Toward Teacher Inquiry When Implementing Classroom Assessment

by

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A thesis submitted in conformity with the requirements of
the degree of Doctor of Philosophy
Department of Theory and Policy Studies in Education
Ontario Institute for Studies in Education of the
University of Toronto

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0-612-63809-X
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ABSTRACT

The study examines the process teachers use to think about and inquire into the subtleties of classroom assessment currently applied to schools in Ontario. My study is intellectually grounded in the philosophy of Habermas and applies his levels of knowledge and human interests (technical, practical, emancipatory) theory as its conceptual framework. In doing so, this study advances the concept of the teacher as reflective practitioner and conceptualizes the teacher as an inquiring practitioner. A qualitative methodology was used in this study to investigate assessment from the perspectives of eight elementary teachers.

The study uses a multi-paradigm approach to analyze challenges teachers experienced. The key findings revealed that teachers’ actions were frequently confined to fulfilling external mandates. In addition, teachers were influenced by external classroom factors such as students’ behavior, subject matter, school timetable; their own lack of assessment literacy; and their individual experience, intuition, morals and emotions. There were incongruous understandings that existed among teachers, students and parents about the purposes of assessment and teachers’ roles changed as a result of new assessment strategies. A main argument in this study is that a multi-paradigm approach is not only necessary but an integrative methodological and conceptual approach for understanding the implementation process of innovations in our complex society.
The study has shown that the uncertain nature of the teachers' professional world as well as the problematic nature of assessment has led teachers to internalize a unique, elaborate and possibly contradictory knowledge base. Classroom assessment is not a completely rational process. Most teachers in the study acknowledge the disarray of classroom purposes, which in some cases affected them morally and emotionally. In other words, teachers were frustrated with conflicting messages, contradictions and paradoxes in their assessment practice.

What this study hopes to contribute is the potential for teacher awareness on several issues involved in assessment that go beyond the technical. The study provides a way to organize various epistemological paradigms in order to gain the most benefit in achieving solutions and suggests forms of inquiry that might prove more useful for addressing assessment issues. The results suggest that innovations can and should be viewed and applied from a variety of different perspectives.
ACKNOWLEDGEMENTS

Throughout the tenure of my studies in the department of Theory and Policy Studies at OISE/UT, many special people shared generously of their gifts and contributed intellectual, spiritual, emotional and moral support for the production of this thesis. Without their time and interest, I doubt whether I could have done it at all. Both my academic life and personal life had to merge to make the work possible.

Readers should know that while my thesis supervisor, Dr. Susan Padro, was always willing to answer my questions, to advise me and to provide support, she also allowed me the latitude to resolve on my own any conceptual and methodological issues that I had. I thank her for her patience and encouragement. I will always be grateful to her for taking the time to discuss my ideas at length and for patiently reading the manuscript of my thesis for many long hours. She always expressed interest, concern and care for both my professional work and for my personal well-being.

My thesis committee members, Dr. Lorna Earl, Dr. Andy Hargreaves and Dr. Edward Hickcox, all promoted serious intellectual effort. In particular, I'd like to thank them for their patience and tolerance during what, sometimes, seemed to be draconian conditions.

Thank you Dr. Earl for demystifying the world of research, (what seems like so many years ago, in 1994) in her 1003 class. I am particularly grateful to her for skillfully asking the simple but insightful questions like, “So what?” that led to such profound consequences.

Thank you Dr. Hargreaves for insisting that I be precise in my thinking and for encouraging me to pursue an area of interest for enduring and intellectual reasons rather than for expediency. Whatever idealized notions I might have had of classroom assessment before the completion of the thesis were cogently challenged and properly problematized.

Thank you Dr. Hickcox for your enduring support over the years and for being instrumental in my enrollment in this program. As my Faculty Advisor in the Masters program (as far back as 1994), when I told him that I wanted to enter the Ph.D program, I nervously waited for his reaction. I was greatly encouraged by his affirmative nod as if
this notion was the most natural thing in the world. I am also grateful for his opinions and critiques of the draft versions. His time, effort and support is greatly appreciated.

I'd like to thank my external examiner, Dr. Robert Wilson, for his trenchant insights and valuable comments. He presented essential, innovative perspectives for which I am very grateful.

A special thanks must go to Dr. Dieter Misgeld for sharing his personal and professional experiences with Jürgen Habermas, the man and his work. I feel very fortunate to be enlightened in this way as I waded through Habermas’ opaque theories of knowledge.

I am immensely indebted to my family and loved ones. To my parents, Fredy and Gisela, thank you for never doubting that I would finish the thesis. My father suggested I begin this venture long ago. He was the first person to see my potential. I know that they have laughed and cried every step of the way with me. Their immense faith in my capabilities has never wavered throughout this journey. The sacrifices they made to ensure the completion of the thesis have not gone unnoticed. A special thanks goes to my mother for always having words of encouragement, love and patience. I thank them for cheerfully accepting my absences at the weekends I could not visit them and my newest (faraway) venture that I have embarked on as Assistant Professor at Texas A&M University.

Adam was the second person to suggest I begin this journey. He also insisted I finish what I started and was there every step of the way. I thank him for his patience, his encouragement and the many sacrifices he made so that I could complete the thesis. We have become stronger and more loving towards each other as a result of the struggle. Thank you for being there Adam.

I owe a special debt to the teachers interviewed for this thesis by sharing their professional experiences.

In addition, the Department of Theory and Policy Studies (aka Educational Administration) has been my academic and intellectual home for the past six years where the members of the department and of the International Centre for Educational Change made this a happy and rewarding place to study and work. Here my friendships and acquaintances with strong intellectual women made a lasting impression on me and
permitted me to feel invincible: Nina Bascia, Amanda Datnow, Sue Lasky, Sonia James-Wilson, Katrina Gleue, Sheryl Ryan, Stephanie Sutherland, Anastasia Meletopoulos, Sylvia McCrae, Wambui Gathenya, Elizabeth Campbell, Doris Jantzi, Noreen Jacka and Rosanne Steinbach.

I would like to thank two of my fellow doctoral compatriots: Dr. John Brock and Dr. Arnold Goodman for their critical interest in my work. I found John’s own passion for German philosophy inspiring. Our philosophical debates helped me grapple with Habermasian issues. A special thanks goes to Arnold who was always available to carefully read and scrutinize draft chapters of the thesis. His (un)orthodox and provocative feedback helped me sharpen my thoughts.

I would also like to thank Leo Santos for making me feel like I always have a place in the centre (ICEC) and a special thanks goes to Shawn Moore for his constant enthusiasm and inspiration. Thanks must go to Marion Morgan, Kristen Ligers, Jane Goodlet, Elizabeth Fear, Ai-Ri Chung, and Janice Verner for their assistance when I needed it. A final thanks goes to Jeanie Stewart, Documentation Analyst/Newsmaster at OISE/UT: Education Commons-Technology, for her computer support especially when I converted my document from Clarisworks to Microsoft Word. She was my saving grace when I moved to Texas. Her meticulous eye for detail ensured a quality final product.
# TABLE OF CONTENTS

| ABSTRACT | ........................................................................................................... | ii |
| ACKNOWLEDGEMENTS | ........................................................................................................... | iv |

## CHAPTER ONE: INTRODUCTION

| The Context | ........................................................................................................... | 1 |
| Research Statement | ........................................................................................................... | 2 |
| Research Questions | ........................................................................................................... | 4 |
| Rationale of the Study | ........................................................................................................... | 5 |
| Significance of the Study | ........................................................................................................... | 7 |

## CHAPTER TWO: LITERATURE REVIEW

| Educational Change | ........................................................................................................... | 9 |
| A Background: Habermas’ Theory of Knowledge and Human Interests | ........................................................................................................... | 14 |
| Paradigms of Knowledge | ........................................................................................................... | 19 |
| Habermas’ Three Levels of Knowledge and Human Interests | ........................................................................................................... | 23 |
| Technical Interest | ........................................................................................................... | 24 |
| Modes of Technical Inquiry | ........................................................................................................... | 28 |
| Scientific Inquiry | ........................................................................................................... | 28 |
| Technical Inquiry | ........................................................................................................... | 29 |
| Teacher as Researcher | ........................................................................................................... | 29 |
| Practical Interests | ........................................................................................................... | 30 |
| Modes of Practical Inquiry | ........................................................................................................... | 35 |
| Logical Inquiry | ........................................................................................................... | 36 |
| Tacit-Intuitive Inquiry | ........................................................................................................... | 36 |
| Reflection | ........................................................................................................... | 37 |
| Reflection-in-Practice | ........................................................................................................... | 39 |
| Reflection-on-Action | ........................................................................................................... | 40 |
| Narrative Inquiry | ........................................................................................................... | 40 |
| Emancipatory Interest | ........................................................................................................... | 41 |
| Modes of Emancipatory Inquiry | ........................................................................................................... | 45 |
| Action Research | ........................................................................................................... | 45 |
| Teacher as Critical Inquirer | ........................................................................................................... | 46 |
| Teacher as Transformative Intellectual | ........................................................................................................... | 48 |
| Communicative Rationality | ........................................................................................................... | 49 |
| Classroom Assessment | ........................................................................................................... | 50 |

