Day Kindergarten program, such as the use of video data (LNS, 2015b, 2010) to support these goals as students move into the primary division and beyond. There is evidence from the literature on video case construction and video elicitation (Jewitt, 2012; Marsh & Mitchell, 2014; Rosean, 2015; van Es & Sherin, 2010; Seago, 2004), as well as pedagogical documentation (Dalhberg, 2012; Forman & Fyfe, 2012; Rinaldi, 2012) that collaborative engagements with video data have affordances for teacher inquiry. This research has currency in this context, but the findings have broader implications by drawing from and connecting the knowledge bases on video case construction, pedagogical documentation/learning stories, multiliteracies, and formative assessment to propose an assessment methodology I call *video inquiry*.

As education systems increasingly move to visual documentation of student work, it is vital to consider how to ethically and critically integrate these new assessment methodologies into pedagogy. This study marks a significant contribution to that conversation. I demonstrate that video inquiry can promote new ways of seeing student

and teacher work. However, as Roz Stooke notes in her investigation into the ways documentation is taken up in different early childhood care settings, "without a coherent curriculum in which to situate documentation, Educators are easily drawn back to familiar ways of looking" (2015, p. 88). I believe Stooke is referring to a philosophically coherent approach to curriculum which argues that evaluative frameworks of the purpose of education are logically inconsistent with formative orientations (Kelly, 2009). Because evaluation is high-stakes in terms of its consequences for students, teachers, and education systems, it always pushes the agenda of what gets taught, and how (Kelly, 2009; Murphy et al.,1998; Popham, 2001). So as much as a teacher strives for a formative pedagogy, using evidence to plan instruction, the evidence that is gathered will serve the purposes of the evaluation regime in which it is situated (Anderson & Macri, 2009; Asselin, Early & Filipenko, 2005; Clandinin et al., 2010; Parkinson & Stooke, 2012; Volante & Beckett, 2011). I too found disturbing evidence of this principle at work in the focus and pressure teachers expressed in their narratives about system math and reading goals, and the ways these limited individualized instruction. This study had to operate within the duality of these competing paradigms. I theorise the tensions within and between the stories teachers 'had' to tell, 'needed' to tell, and 'couldn't help telling' as expressions of this conflict. In the next section, I review the study questions, methodology, and findings.

6.2 How I Got There: The Research Narrative

Through this study I asked the questions: What stories do teachers tell about student achievement when they view multimodal evidence of student work? And, how might they use this information formatively? Beginning with my story of teaching Joe and Jack, I was dissatisfied with the accountability regime of testing in Ontario, which appeared to limit assessment and instructional choices for myself and my students. I became interested in the shift to formative assessment, or assessment *for* learning, which founded a new assessment policy, *Growing Success* (2010), for Ontario K – 12 education. At the same time, my graduate course work in multiliteracies pedagogy alerted me for the first time to what I wasn't noticing: other modes of meaning-making such as the visual and spatial. My introduction to narrative inquiry led me to theorise assessment *as* narrative.

My literature review helped me to see assessment *as* research – which opened up the need to justify one's assessment methodologies.

I began looking for forms of assessment that used multimodal evidence such as pedagogical documentation, which could be used in classroom contexts and curricular paradigms beyond the Early Years program. The literature on video case study for teacher education was particularly informative on ways that video could be used in professional learning, but it had been used to study cases of classroom instruction, not as a tool of assessment for learning. The literature on multimodal assessment was engage with how to assess multimodal work, placing the focus on evaluation of products.

Research on practices of pedagogical documentation and learning stories spoke not only to the affordances of video for documenting the process of learning, but also to the necessity of justifying assessments by defending them to others; subjecting assessment to the rigor of the inquiry process. However, these practices of visual documentation of learning are at this point grounded in pedagogies of early childhood development, which operate as a separate curricular paradigm in Ontario. My search for a multimodal approach to formative assessment led me to develop and study a new methodology of assessment: video inquiry. Video inquiry brings the multimodal affordances of video evidence to a process of justifying instructional next steps through collaborative discussion. My data suggest that the affordances of video inquiry are:

- Enhanced semiotic awareness
- Challenge to the bias of memory
- Movement from recall to reflection to justification
- Focus on process
- Attention to backgrounded data

These affordances are a result of two research processes coming together: data collection and analysis. I based my study of video as a tool for formative assessment on three premises: that assessments are narratives, that assessments should be conducted as inquiries, and that assessments should be constructed from an asset-orientation. An asset-orientation accounts for both the internal and external resources available to an

individual; my understanding of it is derived from the Theory of Multiliteracies (New London Group, 1996) and studies in *multimodality* (Jewitt, 2008; Kress, 2000; Newfield et al., 2003; Towndrow et al., 2013), *new literacies* (Freebody & Luke, 2003; Hamilton et al., 2015; Hibbert, 2015; Iannacci, 2006), and what I define as *learning- centred* approaches to formative assessment (Carr, 2001; Carr & Lee, 2012; Forman & Fyfe, 2012; Rinaldi, 2012; Pryor & Torrance, 1998). From these premises I sought to develop an epistemically responsible (Murphy, 2015) methodology to conduct formative assessment through video inquiry. The methodology of video inquiry I propose seeks to take the tenets of research: orientations, questions, ethics, analysis, and reporting, and apply them to assessment inquiry. Taking a multimodal, collaborative, and narrative approach to the analysis may help educators to see beyond the apparent to question the meta-narratives instructing their work. In the next section, I discuss implications for classroom practice, followed by questions for future research.

6.3 Implications for Practice

Volante and Beckett (2011) found evidence of the competing paradigms of assessment *of* learning and assessment *for* learning in Ontario teachers' accounts of their understanding of Black and Wiliam's (2009) model of formative assessment, and theorized this tension as a sign that teachers needed more *assessment literacy*, or knowledge how. But I stand with Sharon Murphy (2015), who argues teachers need *assessment epistemology*, or knowledge why. This type of knowledge sets up a research orientation to assessment which "demands a strong ethical stance" (p. 36). Murphy proposes that teachers take up a set of responsible freedoms when making decisions about assessment:

- Understand that assessments have consequences
- Understand that assessment designs limit some representations of knowledge while enabling others
- Understand one's own interests within any assessment
- Remain open to new ways of thinking about assessment

What can this look like in practice? Drawing from personal and global experiences of the regulation of expertise by education accountability regimes, Hibbert (2015) argues: "to exercise freedom, teachers need to first become reacquainted with their own professional knowledge and power" (p. 154).

From my pre-service to in-service education as a teacher, I was taught to think of assessment as the end task in a teaching/learning/assessment cycle. But I have come to believe that teachers should conceptualize assessment not as a set of techniques to measure learning, but as the act of attending. If assessment is paying attention and learning is applying attention, they are bound together by noticing. Teaching and assessment are learning, and learning is research; what we notice and what we report. To be critical and effective learner/researchers, we must become aware of our gaze: what we notice, why we notice, and to what ends. The concept map of assessment for learning I illustrated in figure 1 could be used by teachers to begin to orient themselves and their students to the whys and hows and whats of their learning.