## CHAPTER THREE: CONCEPTUAL FRAMEWORK

| A Rationale for Using Habermas’ Three Levels of Knowledge Interests | ........................................................................................................... | 56 |
| Levels of Knowledge and Human Interests | ........................................................................................................... | 58 |
| Conceptualization of the Research Questions | ........................................................................................................... | 61 |
| Technical Interest | ........................................................................................................... | 61 |
| Practical Interest | ........................................................................................................... | 62 |
| Emancipatory Interest | ........................................................................................................... | 63 |

vii
Assessment in Integrated Subjects .......................................................... 111
Using a Variety of New Assessment Procedures ...................................... 112
Assessing and Reporting ......................................................................... 115
Reconciling Reporting With Assessment ............................................... 115
External and Structural Factors ............................................................. 117
Curriculum Guidelines ........................................................................... 118
Timetables ............................................................................................... 120
Time ......................................................................................................... 121
Class Size ................................................................................................. 124
Practical Interest Of Assessment .............................................................. 125
Negotiated Meaning ............................................................................... 126
Student Understanding ............................................................................ 126
Parent Understanding .............................................................................. 128
Transparent Expectations ....................................................................... 132
Power and Politics ................................................................................... 133
Emancipatory Interest Of Assessment ..................................................... 137
Student Uniqueness ............................................................................... 137
Shared Assessment With Students .......................................................... 140
Dialogue .................................................................................................. 144
Discussion ................................................................................................. 148

CHAPTER SEVEN: HOW DO TEACHERS’ REPORTED ASSESSMENT
PRACTICES RELATE TO EPistemological PARADIGMS? .................................................. 152
Technical Interest ..................................................................................... 153
Objectives From An External Authority: The Curriculum ....................... 153
Outcomes are Made Clear to Students by an External Authority: The Teacher 154
Transmission of Knowledge .................................................................... 155
Assessment and Learning Is Organized In Objective Chunks ................... 156
External Reinforcement ............................................................................ 157
Immediate Feedback ................................................................................ 159
External Control Over Individual Students ............................................. 160
Practice ..................................................................................................... 162
Practical Interest ...................................................................................... 162
Outcomes Originate From the Classroom or School .................................. 163
Outcomes are Made Clear to Students With the Students ....................... 166
Authentic Assessment .............................................................................. 167
Student-Centered ..................................................................................... 168
Performance-Based Learning .................................................................... 170
Problem Solving ....................................................................................... 172
Motivation .................................................................................................. 174
Learning Environment ............................................................................. 177
Facilitation ................................................................................................. 178
Emancipatory Interest ............................................................................ 179
Inclusive Assessment ............................................................................... 180
Ethnicity and Gender Equity ................................................................... 182
Empowered Learning ............................................................................... 184
Self-Assessment ....................................................................................... 186
CHAPTER EIGHT: HOW DO TEACHERS INQUIRE INTO ASSESSMENT? .......................... 200

 Modes of Inquiry into Assessment ........................................................................ 201

 Technical Interest .................................................................................................... 202

 Technical Inquiry ..................................................................................................... 202

 How Do I Reconcile Conflicting Purposes of Assessment? ................................. 202

 What Does This Assessment Term Mean? ............................................................. 203

 How Do I Assess? .................................................................................................... 203

 Did Students Achieve the Expectations? ............................................................... 205

 Teacher as Researcher ........................................................................................... 206

 How Do Others Implement New Assessment? ...................................................... 206

 What Are the Benefits of Professional Coursework and In-Servicing? ............... 208

 What Can I Read To Improve My Knowledge About Assessment? ..................... 212

 Practical Interest .................................................................................................... 214

 Tacit-Intuitive Inquiry ........................................................................................... 214

 Do I Know My Students Well Enough To Anticipate What Will Happen and 
 What I Need To Do? ............................................................................................... 215

 Do I Use Intuition More for A Certain Subject Area or Type of Student? ........... 218

 How Much Faith Do I Have in My Intuition? ......................................................... 218

 Is My Intuition as Accurate as Formal Assessments? ........................................... 219

 Emotional Inquiry .................................................................................................. 220

 Fear, Frustration and Burnout ................................................................................. 220

 Faith, Maturity and Open to Learn ......................................................................... 221

 Experiential Inquiry ................................................................................................. 222

 What Kind of Accommodations Do I Need to Make? ........................................... 223

 Is There Room for Effort as Well as for Achievement? ....................................... 224

 Is There Room for More Than Mandates? ............................................................ 224

 Why Do I Assess When I Do? ................................................................................ 228

 How Do I Know That My Assessment Is Working? ............................................. 229

 What Is the Purpose of Assessment? ..................................................................... 229

 Reflection ................................................................................................................ 232

 How Do I Relate Standards and Curriculum Requirements with My Assessment? 232

 If I Could Do this Unit Over Again I Would...? ..................................................... 233

 How Did My Students Influence My Assessment? .............................................. 234

 How Does Reflecting on My Practice Help Me? .................................................... 235

 Emancipatory Interest ............................................................................................ 236

 Moral Inquiry ........................................................................................................... 236

 How Viable Are Standards? .................................................................................... 237

 How Viable Are New Curriculum Directives and New Assessment Approaches? 240

 Critical Inquiry ...................................................................................................... 242

 Can All Students Achieve the Standards? .............................................................. 242

 How Important Is Gender Equity? .......................................................................... 244

 Should We Assess Both Ability and Growth? ...................................................... 244

 Do You Think About How or Why When Assessing? ........................................... 244
Practical Interests .......................................................................................... 302
Emancipatory Interests .............................................................................. 302
Implications ................................................................................................. 304
Implications for Educational Reform ........................................................ 304
Implications for Classroom Assessment .................................................. 310
Implications for Teacher Thinking ............................................................ 315
Implications for Emotions and Intuitions ................................................ 316
Implications of Habermas' Three Levels of Knowledge Interests ........... 317
Limitations ................................................................................................. 322
Critical Theory ........................................................................................... 322
Communicative Rationality ....................................................................... 325
Recommendations and Further Research ................................................ 326

REFERENCES ............................................................................................. 333

APPENDIX A: INTERVIEW PROTOCOLS, 1997-1999 ........................................ 353

LIST OF TABLES

Table 1: Modes of Inquiry .......................................................................... 22
Table 2: Interview, 1997 .......................................................................... 70
Table 3: Interview, 1998 .......................................................................... 70
Table 4: Interview, 1999 .......................................................................... 70
Table 5: Follow-Up Interview 1999 .......................................................... 72
Table 6: Technical Interest ......................................................................... 192
Table 7: Practical Interest .......................................................................... 193
Table 8: Emancipatory Interest ................................................................. 193
Table 9: Summary of Assessment Approaches ........................................ 194
Table 10: Emerging Modes of Inquiry ...................................................... 255
Table 11: Modes of Inquiry Utilized by Subjects ...................................... 259

LIST OF FIGURES

Figure 1. Conceptual Framework ............................................................... 60
Figure 2. Emerging Conceptual Framework .......................................... 256
for luther
In 1994, I was a full-time teacher-librarian in a school district in southern Ontario. I felt comfortable with my responsibility, not only maintaining a contemporary, relevant library but also a nurturing, supportive and professional relationship with teachers and students. In the late 1980s and early 1990s, there were numerous government policies implemented such as the Ontario Secondary-Intermediate System (OSIS) and The Transition Years, but they were implemented capriciously and did not tend to dominate teachers’ professional lives the way mandated examples seem to in the 21st century. I heard the usual grumbling, such as “If I just wait it out, it’ll disappear.” As a librarian, I was concerned, however, that I could not seem to convince teachers to help me implement a policy mandate that applied directly to me—*Partners in Action*. It became incumbent on me, within the scope of my professional duties, to work with teachers cooperatively developing library units that would synchronize with the classroom curriculum. When I attempted to schedule time slots with teachers to talk about how best I could help them deliver their units, I would get responses like: “Ask me next week” or “I’m too busy right now” or “I’ve taught this unit a number of times and it works really well. Thanks anyway.” I was struck by how difficult it was to interest teachers in something new.

In 1995, when I started the doctoral program at the Ontario Institute for Studies in Education of the University of Toronto (OISE-UT), I became involved in Earl and Hargreave’s longitudinal study, *Beyond Transition: How Teachers Interpret and Integrate Transition Years Reforms in Their Practice*, and which later extended into another study: *A Longitudinal Study of Teachers Committed to Innovation in Ontario Schools*. Even though the teachers in this study were designated by their principals as teachers who were professionally committed to change, I began to see common patterns in their responses when they were confronted with innovations. These teachers seemed to be saying repeatedly: “I don’t have the time” (among other comments). As the study progressed, it became clear that teachers did not wilfully resist change, rather, there were other factors involved—factors that not only reflected common systemic restraints but also pervasive inhibitors that paralyzed teachers emotionally, intellectually, morally, and ultimately, physically. What I have attempted to accomplish in this study is to examine...
how these teachers, who are committed to change (in this case, classroom assessment) make sense of innovation through a process of inquiry and illuminate the process by which they proceed to translate a theoretical knowledge-base of assessment into their own personal knowledge-base and into practice.

Where am I, as the researcher, situated in this investigation? I do perhaps approach this study with the bias of having immense faith in teachers’ capacity to ultimately implement mandated change. As an educator for seven years, I saw for myself how teachers proactively assumed the responsibility of implementing directives that were often described in vague terms by administrators who, themselves, were not always able to articulate with conviction the importance and relevance of yet another policy mandate. And still, the teachers that I worked with managed to find reserves of time and energy to implement what they understood to be the directive. They, unfortunately, rarely received any feedback about whether they were advancing appropriately. It was not surprising, then, to learn that a few teachers did indeed tacitly disregard ephemeral innovation that would most likely become obsolescent.

What was really transpiring here? What was going through the minds of these teachers? How were they rationalizing their actions morally and emotionally? And finally, what questions were they asking? I expect, in this study, to open the “blackbox” of teachers’ experiences when implementing innovations by examining teachers’ inquiry into classroom assessment. This study examines teachers’ experience of implementing innovations as the starting point to support their commitments to improve classroom learning and assessment for all children.

**The Context**

Within the current Ontario political climate which has proceeded to enforce increased scrutiny—of standards, of accountability and of standardization—teachers in 1997 were asked to implement new classroom strategies into their classroom practices. While teachers struggled to appreciate the subtleties of contemporary assessment approaches, classroom assessment (as compared to standardized, school-wide or system-wide large-scale assessment) had begun to shift noticeably from a uniquely accounting-style paradigm to one that conceptualizes assessment as an inextricable part of the
instruction infrastructure (Earl and LeMahieu, 1997; Wiggins, 1993). Quality classroom assessment was being described as a process that provides an opportunity for teachers and students to reflect, question and learn throughout the entire unit of instruction (Earl, 1995). This kind of assessment reform inevitably challenges teachers' understandings about, and their professional experiences with, assessment as they contend with the problems of implementing new, effective assessment practices into their classroom-teaching routines. In the contemporary classroom, one of the more frequent situations confronting teachers in their professional practices is the reconciliation of accountability with ingrained practices of classroom assessment. With respect to that problem, Earl (1997) has asked, “Can these two paradigms coexist and complement one another, or are they fundamentally opposed and likely, therefore, to be constantly in each others' way?” (p. 162). Elaborating on this idea, she states:

Pressing demands for increased accountability directives are combined with pleas for more and better assessment systems that provide rich data about specific student learning. These seeming contradictory forces have made assessment reform a somewhat schizophrenic activity. (Earl, 1997, p. 162)

This dichotomy presents many challenges when implementing new classroom assessment practices.

Fullan (1991) identifies four core capacities that are necessary for the successful implementation of innovations (that is, to generate change), one of which will be uniquely studied here—inquiry. Inquiry becomes the means for teachers to understand new assessment better in their classroom practice within a context of ambiguity and contradictions, and to draw from these situations their own meaning of assessment as it fits within their own context. Pascale (1990) stresses that “the essential activity for keeping [abreast with change] is persistent questioning” (cited in Fullan, 1993, p. 15). The habit of life-long inquiry, according to Fullan (1993) “is the generative characteristic needed because…environments themselves are constantly changing” (p. 15). Understood as a “daring enterprise marked by uncertainty” (Pignatelli, 1993, p. 421), inquiry means cultivating an “inventive disposition,” questioning past truths and generating new ones (Greene, 1988, p. 10). Entwistle (1988) suggests that teachers apply innovations “in an active, thoughtful, [critical], creative sense, not passively as though applying pre-digested instructions or advice” (p. 23). This suggestion implies that teaching practices evolve
beyond a deductive exercise into an opportunity to learn and ask a "variety of questions about practical situations with the guidance of relevant axioms or generalizations" (p. 27). Using this interpretation of implementation, the innovations become, in their most liberating state, adaptations that are meant "to evoke judgement rather than rote obedience" (p. 27). Schön (1983) maintains that to initiate one's own judgement and interpretation in the implementation of innovations is to develop a form of praxis:

Out of this continuous reflection on practice, one develops one's own practice-relevant theory, one's own characterizations of what one is trying to do in the classroom, why one succeeds or sometimes fails, and what has to be done to accommodate the failure, either by improving one's practice or, perhaps, by redefining the situation ...(cited in Entwistle, 1988, p. 27)

This process occurs only if, as Schön (1983) maintains, the teacher becomes a reflective practitioner and

...confront[s] the problems and the opportunities [the innovation] poses, [all the while] asking intelligent, well informed questions about the situation, acting in a manner suggested by the answers to these questions, evaluating the results, reflecting again on the implications of these, and so on...(cited in Entwistle, 1988, p. 29)

This study advances the concept of the teacher as a reflective practitioner and examines the teacher as an inquiring practitioner. The teacher, as an inquiring practitioner, is not satisfied to merely acquire a repertoire of skills and knowledge to solve practical problems on which to reflect. Instead, new perspectives are sought in order to confront assessment problems. Teachers' inquiries, therefore, become intelligent, sensitive, articulate, conceptual and subtler in their analyses of assessment innovations.

By focusing on inquiry, this study looks closely at how teachers learn and question about assessment, ultimately examining how they put that learning into action or not. Possible modes of inquiry teachers employ when faced with change are presented in this study, as teachers transform their beliefs and knowledge through the inquiry process, while implementing assessment innovations within their classrooms.

**Research Statement**

This study examines how a sample of elementary teachers understand and inquire into assessment innovations in their classrooms and ultimately implement (or do not implement) changes in assessment.
Research Questions

The objectives of this study will be guided by the following research questions whose answers form the main body of this thesis:

- What challenges do teachers experience in attempting to implement new classroom assessment practices?
- How do teachers' reported assessment practices relate to epistemological paradigms?
- How do teachers inquire into assessment?

Rationale of the Study

This study highlights the importance of Fullan’s (1996) notion that what teachers do and think in schools is paramount to the implementation of innovations. Teachers must actively question certain truths by abandoning past dogmas and cultivate an inventive disposition that generates new methods of inquiry (Fullan, 1993). While scientific inquiry has historically been a dominant approach for gathering information in many disciplines (Rorty, 1989), Foucault (cited in Pignatelli, 1993) stresses the significance of testing those truths not only by asking, “Is it true?” but also by asking, “Who wants it to be true?” and “What are the effects of saying this is true?” In the context of assessment, Gipps (1995) argues that teachers must first decide the purposes of assessment in each situation:

We need to develop a new way of thinking about assessment to deal with the issues that are emerging as assessment takes on a broader definition and purpose.... We must first ask the question, “Assessment for what?” and then design the [appropriate] assessment program to fit. (p. 3)

Supporting this, Hargreaves et al. (1993) maintain that “as scientific knowledge becomes more and more provisional, as its findings are revised or reversed at an ever increasing rate, processes of inquiry, analysis, information-gathering and other aspects of learning-how-to-learn in an engaged and critical way take on greater prominence” (p. 3). There is “a whole technology of truth that scientific practice has step-by-step discredited, covered up, and driven out. The truth here does not belong to the order of that which is, but rather of that which happens” (Miller, 1988, p. 271).
In examining teachers’ inquiry about classroom assessment, the study contributes to the existing research on teachers’ thinking. Research on teachers’ thinking has grown rapidly over the past two decades, introducing new ways of thinking about teaching and about professional and educational development (Calderhead, 1996). There is research focusing on teachers’ thoughts, judgements and decisions (Shavelson and Stern, 1981); teacher planning (Clark and Peterson, 1986); teachers' interactive thinking and the models of teachers’ knowledge and thought (Borko et al., 1990; Morine-Dershimer, 1991); teachers’ personal experiences in the classroom (Connelly and Clandinin, 1988); and teachers’ practical knowledge as it is shaped by individual characteristics (for example, feelings, hobbies, life situation, family, and education) (Elbaz, 1983). More importantly, however, while the aforementioned studies focus on instruction, this study contributes to the small body of knowledge on teachers’ knowledge about assessment. Earl and LeMahieu (1997) maintain that while scholars are increasing our understanding of the meanings and forms of assessment, we still are deficient in instructing teachers how to integrate these ideas into their own practice. Very little research has been done on the process of translating assessment innovations into classroom practice. Furthermore, there has been a continued tendency for assessment issues to be discussed in isolation, detached from wider sociological, political, policy and ideological considerations (Broadfoot, 1996). The work of Broadfoot (1996), Blackmore (1988) and Hargreaves (1989) have been influential in highlighting the relationship between educational assessment and society. For example, Hargreaves (1989) perceives a “more generalized trend toward the development and implementation of increasingly sophisticated techniques of social surveillance within society at large” (p. 133) which substitutes assessment for discipline:

At the heart of...systems of surveillance...[is the] hierarchy [which] involves a process whereby power is exercised through a mechanism that controls by means of observation, where the powerful observe but are not themselves observed, where they see without being seen, where they judge, rank and rate, but are not themselves evaluated. (p. 134)

The study seems justified, therefore, in moving beyond a mere technical analysis of teachers’ understanding of classroom assessment towards an examination of the various purposes and socio-political implications of assessment that shape teachers’ understandings
and inquiry into assessment. The intent of this study is not to advocate the abolition of technical aspects of assessing or to say that they are negative or have less value than other approaches, but rather, to acknowledge more liberatory notions of assessment alongside technical skills. This study therefore, examines the various perspectives of classroom assessment as they determine teachers' understandings and experiences when implementing contemporary assessment approaches in their classrooms.