The question, "to what end?" addresses the accountability purpose of assessment. Hibbert and Iannacci (forthcoming) take up accountability as another question of ethics; arguing that at the heart of it, teachers are responsible to students. What is the most just way to attend to their learning? I assert that the methodology of video inquiry is just in bringing a richer set of data about students to a process of justification. A practice-oriented outline of video inquiry is provided in Figure 3 below, followed by a consideration of how it could work in K – 12 settings.

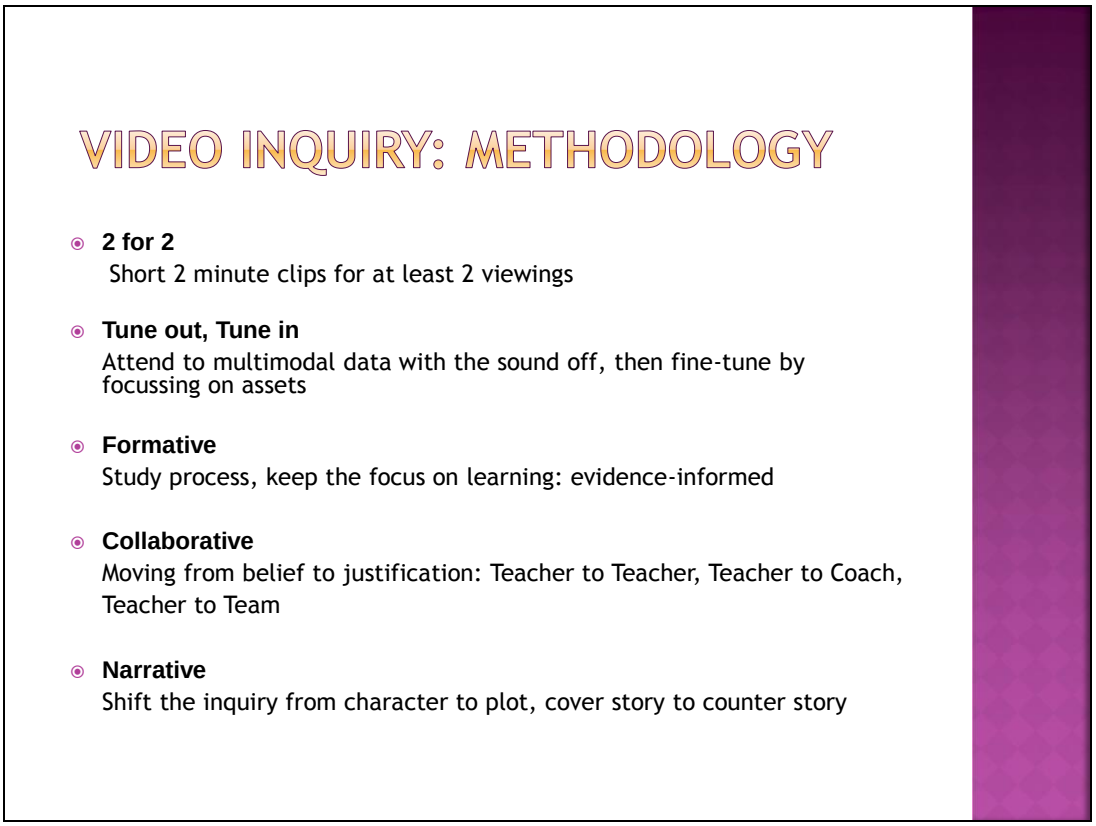

Figure 3. Video Inquiry

In my study, the semi-structured format of the interview questions, the multiple viewings, and the practice of viewing first with the sound off afforded a focussed, collaborative discussion that drew on multiple sources of evidence, challenges to bias, and justification of plans to make a formative assessment: a warranted assessment-as-inquiry (Carr, 2001). Challenges to bias were made possible by making the data strange: watching with the sound off and with an eye to student strengths and resources raised questions, chipped away at our characterizations, and allowed new learning to occur. The purpose in framing the discussion as Before, During and After viewing also enabled me to study the different narratives that emerged from the multiple viewings, finding a progression from the telling of character-driven (evaluative) to plot-driven (formative) assessment narratives. I was a researcher when it came to analysis, theorising assessment as narrative. But as my findings demonstrate, my teacher hat was also firmly on at all stages from conception to

completion of this research story. I suggest for practice that teachers approach video inquiry – indeed any assessment inquiry - with an eye to the stories. My own narrative analysis demonstrates that attention to story-telling strategies such as asides, afterwards, and repetitions may help rub away at the boardspeak and cover stories to reveal counter stories of resistance: stories that may help teachers to "see" the scripted and cover stories, and trouble the whys and what-fors of their practice (Ball & Olmedo, 2013). But it was the act of telling these stories to another teacher that produced them. Studying assessments collaboratively as narratives may help teachers see them as performances.

To push analysis from evaluative to formative gaze, and to accelerate the move from description to justification, teachers might ask each other the following questions:

- Was that a character-driven or plot-driven narrative?
- What is the cover story?
- How are we telling the counter stories?
- How are we seeing? Are there scripted stories?

At the time of this study, the board I drew my participants from was providing funds to principals to allocate for teacher collaborative inquiry, provided it was directed to school improvement goals in math or language. This board also has funding for instructional coaches to collaborate with teachers on system goals, and is investigating ways that iPads can support this work (Learning Supervisor, personal communication). My research suggests that video inquiry could support these practices and goals to improve student achievement, by providing strength-focussed instructional next steps with an enhanced data set. However, this methodology could also be used in conjunction with other assessment purposes such as inquiry into teaching practice, as in Nora's case. As an overarching strategy, video inquiry could be used to support practices of pedagogical documentation and collaborative inquiry while remaining nested in the current formative assessment framework of the elementary and secondary grades. Video inquiry might also serve a purpose in special education program development team meetings (PDT). These ideas lead into the next two sections, discussing implications for research and limitations of this study.

6.4 Implications for Research

I have demonstrated in this study promising results for expanding understandings of assessment and multiliterate achievement through video inquiry in five cases from kindergarten to grade three classrooms. The character and plot-driven assessment narratives these inquiries produced are situated in the socio/geo/political background to teaching K – 3 classes in the school board this study was conducted in. However, I believe the methodology could be studied in many other contexts where practices of assessment and collaborative inquiry are adopted or tacit, such as the special education program development (PDT) process, or adult learning in other contexts. It would be interesting to study how the narratives change with the purposes of assessment and accountability regimes in which they are nested. Another area of interest might be the age of the learners being studied, as developmental stage is another construct of learning that can produce character assessments.