Significance of the Study

By examining teachers' inquiry into assessment, the findings inform us about how teachers implement innovations. Various researchers have attempted to explain the process by which educational innovations are transformed into concrete actions (for example, Fullan, 1991). Studies show, however, that there appears to be a conspicuous gap between the conceptual and practical aspects of the implementation process. Entwistle (1988) claims that teachers' expectations of innovations and the innovation's actual results are often incongruent. Teachers may expect the innovations to be more prescriptive when in fact "the best [innovations] have to be applied with discrimination to the practical situation" (p. 23). In this case, the practitioner may

...fail to recognize that it is in the nature of what a theory is that there can never be an exact, neat, one-to-one fit between [an innovation] and practice. [Innovations] are generalizations about practice, whilst practical situations are particular, peculiar, and widely varied. A[nnovation] draws its relevance and cogency to every conceivable situation, which it seeks to explain only by being an exact description of none of them. There never can be [a] one-to-one correspondence between [innovations] and practice. (Entwistle, 1988, p. 22)

Schön (1983) states that theory "does not give a rule that can be applied to predict or control a particular event, but it supplies language from which to construct particular descriptions and themes from which to develop particular interpretations" (cited in Entwistle, 1988, p. 23). Alternatively, a discrepancy between innovation and practice may actually exist because the innovation is "inadequate and-or often unacceptably utopian" (p. 20) and does not account for the reality of the classroom. In this sense, teachers' scepticism towards yet another innovation is actually a fair assessment.

Teachers and reformers often hold antithetical ideologies regarding teaching and learning, making the implementation of innovations more problematic. If reforms "are to
be successful, individuals and groups must find [shared] meaning” (Fullan, 1991, p. xi) (that is, shared relevance) in the change that is occurring. Developers of innovations often ignore the limiting effects of the bureaucratic context of schools within which those theories are intended to be implemented (Entwistle, 1988). The implementation of innovations may therefore be hampered by teachers’ lack of decision-making authority that can influence the range of choices to which teachers have access when implementing innovations. The organizational setting greatly influences how people interpret innovations (March, 1982). Administrators have the option to perpetuate the notion of teacher proofing when innovations are to be implemented where the teacher’s effect is minimized, or of encouraging teachers to become an integral part of the implementation process (Connelly and Clandinin, 1988). Clandinin (1986) identifies teachers’ choices of action when faced with implementing innovations to three alternatives: (1) to resist reform; (2) to implement reform as it is intended by its developers; or, (3) to adapt innovations to fit with their knowledge within the confines of existing school structures. Often the inquiries and choices teachers make when deciding on a course of action reflect their level of professional and cognitive growth. In short, the course of action ultimately reflects the individual’s understanding or meaning of change at a particular time in the individual’s professional growth within a particular situation. An important purpose of this study, then, is to discover how teachers visualize or experience change:

We have to know what change looks like from the point of view of the teacher...if we are to understand the actions and reactions of individuals. (Fullan, 1991, p. xi)

By examining change as it appears to the individual teacher, this study challenges the notion that organizations are rational structures where there is “general agreement on what...is learned” (Levin, 1997, p. 12). The individualized nature of teacher response to change supports Gleik’s (1988) perception that “while [systems] display certain stabilities or patterns at the aggregate level, [they] are almost completely unpredictable at the [individual] level” (cited in Levin, 1997, p. 13).
CHAPTER TWO: LITERATURE REVIEW

The review of literature is set within a framework of existing research in three areas: educational change, teacher knowledge and classroom assessment. The first section is meant to set a context for the viability of the teacher's place within the change process. The second section consolidates the literature on teacher knowledge and distinguishes among a number of inquiry models. There is a predominant focus on Habermas' three levels of knowledge and human interests. Habermas' theory grounds the study philosophically and is further explicated in Chapter Three. The final section explores the paradigm shift classroom assessment has undergone over the past decade.

Educational Change

This study is set within a context of educational change that according to Fullan (1997) is faltering. When tracing the history of educational change, three dominant themes emerge within the literature. Initially, change was concerned with short-term reform initiatives and their impact on education. Studies that emerged from this approach to change generally focused on single-country contexts, highlighting national and statewide reforms, greater school choice and site-based management initiatives (Hess, 1995). In the evolution of the change process, researchers in the late 1980s and early 1990s were stating that practice changes before beliefs (Miles and Huberman, 1984), that while thinking systemically, change starts locally (Fullan, 1991), that evolutionary planning is more effective than linear planning (Louis and Miles, 1990), that implementation strategies should integrate bottom-up strategies with top-down ones (Hopkins, 1992) and that conflict is a necessary part of the change process (Lieberman, 1995). More recently, educational change is described in terms of paradox, chaos, and complexity (Deal and Peterson, 1995; Handy, 1994). In this past decade, many countries in the western world have been in the midst of educational reform where schools are being impacted by large-scale, legislated reforms (Apple, 1998). These reforms are identified by a centralized, standardized curriculum; large scale high stakes testing; high standards of learning that all students are expected to meet; evaluation of schools; and disclosure of rankings.
Throughout these processes of change, degrees of change emerge, moving from a superficial level of change to a deeper level of structural change. For example, renewal activities are those that help the organization become more efficient with what it is they are already doing (Conley, 1993). Renewal efforts are unlikely to successfully challenge entrenched structures or assumptions about the school system itself and may include utilizing new teaching techniques to increase student interaction by adapting teaching practices to meet specific needs.

Restructuring, on the other hand, is a transformative process that requires changes in fundamental assumptions, practices and relationships internally within the organization and, externally, between the organization and the larger societies in ways that should lead to universal, improved, and varied student learning (Conley, 1993). The degree of change, however, might not necessarily lead to improvement because the outcome is unpredictable. Attempts in the 1960s towards open schools and new models of school design that eliminated grading by age and, alternatively, grouped students according to ability, constituted a transformation to a new structure.

Finally, reform suggests that the change has altered the systemic organizational structure but that the educational system remains intact (Conley, 1993). An example is the trend towards decentralized control at the local level and involvement of parents in parent-school councils. These are new organizational structures for the system but do not fundamentally change the school system as a whole, although these structures do change the dynamics within the system. While educational reform is important, it is not always done well (Fullan, 1999; Hargreaves, Moore and James Wilson, 1997). Fullan (1999) argues that the reason educational reform has not been successful is that those who promote change in education do not understand the black box of the change process itself. Despite numerous reform cycles, there is a sense that schools are still failing.

When examining the (alleged) failure in implementing innovations in preceding decades (Elmore, 1996; Fullan, 1993; Miles and Huberman, 1984; Sarason, 1990), it was suggested that this failure might be attributed to imposed top down changes (Datnow, 1998; Sarason, 1990), which are often viewed as being “insensitive to local community contexts, the culture of individual schools [and] the unique capacities of particular school...
staffs as well as staffs' perceptions of organizational problems and goals" (Cousins and Leithwood, 1986, p. 4). House (1974) maintains that in

...looking at the role of innovation in a technocratic society...the vertical division of labour implicit in the modern system creates a hierarchy of control with those at the top making the innovations and benefiting most from them while those at the bottom are robbed of initiative and not equally benefited. (p. 4)

Although there is ample research to indicate that innovations have a better chance of succeeding when teachers are given ownership of the change process or when it becomes a bottom up process that is sensitive to local contexts (Cousins and Leithwood, 1986; Fink and Stoll, 1996; Fullan, 1993; Hargreaves, Earl and Ryan, 1993; Miles and Huberman, 1984; Newman and Wehlage, 1995; Sarason, 1990), Fullan (1997) concludes that, whether top-down, bottom up, or sideways, current strategies no longer work. Factors contributing to the high failure rate of educational change include the following: the growing alienation among teachers; the balkanization and burnout of reform-minded teachers; and the multiplicity of unconnected, fragmented change initiatives. As teachers enter the new millennium, they feel a despair that the public and the government do not care about them and that the problems they encounter in their schools and classrooms are challenging enough to be insurmountable.

Nevertheless, there is a small number of teachers who willingly engage in specific reform initiatives. There is little documentation, however, of their efforts and what is available is discouraging. Fried (1995) sums up by stating that these teachers, who are committed to change, are getting exhausted in the face of apathy and resistance from the other teachers, administration, parents and students. What researchers are now discovering is that although many studies have shown that teachers’ acceptance of innovation is crucial for successful implementation of innovation (Fullan, 1991), ignoring how teachers experience and react to innovations is a critical factor for unsuccessful innovations, particularly when studies indicate that what teachers do in the classroom is the key to implementing change:

Neglect of the phenomenology of change--that is, how people actually experience change as distinct from how it might have been intended--is at the heart of the spectacular lack of success of most social reform. (Fullan, 1982, p. 4)
Research has shown that teachers hold key positions in influencing the type and quality of classroom interactions as well as being the principal agent in implementing innovations (Carlgren, 1987). The importance of teachers' roles in schools generally, according to Carlgren (1987), Lortie (1975), Goodson (1992), is unprecedented, since teachers' "qualification[s], their imagination, their sense of duty, their knowledge, etc. [often determine] the quality of schooling" (Carlgren, 1987, p. 1). In summary, the teacher is probably the most influential factor in gaining the desired results, thus teachers are regarded

...as being of greater importance than the curriculum and the frame factors such as the teaching and learning resources, the budget, etc. They are the decision makers closest to the students, [and] they can take the role of planners and leaders. (Carlgren, 1987, p. 1)

In examining the phenomena of the teacher's part in the change process, Cousins and Leithwood (1986) claim that before change can occur, it requires teachers to change their practices to develop new understandings of their work. Such understandings are socially constructed (Bandura, 1977), which implies that individual members of the school organization must actively reconstruct the meaning they attribute to their work before lasting change will occur. This premise about the importance of constructing meaning helps explain why significant change is unlikely through the exclusive use of either top-down or bottom-up approaches. Top down approaches are sometimes informed by relatively broad perspectives on the future role of schools and by knowledge about new practices grounded in current research. They may also be accompanied by enough political support to generate additional resources. Such approaches, however, generally remain insensitive to local community contexts, the culture of individual schools, the unique capacities of particular school staffs as well as the staff's perceptions of organizational problems and goals (Fullan, 1991; House, 1974). In contrast, bottom-up strategies are usually sensitive to local contexts, and they provide an opportunity for hermeneutical interpretation. But this form of conceptual integration is often focused narrowly on conservative, low-quality changes (Huberman, 1983; Nelson and Sieber, 1976). And because basic assumptions are rarely challenged, the learning that is possible is single rather than double-loop (Argyris and Schön, 1978). That is, learning is not likely
to be extended beyond existing conceptions held by those responsible for change. Assumptions, norms and values remain intact.

If neither bottom-up nor top-down strategies provide conditions for the construction of new meaning, what approaches to change do? The literature suggests a number of alternatives. Louis and Dentler (1988) argue for school-focused knowledge use. This alternative assumes that the school is the unit of change. The core problem to be solved by this approach is how to disseminate relevant, new information to those in schools so that it will be attended to and subsequently integrated into their thinking about the purposes for, and means of, improving their own schools. Another alternative is the application of complexity theory to the change process. In contrast to an old paradigm of thinking that change is linear and rational, complexity theory assumes that the change process is unpredictable; any new information into a system can change or destabilize that system; and the response of the system may be far removed in time and space from the initial condition. Furthermore, the more destabilization present the more creativity and transformation exists within the system unless the system breaks down from the shock of the change and disintegrates (Doll, 1993; Dooley, 1997; Fullan, 1999; Lewin and Regine, 2000; Prigogine and Stengers, 1984). This theory begins with the basic understanding of the importance of the complex nature of change. Within this context, Kaufman (1995) suggests that “we are being driven to understand the limited scope of our understanding and even our potential understanding” (p. 29).

Yet another alternative focuses on the basic concept of hope and faith in human affairs which provide more profound explanations of why educational reform succeeds or fails. These deeper understandings, Fullan (1997) argues, are absolutely essential for sustaining and spreading constructive change. The challenge, then, according to Fullan and Hargreaves (1991), is for teachers to move beyond the internal limitations set by their school context or situation. In this sense, teachers have the potential to move beyond the margins of power within organizations. In our “fast, complex, compressed and uncertain” (Hargreaves, 1994, p. 8) world, although existing educational structures are beginning to be questioned, they are not changing rapidly enough (Fullan, 1996). Rather than wait for structural change, teachers are encouraged to have hope and take responsibility for their own emancipation. Teachers need to trust their own knowledge as well as learn more
about their own practices, and why certain factors hinder or facilitate those practices. They need to become more than mere passive responders to changes occurring around them. In other words, teachers need to become inquiring and active practitioners.

**A Background: Habermas' Theory of Knowledge and Human Interests**

While teacher knowledge is of increasing interest in education, two omnibus domains of knowledge are discussed in the literature: formal and practical knowledge. Another domain of knowledge, however, that is, critical knowledge, can also be considered of primary importance when examining a phenomenon such as classroom assessment. This domain has received little attention when examining teacher thinking. I have therefore turned to the founder of critical theory to provide a conceptual framework for the epistemological guide in this study. Habermas (1971) offers an epistemological outline with his theory of knowledge and human interests that can work here as an organizer of teachers' knowledge when implementing classroom assessment. Such a framework provides coherent and integrated epistemological parameters grounded in philosophy that are not evident in the knowledge literature since the domains of knowledge (for example, formal and practical) are rooted in several different disciplines and epistemologies. As a social theory, Habermas' framework is particularly viable since assessment is sufficiently pervasive in society to warrant a social/critical analysis.

In *Knowledge and Human Interests*, Habermas develops a framework that recognizes three scientific approaches to inquiry or knowledge-building driven by three different human interests: technical, practical and emancipatory. According to Habermas' theory, knowledge has its source in cognitive interests that guide the processes of inquiry and organize our perception and knowledge of reality. The cognitive interests are based on anthropological interests of human species and are related to three different areas: the technical control of nature; the reciprocal understanding among social beings or social harmony; and emancipation or individual growth.

Perhaps more importantly, Habermas' theory offers us a multi-paradigm outlook at a phenomenon enabling us to gain a more profound view of classroom assessment through varied lenses. As this study progresses, it will be clear that the importance of viewing innovations through different paradigms or lenses is not only necessary but a
pivotal conceptual and methodological approach for understanding the implementation process of innovations in a complex society. The literature indicates that issues in education have usually been examined through either the structural functionalist or interpretive lens. While Bolman and Deal (1997) advocate ‘reframing’ situations to analyze problems and solutions from different theoretical perspectives, they do so primarily from the structural functionalist and interpretivist paradigms. Fullan (1991) takes a biparadigm view in his examination of both the objective and subjective nature of educational change. More and more studies exist that incorporate a critical theory lens, (for example, Bates, 1983; Sirotnik & Oakes, 1986). Sirotnik & Oakes (1986) integrate structural functional, interpretivist and critical theory into a practical educational paradigm, which they term ‘critical inquiry.’ Finally, there are an increasing number of studies emerging that examine educational issues using poststructuralist lenses. Capper (1993) makes a case for feminist poststructuralism as a fourth paradigm in conjunction with critical inquiry in her exploration of educational administration.

Not only does Habermas provide a ‘tidy’ multi-paradigm framework, but scholars have used Habermas’ unique theories in their work. Sirotinik and Oakes (1986) rely on Habermas’ levels of knowledge and human interests to provide the philosophical underpinnings to their work in the development of non-traditional models for school improvement and change. Using Habermas’ philosophy as a theoretical guide, their work “offer[s] a conceptual and practical argument for incorporating school people into a collaborative process of critical inquiry--an ongoing, knowledge-production process of reflection, discourse, and action that forms the basis for school renewal and change” (Sirotinik and Oakes, 1986, p. x). The authors introduce three facets of inquiry which correspond to Habermas’ three levels of knowledge and human interests. The use of these categories emphasizes the ‘paradigm shifting’ in inquiry in an attempt to reconcile several different approaches to inquiry. That is, they attempt “a methodological alignment of apparently diverse visions of inquiry” (Sirotinick & Oakes, 1986, p. 19). Sirotinik & Oakes (1986) claim that what they draw from Habermas’ theory is the avoidance of “methodological devisiveness that so often seems to appear when researchers become dogmatic and trenchant in their beliefs about what constitutes proper
scientific practice" (p. 19). The authors continue with this train of thought by stating the following:

The idea of critical inquiry requires a reasonable integration and application of all three faces of inquiry, if, as we have argued, the concern for engendering meaningful and sustained school renewal is to be taken seriously. This is not to say that we have profound basis upon which to resolve the age-old and perhaps unresolvable philosophical dilemma of the unification of knowledge. However, on a more practical level, combining reason (inductive, deductive, dialectical, or otherwise) with experience would seem to form the basis for testing the feasibility of this eclectic perspective. (Sirotnik & Oakes, 1986, p. 20)

Another scholar, Bates (1983) examines how critical social theory might be related to the practice of educational administration. In particular, he examines Habermas' contribution to this debate. Habermas offers a way of looking at educational administration using a critical theory approach, which concerns itself with indicating how organizational power is developed, perpetuated and transformed rather than with superficial, technical and maintenance concerns. Thus organizational members would be offered an opportunity to develop a critical awareness and historical perspective of their organization so that they may free themselves from the legitimating ideologies which mask understanding and prevent change. (p. 129)

Bates (1983) states that administrators must facilitate dialogue among members of the organization “to ensure the adequacy, legitimacy and openness of the way they communicate” (p. 130). To achieve the ideal communication condition, Bates (1983) turns to Habermas’ theory of communicative action which involves social interactions co-ordinated through the co-operative achievements of understanding among the members of an organization:

All members of an organization should have the opportunity to speak out and criticize the arguments of other members. In doing this they all should have an equal opportunity to make known their attitudes, feelings, intentions, and interests and motives while having equal rights to issue orders and require the justification of actions and decisions of others. (p. 131).

Bates (1983) builds on Habermas’ conception of critical social theory as a way of achieving emancipation through critical self-reflection: “Such a self-formative process is marked by stages of reflection through which the dogmatic character of surpassed forms of domination and ideologies are dispelled, the pressure of the institutional framework is
sublimated, and communicative action is set free as communicative action” (Habermas, 1971, p. 55).