While the asset-orientation to formative assessment derives from sociocultural perspectives (Heritage, 2012; Forman & Fyfe, 2012) which acknowledge situative and social impacts on learning, I argue that a sociomaterial perspective should be taken up in future research on video inquiry to foreground questions of how material resources, not only the video camera and semiotic resources, but also the often un-thought of agents such as spatial arrangements, access to materials, and time, are not only used by us but act on us. Tara Fenwick (2014) suggests the following questions as starting points for a sociomaterial study of learning:

- How do materials exclude or permit, even invite or regulate, particular kinds of participation?
- What kinds of knowing/teaching are promoted through particular sociomaterial combinations?
- What productive possibilities can be imagined or produced?

I suggest, for example, that further study of the kinds of questions afforded by increased semiotic awareness could raise productive possibilities for students and teachers.

6.5 Limitations

A limitation to this study was the focus on student achievement as the goal of the teachers' next steps. As I have argued earlier, there is no one model of formative assessment, only orientations that run a continuum of learner to learning focussed – assessment *of* learning to assessment *as* learning. There is also a large body of discussion within the literature on formative assessment on the role of student motivation in the ways they perceive teacher feedback (Harlen & Ruth, 2003; Heritage, 2012; Popham, 2001; Pryor & Torrance, 1998; Torrance & Pryor, 2001). Critically, future research on video inquiry should align itself with assessment *as* learning, because this epistemology of assessment shifts the focus from individual achievement to the study of the learning itself.

6.6 Why not video inquiry?

In this study I portray video as an assistive technology for teachers, one that can widen their gaze to the contextual and multimodal data available to them. The gold standard of the usefulness of an assistive technology is ubiquity – the ease and accessibility of a technology which make it universally applicable (Peterson & Murray, 2006; Tsui et al., 2009). When I began teaching in the late nineties, digital video cameras were an emerging and relatively expensive technology for schools. There might be one or two to borrow from a locked area in the school. Watching a self-recorded video meant needing special cables to hook the camera up to a TV or computer, which also required a level of comfort with aligning electronic inputs which put many people at a disadvantage. Teachers and students were generally consumers, not creators of video. Post 2005, we are in the smartphone era. In Canada and around the world, video has acquired a cultural "selfie" level of ubiquity such that almost everyone has some kind of 'device' they not only can, but *want* to use to record and send video with the touch of a finger.

The cases in this study show that teachers accessed personal or school video technology, whether a tablet computer, smart phone, or digital camera, to film short clips of students at work. While one Early Years teacher without the benefit of an ECE found focussing on

singular moments in the classroom difficult when there were multiple goings-on to attend to, the grade two and three teachers were able to easily record as their students worked more independently. As school systems develop a culture and accessibility for visual forms of documentation, we can anticipate and argue for a role for video as an assessment tool. Video not only provides multimodal and contextual evidence, it can be used to confront the bias of the past by uploading a record for the present. This argument is bolstered by the fact that video data is now considered the gold standard of evidence in the legal system (Pérez-Peña & Williams, 2015) – though not without controversy as to the ethics of the collection and interpretation of this evidence (Goodman, 2015). This points to the need for teachers and system leaders to take on any methodology and technology of assessment, including video inquiry, within an ethical framework (Carr & Lee, 2012; Forman & Fyfe, 2012; Rinaldi, 2012).

Video inquiry is meant to be disruptive. Disruptive thinking challenges assumptions by raising questions, it resists the past and presses on the present, it rejects the taken for granted in favour of the theoretical, and it works with an archeologist's eye for sifting records of evidence (Clandinin & Connelly, 2000). Disruptive thinking is research - the site of new learning (Lather, 1992; Clough & Nutbrown, 2012; Katz & Dack, 2013). What is the solution to the conflict between assessment *of* learning and assessment *for* learning? It may be to focus on assessment *as* learning - Assessment *as* Inquiry.

References

Anderson, S. E., & Macri, J. R. (2009). District administrator perspectives on student learning in an era of standards and accountability: A collective frame analysis. *Canadian Journal of Education, 32*(2), 192-221.

Asselin, M., Early, M., & Filipenko, M. (2005). Accountability, assessment, and the literacies of information and communication technologies. *Canadian Journal of Education/Revue canadienne de l'education, 28*(4), 802-826.

Assessment Reform Group. (1999). Assessment for learning: Beyond the black box. *Cambridge University, School of Education.*

Ball, S. J., & Olmedo, A. (2013). Care of the self, resistance and subjectivity under neoliberal governmentalities. *Critical Studies in Education, 54*(1), 85-96.

Beaver, J., & Carter, M. A. (2001). *Developmental reading assessment*. Parsippany, NJ: Celebration Press.

Black, P., & Wiliam, D. (2009). Developing the theory of formative assessment. *Educational Assessment, Evaluation and Accountability, 21*(1), 5-31.

Bliss, T., & Reynolds, A. (2004). Quality visions and focused imagination. In J. Brophy, (Ed.), *Advances in research on teaching: Using video in teacher education* (10th ed.) (pp. 29-51). Elsevier.

Bold, C. (2012). *Using narrative in research*. London: Sage.

Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational researcher, 33*(8), 3-15.

Bowne, M., Cutler, K., DeBates, D., Gilkerson, D., & Stremmel, A. (2010). Pedagogical documentation and collaborative dialogue as tools of inquiry for pre-service teachers in early childhood education: An exploratory narrative. *Journal of the Scholarship of Teaching & Learning, 10*(2), 48-59.

Brooks, A., & Watkins, K. (1994). A new era for action technologies: A look at the issues. In A. Brooks & K. Watkins (Eds.), The emerging power of action inquiry technologies. *New directions for adult education and continuing education* no. *63* (pp. 5- 16). San Francisco: Jossey-Bass.

Bruner, J. (1991). The narrative construction of reality. *Critical Inquiry*, *18*(1), 1-21.

Buldu, M. (2010). Making learning visible in kindergarten classrooms: Pedagogical documentation as a formative assessment technique. *Teaching and Teacher Education*, *26*(7), 1439-1449.

Calandra, B., & Rich, P. (Eds.). (2014). *Digital video for teacher education: Research and practice*. New York: Routledge.

Carr, M. (2001). *Assessment in early childhood settings: Learning stories*. London: PCP.

Carr, M. & Claxton, G. (2002). Tracking the development of learning dispositions. *Assessment in Education, 9*(1), 9-37.

Carr, M. & Lee, W. (2012). *Learning stories: Constructing learner identities in early education*. London: Sage.

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.

Clandinin, D.J., & Connelly, F.M. (2000). What do narrative inquirers do? In *Narrative inquiry: Experience and story in qualitative research* (pp. 48-62). San Francisco, CA: Jossey-Bass.

Clandinin, D.J., Murphy, S.M., Huber, J., & Orr, A.M. (2010). Negotiating narrative inquiries: Living in a tension filled midst. *The Journal of Educational Research 103*, 81-90.

Clay, M. M. (2001). *Running records*. Portsmouth, NH: Heinemann.

Clough, P., & Nutbrown, C. (2012). *A student's guide to methodology* (3rd ed.). London: Sage.

Cohen D, Crabtree B. "Qualitative Research Guidelines Project." July 2006. Retrieved from http://www.qualres.org/HomeTria-3692.html.