Researchers such as Carr and Kemmis (1986) are part of a growing movement to extend the professionalism of teachers by providing them with opportunities to engage in curriculum theorizing and educational research. The authors’ research focuses on the involvement of teachers in their own research, that is, action research. They turn to Habermas in an attempt to “develop a philosophical position within which an adequate account of theory, research and practice can emerge and a view of the teaching profession as a critical community can be justified” (Carr and Kemmis, 1986, p. 3). Their work identifies critical theory as the transformative form of inquiry needed to do so. They present an argument for a view of educational research as critical analysis directed at the transformation of educational practices, the educational understandings and educational values of those involved in the process, and the social and institutional structures which provide frameworks for their action. In this sense, a critical educational science is not research on or about education, it is research in and for education. (Carr and Kemmis, 1986, p. 156)

In so doing, they describe a concrete and practical process by which this aspiration may be realized, that is, the process of collaborative action research. This process involves teachers, students, parents and school administrators in the tasks of critical analysis of their own situations with a view to transforming them in ways which will improve these situations as educational situations for students, teachers, and society. (Carr and Kemmis, 1986, p. 157)

Habermas stresses that the knowledge generated in these collaborative relationships must involve authentic understandings and contributions from dialogical participants where decisions are made by each member about appropriate courses of action. He compares this kind of ‘practical discourse’ to that transference that transpires between the psychoanalyst and his/her patient. In these situations the psychoanalyst does not have the right to make proposals for prospective action; instead the patient must make his-her own conclusions as far as his-her actions are concerned (Habermas, 1973).

Corson (1995) also relies on Habermas’ theory of communicative action to inform his own work in discourse analysis. Habermas’ communicative action or interaction “demands the removal of obstacles to communication, leading not to the better
functioning of the social system but to the creation of conditions for an unrestricted discussion and democratic resolution of practical issues" (Thompson & Held, 1982, p. 5). Additionally, Habermas believed in the strength of the argument where everyone in discussion has equal voice. Corson's (1995) interests parallel Habermas’ interest in distorted or ideological communication in social institutions whose solution to the problem lies in the “ideal speech situation.” Corson (1995) maintains that Habermas “abstracts from the nature of human language itself certain principles that people usually take for granted in any communicative situation” (p. 90). In these situations, Habermas maintains that ideal and undistorted communication is possible among speakers. Corson states that such an ideal situation is rarely available. In his own research, Corson (1995) examines approximate examples of the ideal speech situation at work. He claims that discourse analysts have raised the awareness of both researchers and practitioners about the ways in which power imbues speech in both classrooms and meetings. Such an awareness, he states, becomes a force for change.

Finally, in Louden's (1991) contribution to our understanding of reflection, he stresses the impact of biographical influences on teachers’ work. His study followed one teacher learning to teach writing and science by examining her capacity for reflection. In doing so, he builds on Habermas’ three levels of knowledge and human interests. Habermas’ theory is instrumental in developing a typology of forms and interests of reflection which allows Louden (1991) to present a rich account of teachers’ reflection. While Habermas’ original intent of presenting his theory of knowledge as transformative has been scrutinized by critics and debated, Louden (1991) skirts this issue and focuses more specifically on what he sees as its usefulness in explaining the range of interests in reflection by using Habermas’ categories as a point of departure.

As we have seen, then, Habermas’ influence is evident in the literature concerned with educational administration, school improvement, and educational change (Bates, 1983; Carr and Kemmis, 1986; Corson, 1995; Louden, 1991; Sirotnick and Oakes, 1986). Similarly, this study is informed by aspects of Habermas’ theory, yet this influence focuses primarily on a three paradigm approach in its examination of student assessment that acknowledges teachers’ shifting work and thinking using a range of knowledge paradigms. While the use of multi-paradigms is obviously not a revolutionary approach,
it is compelling and at times controversial when applied to classroom assessment and teachers’ role in the change process. The purpose for doing so is to contribute to the discussion of how teachers think about innovations and ultimately implement (or not implement) innovations.

For example, classroom assessment practices reflect a variety of epistemological and methodological assumptions where, as a result, student evaluation is perceived differently from what it was 30 years ago. The most prevalent change is the shift in the learning paradigm from a factory-model of learning to a constructivist model of learning. The change reflects a basic paradigm shift regarding beliefs about how students can best be taught since public demands temper what educators do and demand that teachers demonstrate that their efforts produce discernible student learning. Perhaps the problem can be better defined within the Ontario context as being one where classroom assessment is not as new a phenomenon as it is for our US counterparts; however, what is shifting for Ontario teachers is the changed emphasis on what teachers are expected to do. Teachers are faced with reconciling seemingly contradictory curriculum mandates with new assessment strategies that cannot, for example, be easily translated into grades for report cards. The problems that teachers face, however, are not only technical dilemmas. This study has shown that both assessment itself and the contexts within which teachers work are problematic and reflect social and political challenges as well. Multiple paradigms allow for diversity of beliefs and latitude to manoeuvre and negotiate thinking about assessment such as likely would not be possible in only one paradigm.

The following section will elaborate on Habermas’ three categories of knowledge interests regarding their influence on this study.

**Paradigms of Knowledge**

Knowledge as a form of research, as a form of learning, and as a concept, has undergone a shift in the context of educational research and learning theories. Traditional, empirical and positivist modes of research (that is, knowledge-building, inquiry) have been replaced or complemented by new forms of social-science research and inquiry that involve interpretive approaches to gaining knowledge. The source of this transition can be traced to criticisms of Weber’s conceptual rationality which was viewed as being too
dependent upon the scientific method. One of Weber's critics, Marcuse, believed that "emancipation from the contemporary form of domination (which would move individuals beyond the scientific or transmission stage of knowledge) was conditional upon a transformation in the very structure of science and technology" (cited in Thompson and Held, 1982, p. 5). Habermas rejected Marcuse's conclusion and introduced the notion of recognizing "not the possibility of a new type of science and technology, but rather the existence of another type of action: communicative action or interaction" (Thompson and Held, 1982, p. 5). Essentially, Habermas emphasized the need for human dialogue, that is, for inquiry to be a generative characteristic of change leading to more sophisticated levels of understanding.

Alternate inquiry models that go beyond traditional scientific algorithms are now possible because new epistemologies in the teacher knowledge domain exist. For example, a strand of research focuses on practical knowledge; that is, knowledge that legitimates teachers' experiences and constructed knowledge and which is rooted in constructivist learning theories. When speaking of teacher knowledge, Fenstermacher (1994) makes a distinction between practical knowledge and formal knowledge.

Teachers' professional knowledge base cannot be derived, at least entirely, from formal educational research...Uniform practices deduced from educational research or educational theories are logically impossible. (Fenstermacher, 1994, p. 232)

What emerges, according to researchers (Dunkin, 1987; Fenstermacher, 1994; Grimmett and MacKinnon, 1992; Shulman, 1986; Tom, 1984; Tom and Valli, 1990), is a new paradigm of teachers' knowledge, more complex and situational than twenty years ago that includes concepts such as strategic knowledge, personal knowledge, craft knowledge and case knowledge. This new paradigm of teachers' knowledge and inquiry is rooted in shifting learning theories and cognitive psychology from a behaviourist approach to one that emphasizes a student's active role in learning, a use of metacognitive skills and inner motivation (Ruohotie, 1994).

Knowledge is described on the one hand by Perry (1970) as evolving from an absolute view of concrete facts to more relativistic and contextual types of knowing. Absolute truth exists with certainty and is located within a scientific paradigm of knowledge. In contrast, relativistic and contextual knowledge is tentative and evolving. Openness to new
interpretations is a key element of King and Kitchener's (1994) hierarchy outlining the highest stages of reflective judgement. Knowledge is viewed by Schommer (1994) on a hierarchical continuum as an accumulation of facts or as interrelated concepts. From this perspective, on the lower end of the continuum, knowledge is discrete and consists of concrete, knowable facts while at higher levels, individuals see knowledge as relative, contingent and contextual. In contrast, a philosopher such as Habermas does not view knowledge as hierarchical, rather he views different modes of knowledge working simultaneously, complementing, and at times transcending, each other. It is this philosophical outlook that is paramount in this study.