Cohen, L., Manion, L., & Morrison, K. (2013). *Research methods in education (*7th ed.*)*. New York: Routledge.

Collier, M. (2001). Approaches to analysis in visual anthropology. In T. van Leeuwen & C. Jewitt, (Eds.), *Handbook of visual analysis* (pp. 33-60). London: Sage.

Cope, B., & Kalantzis, M. (2009). A grammar of multimodality. *International Journal of Learning*, *16*(2), 362-425.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches (*3rd ed.*)*. Los Angeles: Sage.

Creswell, J. W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative Research* (2nd ed.). Upper Saddle River, NJ: Pearson.

Dalhberg, G. (2012). Pedagogical documentation: A practice for negotiation and democracy. In C. Edwards, L. Gandini, & G. Forman, (Eds.), *The Hundred languages of children: The Reggio Emilia experience in transformation* (pp.225-231). Oxford: Praeger.

Daniels, K. (2011). Supporting the development of positive dispositions and learner identities: an action research study into the impact and potential of developing photographic learning stories in the Early Years. *Education 3-13, 41*(3), 1-16.

De Fina, A. & Georgakopoulou, A. (2008). Analysing narratives as practices. *Qualitative Research*, 8(3), 379-387.

Delandshere, G. (2002) Assessment as inquiry. *Teachers College Record, 104*(7), 1461-1484.

Dyson, A. H., & Genishi, C. (2005). *On the Case* (Vol. 76). New York: Teachers College Press.

Elkad-Lehman, I. & Greensfeld, H. (2011). Intertextuality as an interpretative method in qualitative research. *Narrative Inquiry, 21*(2), 258-275.

Fenwick, T., Nerland, M., & Jensen, K. (2012). Sociomaterial approaches to conceptualising professional learning and practice. *Journal of Education and Work, 25*(1), 1-13.

Fenwick, T. (2014, October 7). *Visual methods for sociomaterial perspectives: Making visible what matters*. Keynote presentation, Centre for Education Research and Innovation symposia, Western University, Canada.

Frank, A. (2012). Practicing dialogical narrative analysis. In J.A. Holstein & J.F. Gubrium (Eds.), *Varieties of narrative analysis*, 33-52. London, UK: Sage.

Forman, G., & Fyfe, B. (2012). Negotiated learning through design, documentation, and discourse. In C. Edwards, L. Gandini, & G. Forman, (Eds.), *The Hundred languages of children: The Reggio Emilia experience in transformation* (pp.247-271). Oxford: Praeger.

Freebody, P. and Luke, A. (2003). Literacy as engaging with new forms of life: The 'four roles' model. In Geoff Bull and Michele Anstey (Eds.), *The Literacy Lexicon* 2nd ed. (pp. 51- 66). Australia: Prentice Hall.

Greeno, J. G., Collins, A. M., & Resnick, L. B. (1996). Cognition and learning. *Handbook of Educational Psychology.* pp. 15–46.

Goodham, J. D. (2015, July 31). New York police should revise body camera rules, report says. *The New York Times*. p. A15.

Gubrium, J. F. & Holstein, J.A. (2009). *Analysing narrative reality*. Chapter 2: Forms of analysis. pp. 15-26. London, UK: SAGE.

Guillemin, M., & Drew, S. (2010). Questions of process in participant-generated visual methodologies. *Visual Studies*, *25*(2), 175-188.

Hamilton, M., Heydon, R., Hibbert, K., Stooke, R. (Eds.). (2014). Introduction. *Negotiating Spaces for Literacy Learning: Multimodality and Governmentality*, pp. 1-14. London: Bloomsbury Academic.

Harlen, W., & Ruth, D. C. (2003). Testing and motivation for learning. *Assessment in Education*, *10*(2), 169-207.

Heath, C. & Heath, D. (2008). *Made to stick: Why some ideas survive and others die*. New York: Random House.

Hendry, P.M. (2010). Narrative as inquiry. *The Journal of Educational Research*, 103, 72-80. Heritage, M. (2013). *Formative Assessment In Practice: A Process of Inquiry and Action*. Cambridge: Harvard Education Press.

Heydon, R., & Iannacci, L. (2008).*Early childhood curricula and the de-pathologizing of childhood*. Toronto: University of Toronto Press.

Hibbert, K. (2004). Examining 'enunciative space' in an online community of practice. Faculty of Graduate Studies, University of Western Ontario.

Hibbert, K. (2015). The secret of 'Will' in new times: Assessment affordances of a cloud curriculum. In M. Hamilton, R. Heydon, K. Hibbert, & R. Stooke (Eds.), *Negotiating spaces for literacy learning: Multimodality and governmentality* (pp. 149-166). London: Bloomsbury Academic.

Hung, H. T., Chiu, Y. C. J., & Yeh, H. C. (2013). Multimodal assessment of and for learning: A theory-driven design rubric. *British Journal of Educational Technology*, *44*(3), 400-409.

Iannacci, L. (2006). Learning to do school: Procedural display and culturally and linguistically diverse (CLD) students in Canadian early childhood education (ECE). *Journal of the Canadian Association for Curriculum Studies*, *4*(2), 55-76.

Iannacci, L. (2007). Critical narrative research (CNR): Conceptualizing and furthering the validity of an emerging methodology. *Vitae Scholasticae, 24*, 55-76.

Jewitt, C. (2003). Re-thinking assessment: Multimodality, literacy and computer-mediated learning. *Assessment in Education: Principles, Policy & Practice*, *10*(1), 83-102.

Jewitt, C. (2008). Multimodality and literacy in school classrooms. *Review of research in education*, *32*(1), 241-267.

Jewitt, C. (2012). An introduction to using video for research working paper. *National Centre for Research Methods* (NCRM). Retrieved from http://eprints.ncrm.ac.uk/2259/4/NCRM_workingpaper_0312.pdf.

Kahneman, D. (2011). *Thinking, fast and slow*. Doubleday Canada.

Kalantzis, M., Cope, B., & Harvey, A. (2003). Assessing multiliteracies and the new basics. *Assessment in Education: Principles, Policy & Practice*, *10*(1), 15-26.

Kasl, E., & Yorks, L. (2010). "Whose inquiry is this anyway?" money, power, reports, and collaborative inquiry. *Adult Education Quarterly, 60*(4), 315-338.

Katz, S., & Dack, L. A. (2013). *Intentional interruption: Breaking down learning barriers to transform professional practice*. Thousand Oaks: Corwin.

Kelly, A. V. (2009). *The curriculum: Theory and practice*. Sage.

Kress, G. (2000). Multimodality: Challenges to thinking about language. *TESOL Quarterly, 34*(2) 337-340.

Kress, G. R., & Van Leeuwen, T. (1996). *Reading images: The grammar of visual design*. Hove: Psychology Press.

Lather, P. (1992). Critical frames in educational research: Feminist and post-structural perspectives. *Theory into Practice, 31*(2), 97-99.

Latta, M.M. & Kim, J.H. (2010). Narrative inquiry invites professional development: Educators claim the creative space of praxis. *The Journal of Educational Research, 103*, 137-148.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press.