While the scientific inquiry movement focuses on techniques of inquiry that follow a rigid algorithmic format (such as hypothesis formulation, evidence gathering, analysis, and drawing conclusions) (Borg and Gall, 1989; Massialas and Cox, 1966), new forms of inquiry eventually emerged, which allowed for a less rigid, non-linear process of knowledge-building rooted in constructivist and inquiry-based learning theories (Dewey, 1933, 1938; Piaget, 1969). Some existing forms of alternate inquiry include action-based inquiry (Carr and Kemmis, 1986; Cochran-Smith and Lytle, 1993; Dadds, 1995); narrative inquiry (Connelly and Clandinin, 1988; Goodson, 1992); reflection (Schön, 1983); teachers as transformative intellectuals (Giroux, 1985); and communicative rationality (Habermas, 1971) (see Table 1).
### Table 1
Modes of Inquiry

<table>
<thead>
<tr>
<th>Modes of Inquiry</th>
<th>Characteristics</th>
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<tbody>
<tr>
<td>Scientific Inquiry</td>
<td>• research is a systematic and methodical process of acquiring knowledge.</td>
</tr>
<tr>
<td>Technical Inquiry</td>
<td>• individuals focus and reflect on technical skills.</td>
</tr>
<tr>
<td>Teacher Researcher</td>
<td>• systematic, intentional inquiry by teachers about their own classroom work.</td>
</tr>
<tr>
<td>Logical Inquiry</td>
<td>• a problem-solving approach rather than a truth-seeking theory of inquiry that involves the individual's own experience.</td>
</tr>
<tr>
<td>Tacit-Intuitive Inquiry</td>
<td>• involves an intuitive sense of how to do things that cannot be explained in conceptual terms.</td>
</tr>
<tr>
<td>Reflection</td>
<td>• encourages teachers to abandon technical teaching approaches and use reflection to improve practices.</td>
</tr>
<tr>
<td>Narrative Inquiry</td>
<td>• teachers gain an understanding of practice by observing and reflecting upon that practice by situating practice within personal experience.</td>
</tr>
<tr>
<td>Action-Research</td>
<td>• teaching is a self-reflective, experimental process in which teachers examine theories within the context of their own practice.</td>
</tr>
<tr>
<td>Teacher as Transformative Intellectual</td>
<td>• provides a theoretical basis for examining teacher practice as a form of intellectual labor opposed to defining it merely in technical terms.</td>
</tr>
<tr>
<td>Teacher as Critical Inquirer</td>
<td>• adds a dimension of critical theory to teachers' inquiry about their classroom work.</td>
</tr>
<tr>
<td>Communicative Rationality</td>
<td>• continuous dialogue as a way of reaching alternate modes of knowledge.</td>
</tr>
</tbody>
</table>

In many of these alternate forms of knowledge-building, individuals engage in a process of inquiry that doubts existing knowledge, asks questions or poses problems, and seeks solutions to them; all of which transform their current thinking through reconstruction of held beliefs. Although no one theory represents this model, it is based on several theories of constructivist, inductive, discovery or inquiry based learning. By doing so, existing beliefs are essentially challenged, forcing individuals to view their professional experiences through new and unaccustomed lenses.
A common characteristic of the modes of inquiry found in Table 1, which presents a range of modes of inquiry that span the tradition of inquiry in the social sciences and beyond, is an emphasis on dialectic thinking where individuals engage in a process of inquiry that transforms their current thinking through the reconstruction of previously held beliefs. By doing so, existing beliefs are essentially challenged, forcing individuals to look at their work and life experiences through new lenses. Paul's (1984) notion of dialectical thinking has been an important influence in establishing new paradigms of inquiry. An advocate of critical thinking, Paul (1984) did not believe that inquiry could be reduced to a linear style of thinking. Instead, in dialectic thinking, individuals move among different criteria or lines of reasoning, modifying or reinforcing their thinking as a result of the views of others, as well as by the reexamination of their own intuition, beliefs and supporting evidence. Through discussion, weighing of, and the consideration, but not necessarily the adoption, of opposing views, individuals arrive at conclusions not by means of a formula but through a natural, reflective and reciprocal unfolding of ideas. Many of the forms of inquiry found in Table 1 not only challenge the traditional methods and procedures of the scientific paradigm, but they also acknowledge the legitimacy of previously silenced voices and the worth of other forms of experience and praxis, forcing educators to look at life in organizations through unaccustomed lenses.

Habermas' Three Levels of Knowledge and Human Interests

Habermas' three categories of knowledge provides a paradigmatic framework with which to explore varied modes of inquiry for the purposes of knowledge building (see Figure 1). As we can see, Habermas' framework is instrumental in guiding the placement of these modes of inquiry paradigmatically. For example, the technical interest includes the following modes of inquiry: scientific, technical and teacher researcher. Similarly, the practical interest incorporates the following modes of inquiry: logical, tacit-intuitive, reflective and narrative inquiry. Finally, the emancipatory knowledge interest includes: action research, teacher as critical researcher, teacher as transformative intellectual and communicative rationality.
Technical Interest

Habermas' technical interest, has an "orientation towards controlling and managing the environment" (Grundy, 1987, p. 11). This interest embodies the more positivist epistemology which "emphasizes generalizations and rules, attempting to specify a direct connection between knowledge and practice" (Tom and Valli, 1990, cited in Ruohotie and Grimmett, 1996, p. 241). According to Habermas, individuals with technical interests function as social engineers concerned with the technical implications of a task. Classrooms, in which technical interests predominate, display...
Under the slogans of technical efficiency and effectiveness which mark out the technical-rational view of educational processes, in-service courses have become predominantly shortburst, ‘quick-fix’ one-day events concerned with curriculum implementation. These quick fixes are premised upon the technical-rationalist assumption that the techniques by which the problems of teaching are to be solved are universally applicable to any teaching and learning context: to any child, by any teacher, in any school whatsoever. (p. 84)

Applied to assessment, the technical interest focuses on issues of teacher acquisition of new assessment techniques. Classroom assessment becomes a technology requiring sophisticated expertise in, for example, devising valid and reliable measures for performance-based assessments in classrooms to capture the complexities of student performance (Torrance, 1994). Implementing new assessment further entails developing defensible strategies; obtaining the understandings and skills necessary to integrate assessment techniques such as performance-based assessment, portfolios and self-assessment into their practice; and changing or expanding their views about the purpose of assessment.

Technical knowledge, also known as formal knowledge, propositional knowledge, or received knowledge (Belenky et al., 1986), is generally treated outside of a situation or context. This knowledge encompasses facts that are widely accepted and situated within the scientific paradigm. Propositional or formal knowledge for teachers might include the following: knowledge of subject matter, conceptions about its nature, and how students learn the subject matter. Subject matter knowledge is concerned with how teachers learn to teach subjects (Grossman, Wilson and Shulman, 1989; Wilson, Shulman and Richert, 1987). This form of knowledge consists of three main categories: (a) subject-matter content knowledge, which refers to the facts and principles of the discipline, how these are organized within the discipline, and how they are generated and tested; (b) pedagogical content knowledge which refers to the body of knowledge that enables a particular content to be taught to students through analogies, illustrations and examples; and (c) curricular knowledge, which refers to the teacher’s familiarity and understanding of the materials that are available (Shulman, 1987). When viewing propositional knowledge in terms of paradigmatic knowledge, it fits best into a paradigm of scientific knowledge.
The question then arises, “What does formal knowledge mean in terms of the requirements necessary for efficient, productive assessment?” Similar to the type of pedagogical knowledge that relies on subject-matter knowledge, a knowledge of formal assessment practices would probably focus on the basic philosophical principles of classroom assessment, how these are organized, and how they are applied in the classroom. There is debate concerning what type of knowledge teachers require to be ‘assessment literate.’ Assessment literacy according to Stiggins (1991), means understanding what it takes to produce high-quality achievement data and to evaluate these data critically. This understanding requires having the tools, skills and knowledge to be a critical consumer of assessment data. If this knowledge is not present, individuals “accept achievement data at face value and can easily be intimidated by apparently technical information and by a complicated presentation of test scores” (Stiggins, 1991, p. 535). Teachers with knowledge of assessment are in a position to ask the essential questions: “What does this assessment tell students about the achievement outcomes? What is the effect of this assessment on students?” More specifically, when teachers have the fundamental assessment knowledge to answer these questions, they are able to use assessment methods selectively to reflect precisely defined achievement targets; they are able to (and understand the benefit of) sample performance fully; they are aware of extraneous factors that can interfere with assessment results; and they know when the results are in a form that they understand and can use (Stiggins, 1991).

Teachers must also have formal knowledge of the subjects they teach. In other words, they must understand the full range of potential student achievement targets that include subject-matter knowledge to be learned; thinking skills to be demonstrated; desired behaviours to be exhibited; and products with specific attributes to be created (Stiggins, 1991). Teachers with a formal knowledge of assessment should be able to demonstrate the use of three main categories of assessment methods to assess student achievement: paper-and-pencil assessments, performance assessments (which include observations and authentic assessment) and communication or dialogue with students (Stiggins, 1991). Teachers who have a grasp of formal assessment knowledge or the principles of assessment know how to meet specific standards of quality; know where assessment originates from; use assessment that reflects appropriate achievement targets;
and anticipate sources of bias and distortion (for example, socio-economic, environment, anxiety, student background) (Stiggins, 1995).

The other side of the debate, however, is that teachers' assessment practices are often based on their own heuristic beliefs about teaching and learning. Formal assessment knowledge is no longer confined to narrow definitions of assessment that include large-scale, standardized, paper-and-pencil formats as depicted by Stiggins (1991) or to the data teachers collect for ascertaining achievement. Wilson (1996) argues that there exists evidence that teachers' routines are not consistent with the highly structured objective practices endorsed by certain segments of the educational evaluation community. In other words, it is legitimate for teachers to make assessment decisions based on many factors, only some of which are related to the formal principles of measurement. He attributes this alternative approach for gaining assessment literacy to the competing forces that are part of the assessment process such as expectations of the system; the contexts of teachers' schools and classrooms; the needs, interests and abilities of the students; and the values and constructs teachers carry with them concerning teaching and learning. Wilson (1999) maintains that the principles of reliable, valid and useful measurement may be applicable only to the extent that they work in consort with these mediating factors.