Le Fevre, D.M. (2004). Designing for teacher learning: Video-based curriculum design. In J. Brophy, (Ed), *Advances in research on teaching: Using video in teacher education 10*, (pp. 235-258). Elsevier.

Lemon, N. (2007). Take a photograph: teacher reflection through narrative. *Reflective Practice, 8*(2), 177-191.

Lindemann-Nelson, H. (1995). Resistance and insubordination. *Hypnatia, 10*(2), 23-40.

Lincoln, Y. S., & Guba, E.G. (1985). *Naturalistic inquiry*. London: Sage.

Literacy and Numeracy Secretariat (LNS, 2010). *Primary assessment: lessons learned from kindergarten/grade 1 collaborative inquiry*. Retrieved from http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_primaryassessment.pdf.

LNS. (2012). Pedagogical documentation, leading learning in the early years and beyond. *Research Monograph # 30*, Toronto: Author.

LNS (2014). *Collaborative inquiry in Ontario: What we have learned and where we are now*. Retrieved from http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBSCollaborativeInquiry.pdf.

LNS (2015a). *Pedagogical documentation revisited: Looking at assessment and learning in new ways*. Retrieved from http://www.edu.gov.on.ca/eng/literacy numeracy/inspire/research/CBS PedagogicalDocument.pdf.

LNS (2015b). *System leaders and collaborative inquiry*. Retrieved from http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_ SystemLeaders.pdf.

MacDonald, M. (2007). Toward formative assessment: The use of pedagogical documentation in early elementary classrooms. *Early Childhood Research Quarterly, 22*(2), 232-242.

Marsh, B., & Mitchell, N. (2014). The role of video in teacher professional development. *Teacher Development, 18*(3), 403-417.

Mitchell, C. (2011). *Doing visual research*. London: Sage.

Morrissette, J. (2011). Formative Assessment: Revisiting the territory from the point of view of teachers. *McGill Journal of Education (Online), 46*, 247-265.

Murphy, S. (1998). Introduction. In Murphy, S. (Ed). *Fragile evidence: A critique of reading assessmen*t. Mahweh: Lawrence Erlbaum Associates.

Murphy, S. (2015). Beyond governmentality: The responsible exercise of freedom in pursuit of literacy assessment. In M. Hamilton, R. Heydon, K. Hibbert, & R. Stooke (Eds.), *Negotiating spaces for literacy learning: Multimodality and governmentality* (pp. 25-42). London: Bloomsbury Academic.

Newfield, D., Andrew, D., Stein, P., & Maungedzo, R. (2003). 'No number can describe how good it was': Assessment issues in the multimodal classroom. *Assessment in Education: Principles, Policy & Practice, 10*(1), 61-81.

New London Group (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review, 66*(1), 60-92.

Ontario. Leadership Strategy Bulletin # 3. (2010). Promoting collaborative learning cultures: Putting the promise into practice. *Ideas into Action*. Retreived from http://www.edu.gov.on.ca/eng/policyfunding/leadership/IdeasIntoActionSpring.pdf.

Ontario. Ministry of Education. (2010a). *Growing success: Assessment, evaluation and reporting in Ontario schools.* Toronto: Author.

Ontario. Ministry of Education. (2010b). *The full day early learning – kindergarten program*. Toronto: Author.

Organization of Economic Co-operation and Development. (2003). *Formative assessment: Improving learning in secondary classrooms* (pp. 265–279). Paris: OECD Publishing.

Parkinson, H. C., & Stooke, R. K. (2012). Other duties as assigned: The hidden work of reading and writing assessments in two primary classrooms. *Language and Literacy*, *14*(1), 59-77.

Pérez-Peña, R. & Williams, T. (2015, July 31). Through a lens, a transformed view of police. *The New York Times*. pp. A1, A15.

Peterson, D. B., & Murray, G. C. (2006). Ethics and assistive technology service provision. *Disability and Rehabilitation: Assistive Technology*, *1*(1-2), 59-67.

Polkinghorne, D.E. (1995). Narrative configuration in qualitative analysis. *International Journal of Qualitative Studies in Education*, *8*(1), 5-23.

Popham, W.J. (2010). *Everything school leaders need to know about assessment*. Thousand Oaks: Corwin.

Popham, W. J. (2008). *Transformative assessment*. Alexandria: ASCD.

Popham, W.J. (2001). *The truth about testing: An educator's call to action*. Alexandria: ASCD.

Pryor, J. & Torrance, H. (1998). Formative assessment in the classroom: Where psychological theory meets social practice. *Social Psychology of Education, 2,* 151–176.

Putnam, R. T., & Borko, H. (2000). What do new views of knowledge and thinking have to say about research on teacher learning? *Educational Researcher, (33*)8, 3-15.

Riessman, C.K. (2008). Constructing narratives for inquiry. In *Narrative Methods for the Human Sciences*. (pp. 21-52). London, UK: SAGE.

Rinaldi, C. (2012). The pedagogy of listening: The listening perspective from Reggio Emilia. In C. Edwards, L. Gandini, & G. Forman, (Eds.), *The Hundred languages of children: The Reggio Emilia experience in transformation* (pp. 233-246). Oxford: Praeger.

Rosaen, C . (2015). The potential of video to help literacy pre-service teachers learn to teach for social justice and develop culturally responsive instruction. In E. Ortlieb (Ed.), *Video Reflection in Literacy Teacher Education and Development: Lessons from Research and Practice*. Advance online publication. doi.org/10.1108/S2048-045820150000005002.

Rosaen, C.L., Degnan, C., VanStratt, T. & Zeitlow, K. (2004). Designing a virtual K-2 classroom literacy tour: Learning together as teachers explore "best practice." In Brophy, J. (Ed). *Advances in Research on Teaching: Using Video in Teacher Education 10*, (pp. 169-199). Elsevier.

Rosaen, C. L., Lundeberg, M., Cooper, M., Fritzen, A., & Terpstra, M. (2008). Noticing noticing: how does investigation of video records change how teachers reflect on their experiences? *Journal of Teacher Education*, *59*(4), 347-360.

Rose, N. (1999). *Governing the Soul: The Shaping of the Private Self*. London: Free Association Books.

Rowe, D. W. (2012). The affordances of multimodal interaction analysis for studying the beginnings of literacy. Retrieved from

https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnxkZWJvcmFod2VsbHNyb3dlfGd4OjNkYmYxNWVmZDNjZWI4NWQ.

Seago, N. (2004). Using video as an object of inquiry for mathematics teaching and learning. In Brophy, J. (Ed). *Advances in Research on Teaching: Using Video in Teacher Education 10*, (pp. 259-286). Elsevier.

Serafini, F. (2014). *Reading the visual: An introduction to teaching multimodal literacy*. New York: Teachers College Press.

Sherin, M.G. (2004). New perspectives on the role of video in teacher education. In Brophy, J. (Ed). *Advances in Research on Teaching: Using Video in Teacher Education 10*, (pp. 1-27). Elsevier.

Smith, B. & Sparkes, A.C. (2008). Narrative and its potential contribution to disability studies. *Disability & Society*, 23(1), 17-28.

Smythe, W.E. & Murray, M.J. (2000). Owning the story: Ethical considerations in narrative research. *Ethics & Behaviour 10*(4), 311-336.

Spector-Mersel, G. (2010). Narrative research: Time for a paradigm. *Narrative Inquiry*, *20*(1), 204-224.

Sossi, D. (2014). Digital Icarus? Negotiating the dis(advantages) of video in research settings in the digital era. In Loveless, D., Griffith, B., Bérci, M.E., Ortlieb, E., & Sullivan, P. (Eds.), *Academic Knowledge Construction and Multimodal Curriculum Development*, (pp. 339-357). Hershey: IGI Global.

Souto-Manning, M. (2014). Critical narrative analysis: The interplay of critical discourse and narrative analyses. *International Journal of Qualitative Studies in Education*,*27*(2), 159- 180.

Stooke, R. (2015). Re-educating the educator's gaze: Is pedagogical documentation ready for school? In M. Hamilton, R. Heydon, K. Hibbert, & R. Stooke, (Eds.),

Negotiating spaces for literacy learning: Multimodality and governmentality (pp. 77-96). London: Bloomsbury Academic.

Thomson, P. (Ed.). (2008). *Doing visual research with children and young people*. Routledge.

Torrance, H. & Pryor, J. (2001). Developing formative assessment in the classroom: Using action research to explore and modify theory. *British Educational Research Journal, 27*(5), 615-631.

Towndrow, P. A., Nelson, M. E., & Yusuf, W. F. B. M. (2013). Squaring literacy assessment with multimodal design: An analytic case for semiotic awareness. *Journal of Literacy Research, 45*(4), 327-355.

Tsui, K. M., Feil-Seifer, D. J., Matarić, M. J., & Yanco, H. A. (2009). Performance evaluation methods for assistive robotic technology. In R. Madhavan, E. Tunstel, & E. Messina (Eds.), *Performance evaluation and benchmarking of intelligent systems* (pp. 41-66). Springer US.

van Es, E. A., & Sherin, M. G. (2002). Learning to notice: Scaffolding new teachers' interpretations of classroom interactions. *Journal of Technology and Teacher Education, 10*(4), 571-596.

van Es, E. A., & Sherin, M. G. (2010). The influence of video clubs on teachers' thinking and practice. *Journal of Mathematics Teacher Education, 13*(2), 155-176.

Van Leeuwen, T., & Jewitt, C. (Eds.). (2001). Introduction. *The handbook of visual analysis*. London: Sage.

Vygotsky, L. (1986). *Thought and language*. Cambridge, MA: The MIT Press.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press.

Wenger, E. (2000). Communities of practice and social learning systems. *Organization, 7*(2), 225-246.

Wong, A. C. (2009). Dialogue engagements: Professional development using pedagogical documentation. *Canadian Children, 34*(2), 25-30.

Appendix A: Teacher Letter of Information

Project Title: Assessment Narratives: The Affordances of Video Inquiry for Formative Assessment of Multiliteracies

Principal Investigator: Dr. Kathy Hibbert, Faculty of Education, Western University

Teacher Letter of Information

1. **Invitation to Participate**

   You are being invited to participate in this study because of your experience with documentation in the Full Day Kindergarten program and/or your interest in using video as a tool of formative assessment in the primary grades. Thank you for your interest in this research.

2. **Purpose of the Letter**

   The purpose of this letter is to provide you with information required for you to make an informed decision regarding participation in this research.

3. **Purpose of this Study**

   The purpose of this research is twofold: to expand understandings of how the use of video may support a teacher's asset-oriented conception of literacy development, and to explore the affordances of video as a tool for formative assessment and collaborative inquiry.

4. **Inclusion Criteria**

   Elementary teachers teaching FDK to Grade 3 classes. Teachers who use, or are interested in using, video as a formative assessment tool. Teachers able to obtain parent consent to view and discuss this video data with the researcher. Teachers willing to be audio-recorded during the interview with the researcher.

5. Exclusion Criteria

Participants who are unable to obtain consent to share video data of student work with researchers, participants who teach junior or intermediate classes, participants who decline to have the interview audio-recorded.

6. Study Procedures

If you agree to participate, you will be asked to approach participation in the study as an inquiry into formative assessment of literacy development.

- Teachers will work with the researcher to introduce the study to parents and seek consent to have all students participate in being filmed during the course of the study. Participants will be given guidelines (attached) to video short clips of the students at work independently or in groups on reading, writing, oral and visual language activities.
- Teachers are responsible for ensuring the video data will be collected, stored and disposed of in accordance with board privacy policies on collecting images of students, and disposing of student work once its purpose has been served. Since video contains identifiable information, it should be destroyed so that it cannot be reconstructed.
- Teachers will watch the video clips with the researcher and be interviewed about what they notice about strengths across literacy strands that might help them to move the students forward. Interviews will be audio-recorded, transcribed, and sent to participants for accuracy review. Segments of the video may also be transcribed.
- The teacher will decide, with the researcher, which video clip(s) were significant to their learning. If the teacher consents to share the data, the teacher will contact the parents of the students in the clip and discuss what they learned in the clip and why they feel it is important to share with other teachers and researchers. The researcher will then contact those parents to obtain consent to share the data for the purposes of presentations. Data will not be shared unless there is mutual consent of all parties.
- At the end of the study, teachers have the option of meeting with the researcher and other participants to discuss their findings across the grade levels. This meeting is not part of the investigation, but teacher participants may want to share their experience with colleagues and engage in further collaborative professional learning.

It is anticipated that the entire task will take approximately four hours, with one to two hours set aside to meet with parents and the researcher, one hour for videotaping students over a period of time to access all literacy strands, and one hour to complete

the interview with the researcher. The interview will be conducted in a mutually agreed upon venue and time, outside of instructional time.

7. Possible Risks and Harms

A potential risk is discomfort that may be associated with having one's practice observed and discussed with the researcher.

If consent is given to allow the researcher to make a copy of the video data, there is a risk of loss of confidentiality, since background details in the video may identify the classroom and therefore the teacher.

8. Possible Benefits

The possible benefits to participants may be professional learning on formative assessment and potential improved pedagogy.

The possible benefits to society may be potential expanded understandings of the role of inquiry and the affordances of video evidence for improving student achievement.

9. Compensation

None

10. Voluntary Participation

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time with no effect on your future employment and/or academic status.

Confidentiality

All data collected by viewing the video data will remain confidential and accessible only to the investigators of this study. If consent is given to share a copy of the video data with the researcher, the participant chooses to waive anonymity, as video data contains identifiable information. The video data will be stored on an encrypted, password protected USB drive and will not be uploaded to the internet. If the results are published, your name will not be used. If you choose to withdraw from this study, your data will be removed and destroyed from our database, and images removed from presentations and destroyed.

Contacts for Further Information

If you require any further information regarding this research project or your participation in the study you may contact Mary Ott (co-investigator), or Dr. Kathy Hibbert (principal investigator).

If you have any questions about your rights as a research participant or the conduct of this study, you may contact The Office of Research Ethics at Western University.

Publication

If the results of the study are published, your name will not be used. You will receive a summary of the results. If you consent to have the results of the study disseminated by presentation, you have the option to be identified as a contributor to the study.

11. Consent

Attached

This letter is yours to keep for future reference.

Teacher Consent Form

Project Title: Assessment Narratives: The Affordances of Video Inquiry for Formative Assessment of Multiliteracies

Study Investigator's Name: Kathy Hibbert (principal investigator), Mary Ott (co-investigator)

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction. By checking yes or no to the boxes below, I consent to some, all or none of the following options for the co-investigator to use the video data. Consent is based on mutual agreement of teacher and parent.

☐ **Yes** ☐ **No** View the video clips with the teacher and transcribe parts of the video in order to discuss the data in the thesis paper.

Participant's Name (please print): _____

Participant's Signature: _____

Date: _____

Person Obtaining Informed Consent (please print): _____

Signature: _____

Date: _____

By checking Yes or No to the boxes below, I indicate that I have viewed the video footage of my student(s) with their parent(s) and they understand my reasons for the value of sharing this data for professional learning.

I consent to share the video data with the researchers of this study in the following ways. Consent is based on mutual agreement of teacher and parents of students in the requested images.

☐ **Yes** ☐ **No** Include video clips in a PowerPoint presentation about the research for the thesis defense.

☐ **Yes** ☐ **No** Include video clips in a PowerPoint presentation about the research at academic conferences.

☐ **Yes** ☐ **No** Include video clips in a PowerPoint presentation about the research for school board professional development purposes.

☐ **Yes** ☐ **No** I wish to be identified by name for my contribution in presentations for the purpose of dissemination of the research.

Participant's Name (please print): _____

Participant's Signature: _____

Date: _____

Person Obtaining Informed Consent (please print): _____

Signature: _____

Date: _____

Appendix B: Teacher Guide for Creating Literacy Formative Assessment Videos

Teacher Guide for Creating Literacy Formative Assessment Videos

Your goal is to learn from watching students at work on a range of routine literacy activities in order to plan next steps, using video as a tool of inquiry.

1) For the purpose of this research, only students with parent consent can be on camera. Please group your students accordingly when taking video that will be discussed with the researcher.

2) Plan to video the students at work on routine literacy activities, as unobtrusively as possible, over the course of a couple of days to a week. If videoing students at work is not customary in your classroom, take some time to make it part of your practice. Students may be familiar with being recorded during a presentation, and associate it with a performance. It may be impossible to entirely eliminate a performance aspect to being recorded, but with familiarity the act can become more natural. Many teachers use smartphones or iPads due to their accessibility and familiarity to students. You might tell your students: **"I am learning about teaching by watching you work, and using video helps me to remember things I need to think about."**

3) Record **3 to 4** short clips of about **2 minutes** each (this will help you and the researcher to focus the discussion when you meet, as each clip will be viewed several times). The important information to record for the purposes of this research is as follows:

    - Record the students in process rather than focusing on finished products or rehearsed presentations. The students may be interacting with you (e.g., a reading diagnostic) working in groups (e.g., at a centre, with a buddy, or in a guided reading group) or working on their own (e.g., independent writing).
    - The literacy activities cover the language modes identified in the curriculum: reading, writing, oral and visual. The activities may be multimodal (for example, oral and visual presentations, listening and speaking, reading and written response, creating a multi-media work on the computer).
    - The literacy activities are routine to the students being filmed. The goal of the inquiry is to plan next steps.

4) The researcher will contact you to plan a time to view and discuss your video clips. Please have them uploaded to a USB so they can be watched on the researcher's laptop, or bring your own.

Appendix C: Parent Letter of Information

Project Title: Assessment Narratives: The Affordances of Video Inquiry for Formative Assessment of Multiliteracies

Principal Investigator: Dr. Kathy Hibbert, Faculty of Education, Western University

Parent Letter of Information

1. **Invitation to Participate**

   Your child is being invited to participate in this study along with all the students in his or her class. The teacher is participating in research using video as a tool to improve literacy by noticing and planning to build upon strengths across the modes of reading, writing, oral and visual language.

2. **Purpose of the Letter**

   The purpose of this letter is to provide you with information required for you to make an informed decision regarding your child's participation in this research.

3. **Purpose of this Study**

   The purpose of this research is to explore how using video to record students at work on literacy activities may help teachers to plan next steps for instruction.

4. **Inclusion Criteria**

   Students in kindergarten to grade 3 with parent consent for the classroom teacher to view the video data with the researcher.

5. **Exclusion Criteria**

   Students with no parent consent for the classroom teacher to view the video data with the researcher, students in grade 4 and above.

   Study Procedures

   Teachers may collect videos, photos, student work samples, written observations, etc. to assess student work in the normal course of their professional duties. For the purposes of this study, your child's teacher will video children individually

and/or in groups in the process of working on routine classroom language tasks. It is not anticipated that children will lose time out of the instructional day or experience any tasks out of the ordinary for them. The researcher‘s purpose is not to study the students, but the teacher’s process in making a formative assessment (assessment for the purpose of improving learning).

- You will have the opportunity to read this letter and to meet with the researcher and teacher to answer any questions you have before choosing to sign consent. There will be different options for you to consent to, ranging from highest protection of confidentiality (only allowing the researcher to view the video during the interview with the teacher) to least (allowing the researcher to take a copy of the video to use for presentation purposes). The first level of consent is to permit the teacher to video your child for the purpose of viewing the footage with the researcher. Students will not participate in the research without this first level of consent.
- The teacher will decide, with the researcher, which video clip(s) were significant to their learning. If the teacher consents to share the data with the researcher for the purpose of presentations, the teacher will contact the parents of the students in the clip and discuss what they learned in the clip and why they feel it is important to share with other teachers and researchers. You will have the opportunity to view the video prior to releasing consent to share the data outside the context of the teacher/researcher interview. The researcher will then contact those parents to obtain consent to share the data for the purposes of presentations. Data will not be shared unless there is mutual consent between the teacher and the parents of the student or students in the video.
- While a pseudonym will always be given for your child’s name, it is not possible to eliminate all the background details in a video that may identify their setting. In the case of allowing the researcher to make a copy of the video, you consent to waive the anonymity of your child. The video or segments of it will not be uploaded to the internet, will only be presented offline (Power Point) and will be stored on a password protected memory stick kept in a locked file cabinet in the principal investigator’s office.

6. Possible Risks and Harms

A possible risk to your child is discomfort they may experience as a result of being filmed.

If you choose to consent for the researcher to use clips of the video for the purpose of presentations, there is a risk of loss of your child’s anonymity, as video recordings contain information of an identifiable nature.

7. Possible Benefits

The possible benefit to your child may include the experience of positive attention from the teacher while their work is being recorded on video.

The possible benefits to society may be expanded understandings of the role of inquiry and the affordances of video evidence for improving student achievement.

8. Compensation

None

9. Voluntary Participation

Participation in this study is voluntary. You and/or your child may refuse to participate or withdraw from the study at any time with no effect on his or her academic status and program.

Confidentiality

If you consent to allow the researcher to view the video of your child, all data collected will remain confidential and accessible only to the investigators of this study. If the results are published, your child's name will not be used. If you consent to share the video data with the investigators for the purpose of presentations, you consent to waive your child's anonymity, as we cannot guarantee that your child will not be identified by others viewing the recording. If you or your child choose to withdraw his or her participation from this study, the data will be removed and destroyed from our database, including removing withdrawn images of your child from presentations.

Contacts for Further Information

If you require any further information regarding this research project or your participation in the study you may contact Mary Ott (co-investigator), or Dr. Kathy Hibbert (principal investigator):

If you have any questions about your rights as a research participant or the conduct of this study, you may contact The Office of Research Ethics of Western University.

10. Publication

If the results of the study are published, your child's name will not be used. If you would like to receive a summary of the results, please contact:

Consent

Attached

Parent Consent Form

Project Title: Assessment Narratives: The Affordances of Video Inquiry for Formative Assessment of Multiliteracies

Study Investigator's Name: Kathy Hibbert (principal investigator), Mary Ott (co-investigator)

I have read the Letter of Information, have had the nature of the study explained to me, and have watched the video clips of my child with his or her teacher. All questions have been answered to my satisfaction.

By checking yes or no to the boxes below, I consent to some, all or none of the following options for the co-investigator to use the video data. Consent is based on mutual agreement of teacher and parent.

☐ **Yes** ☐ **No** View the video clips with the teacher and transcribe parts of the video in order to discuss the data in the thesis paper.

☐ **Yes** ☐ **No** I give consent for the teacher to share my contact information with the researcher at the conclusion of the study, in the event my further consent is sought to use the video clips for the purpose of presentations about the research.

Child's Name: _____

Parent / Legal Guardian / Legally Authorized Representative Print: _____

Parent / Legal Guardian / Legally Authorized Representative Sign: _____

Parent / Legal Guardian / Legally Authorized Representative Date: _____

Person Obtaining Informed Consent (please print): _____

Signature: _____

Date: _____

By checking Yes or No to the boxes below, I indicate that I have viewed the video footage of my child with the teacher and understand his or her reasons for the value of sharing this data for professional learning.

I consent to share the video data with the researchers of this study in the following ways.

☐ **Yes** ☐ **No** Include video clips in a PowerPoint presentation about the research for the thesis defense.

☐ **Yes** ☐ **N**at academic conferences. Include video clips in a PowerPoint presentation about the research

☐ **Yes** ☐ **No** Include video clips in a PowerPoint presentation about the research for school board professional development purposes.

Child's Name: _____

Parent / Legal Guardian / Legally Authorized Representative Print: _____

Parent / Legal Guardian / Legally Authorized Representative Sign: _____

Parent / Legal Guardian / Legally Authorized Representative Date: _____

Person Obtaining Informed Consent (please print): _____

Signature: _____

Date: _____

Appendix D: Teacher Interview Guide

Teacher Interview Guide

- **Thank you very much for the time you've taken to participate in this research so far! I hope you are finding the inquiry useful to your practice. As we watch the clip(s) together, I have some questions about what you are noticing, what information might be new to you, and how you plan to use it to help your student. I have a digital voice recorder that I am going to use to record and transcribe our conversation. I may also take notes on aspects of the videos as we watch. May I begin recording now?**

Before Watching Video:

- **Tell me the story of this video:** Why this student or students, and why these activities?

During Watching: We are going to watch the clip(s) 3 times. Please pause and call out things you notice as we go.

- The first time we will watch without sound, to focus on other modes of communication such as spatial arrangements or gestures.
- The second time with sound: Is there anything new you notice now that you have the opportunity to revisit.
- As we watch the last time, focus on strengths. What is/are the student(s) doing or bringing to the activity that are strengths?

After Watching:

- What new information do you have about this student or these students, including strengths? Did you notice any strengths or new information by focusing on other modes such as body language?
- How might you plan to build on these strengths? (Prompts: Could a strength in one mode, for example speaking, be used to support another mode? Could the modes be combined to help the student interpret and express information? Can you give a specific example of a next step for a lesson or activity?)

Appendix E: Western University Health Science Research Ethics Board NMREB Full Board Initial Approval Notice

Principal Investigator: Dr. Kathryn Hibbert
Department & Institution: Education\Faculty of Education,Western University

NMREB File Number: 105568
Study Title: Assessment Narratives: The Affordances of Video Inquiry for Formative Assessment of Multiliteracies
Sponsor:

NMREB Initial Approval Date: November 04, 2014
NMREB Expiry Date: November 30, 2015

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Instruments	Interview Guide	2014/07/16
Recruitment Items		2014/10/03
Other	Teacher Guide to Videos	2014/10/02
Letter of Information & Consent	Parent	2014/10/02
Letter of Information & Consent	Teacher	2014/10/02
Western University Protocol		2014/10/03

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the above named study, as of the HSREB Initial Approval Date noted above.

NMREB approval for this study remains valid until the NMREB Expiry Date noted above, conditional to timely submission and acceptance of HSREB Continuing Ethics Review.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario.

Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB.

The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

This is an official document. Please retain the original in your files.

Curriculum Vitae

Name:	Mary Ott
Post-secondary Education and Degrees:	McMaster University Hamilton, Ontario, Canada 1991-1995 B.A. Nipissing University North Bay, Ontario, Canada 1995-1996 B. Ed. The University of Western Ontario London, Ontario, Canada 2012-2016 M. Ed.
Honours and Awards:	The Humanities Medal for Special Achievement McMaster University 1995 The Carl Sanders Scholarship Nipissing University 1995 The Art Geddis "Learning about Teaching" Memorial Award The University of Western Ontario 2015
Related Work Experience	Elementary School Teacher Thames Valley District School Board 1997-2015 Research Assistant The University of Western Ontario 2015-2016

Publications:

Hibbert, K., Ott, M., & Iannacci, L. (2015). Co-constructed by design: Knowledge processes in a fluid "cloud curriculum." In B. Cope & M. Kalantzis (Eds)., *Learning by Design: Reflexive Pedagogy in the New Media Age*. Melbourne, AU: Palgrave.

Conferences:

2014 CSSE Round Table Presentation for the Canadian Graduate Students Association: "Growing success" between a rock and a hard place: A critical discourse analysis of the Ontario Ministry of Education's policy on formative assessment

Committees:

2016	The Robert Macmillan Graduate Research in Education Symposium (GRiES) Faculty of Education, Western University Workshop Presenter: Preparing for Round Table Presentations
2014 - 2015	GRiES Hospitality Committee and Volunteer Coordinator
2012	Elected M. Ed. Representative, Graduate Programs Committee Faculty of Education, Western University