He states that not much is understood about the processes teachers use to make judgements about student achievement. The observations that teachers make involve data gathering and interpretations in dynamic, interactive situations. Teachers record a large measure of trust in their ability to make early and valid judgements about students' abilities and potential performance. These are easy to create and difficult to change. Individuals believe their own views are the majority and others are wrong. The impact of the situation in which behavior is displayed is underestimated. Objective evidence provided about a student's performance and clear policies about interpreting that evidence will not determine the student's grade. Teachers' beliefs about teaching and learning and the role of assessment often shape their interpretations. This throws into question attempts by school policies and policymakers to pretend that judgements about student achievement are arrived at by formal, objective means.

Perhaps these opposing viewpoints about what assessment literacy means illustrates what Earl & LeMahieu (1997) refer to as different theories of school reform
working in parallel and sometimes at cross-purposes. Stiggins (1991) seems to talk about assessment for accountability purposes while Wilson (1996) seems to talk about assessment for the purpose of giving feedback and improving the quality of teaching and learning. Earl & LeMahieu (1997) maintain that the assessment process is

neither straightforward nor rational; by definition it is judgemental; decisions and ideas about assessment practices...are often not reasoned, logical or objective. They are too closely tied to people's deeper beliefs, their fears and their aspirations (p. 158).

**Modes of Technical Inquiry**

In order to achieve the needed understanding or technical literacy to fulfil technical purposes of classroom assessment, teachers employ modes of inquiry that reflect technical concerns. The following section provides a brief description of the modes of inquiry that are considered to be technical in nature. Subsequent modes of inquiry are categorized as practical and emancipatory accordingly, corresponding to Habermas' levels of knowledge interests, (see Figure 1), and are described later in this section.

**Scientific Inquiry**

Scientific inquiry is described as a systematic and methodical process of acquiring knowledge that places primacy on outcomes largely disregarding the context of inquiry. Within the structure of positivist scientific inquiry, there exists a set of elements or commonplaces which are essential requirements of scientific inquiry. Better known as a five step description of scientific method, this structure includes: (a) recognizing the problem, (b) collecting data, (c) identifying possible answers or solutions to the problem, (c) identifying ways of testing the possible solutions, and (e) summarizing and drawing conclusions (Dewey, 1933, 1938). The original inquiry movement centred upon a predetermined problem, and the techniques of inquiry evolved into an algorithmic routine for discussing and solving problems (Massialas and Cox, 1966). Using methods of scientific inquiry that are linked with the tenets of positivistic reasoning enables neat, orderly, precise, rigorous and reliable studies of social phenomena being undertaken.
**Technical Inquiry**

Still within the positivist paradigm of knowledge, technical rationalists argue “that [the concept of] experience is too comprehensive, too holistic, and therefore, an insufficiently analytic term to permit useful inquiry” (Denzin, 1994, p. 413). Technical inquiry, therefore, focuses primarily on a technocratic orientation to technical knowledge. By doing so, teachers are looking uniquely for technique and skill acquisition. Habermas (1971) calls teachers with a technical interest social engineers, where primacy is placed on technical concerns. Zeichner (1985) states that “underlying this orientation...is a metaphor of production, a view of teaching as an applied science and a view of the teacher as primarily an executor of the laws and principles of effective teaching” (cited in Giroux, 1985, p. 377). Teachers in other words who engage in technical inquiry, are preoccupied with learning the ‘how to,’ and ‘what works,’ and with mastering the best way to teach.

At the core of the current emphasis on instrumental and pragmatic factors in school life are a number of important pedagogical assumptions. These include: a call for separation of conception from execution; the standardization of school knowledge in the interests of managing and controlling it; and the devaluation of critical, intellectual work on the part of teachers and students for the primacy of practical considerations. (Giroux, 1985, p. 377)

**Teacher as Researcher**

With its etiology in the action research paradigm, this approach of inquiry views the classroom as a laboratory where teachers and students are researchers (Stenhouse, 1975). This approach relies on teachers’ commitment to systematic questioning of their practice, to test theory in practice, and to allow other teachers to observe and discuss their work (Stenhouse, 1975).

Lytle and Cochran-Smith (1990) argue for the legitimacy of a constructed and codified knowledge base that is contributed by teacher research. Teacher research is defined as systematic, intentional, critical inquiry by teachers using journals, essays, oral inquiry processes, classroom studies, university based research and so forth (Lytle and Cochran-Smith, 1990; Stenhouse, 1975). The term systematic refers to ordered ways of gathering and recording information, of documenting experiences inside and outside of classrooms and of making some kind of written record. This term also refers to ordered
ways of recollecting, rethinking and analyzing classroom events, for which there may be only partial or unwritten records. Teacher research is an activity that is planned rather than random or even spontaneous, where research generates questions that reflect teachers' efforts to make sense of their experiences (Lytle and Cochran-Smith, 1990).

**Practical Interests**

In order to question dominant norms and to understand experiences on their own terms, a different epistemological paradigm of knowledge, or human interest (for example, practical interest), is required. These align most closely with interpretive epistemology which stresses the importance of knowledge in context (Ruohotie and Grimmett, 1994). This alternative paradigm regards the individual as “capable of intelligent problem-solving” (Miller, 1988, p. 5). What generally occurs is

...a dialogue between the [teacher] and the curriculum [text] in which the [teacher] reconstructs knowledge through the dialogue process. The transaction position focuses on problem-solving and instructional strategies that facilitate problem-solving. (Miller, 1988, p. 5)

Habermas claims that practical interests are “governed by a practical interest of furthering understanding” (cited in Bernstein, 1985, p. 9).

The practical cognitive interest exhibits a wish to abolish distortions and blockages in interactions in order to render communication open and free.... This practical cognitive interest gives rise to the...interpretive...sciences whose aim is to clarify the meaning of texts, actions, and social events in order to promote mutual understanding. (Seidman, 1994, p. 177)

Practical interests are associated with understanding the environment “so that one is able to interact with it; the practical interest is a fundamental interest in understanding the environment through interaction [that is, communication] based upon a consensual understanding of meaning” (Grundy, 1987, p. 14).

To make the category of practical interests more clear, Habermas presents an analogy about an individual with a desire to better understand history, which can only be understood from a text. When reading history texts, we may come across situations that we find difficult to understand. We are then faced with questions about meaning. This pursuit is not an interest in control, rather it shows what Habermas calls interpretive availability; that is, to conceptually make present something that is historically distant
from us while recognizing the differences with today. For Habermas this is a process of communication mediated through text—a kind of dialogical communicative relationship, but dealing with text. This interpretive approach can also be used to understand another person. Understanding another person is not necessarily about technical control. When there is an aspect of control in relations with others, Habermas identifies this as a strategic relation arising out of the technical interest in control. This is seen most dramatically in politics among people when communication (for example, a debate) is meant to have an effect or to influence or persuade. Individuals seeking the desired effect are often not concerned with truth or do not argue for the truth, but, rather, try to disturb or challenge an opponent. This practice is generally evident in political parties or social movements but also may be found in everyday life. Generally, however, Habermas maintains that understanding another person is an act of recognizing his or her individuality.

While technical interests focus on assessment strategies (for example, portfolios, self-assessment, writing folders and so forth) as technologies, practical interests focus on what each of these strategies may mean for the students and teachers who use them. More specifically, practical interests in classroom assessment disclose an interplay among points of view, values and beliefs. Seen this way, developing new assessments entails far more than technical matters of measurement and the acquisition of skills. Rather it entails establishing communication and building understanding among all those involved. What best characterizes this perspective, then, is its meaning-oriented rather than product-oriented approach that is evident in the technical interest of an innovation (Hargreaves et al. forthcoming).

Some of the assessment problems that were initially identified as technical issues of implementation also reveal much about the individuals implementing them. A practical interest in phenomena provides explanations of what innovation looks like for the participants in this context and how specific events can be better understood (House, 1979). What distinguishes this perspective from the technical perspective is how classroom assessment becomes problematic as part of the lived experiences of different people. Practical interests examine the intangible factors of innovations; that is, the context, how work is structured and life lived, how an innovation is interpreted, and how
relationships [between stakeholders] are disturbed. Meanings and values, in this perspective, become the focal points” (House, 1979, p. 28).

A more complicating aspect within a practical perspective is the way in which power and politics both enable and constrain individuals’ actions (Ryan, 2000). Ryan (2000) states that the source of conflict, when individuals’ value orientations differ, is the product of power and political processes. This perspective acknowledges that what goes on in schools is the result of negotiation among competing individuals and groups. Who gets what and does what depends on the kind of power these individuals and groups can mobilize. Cooperation when undertaking an innovation is viewed as precarious rather than automatic, usually resulting from negotiation and compromise (House, 1979). Securing the cooperation of others is often problematic since the innovation is not always in those others’ best interest. For example, the innovation may require a substantial increase in the teachers’ workload, yet the teacher may not immediately benefit from it (House, 1979).

Finally, a practical interest can offer a more realistic or direct look at life in organizations than can a technical interest, while not necessarily having more importance. In particular, this more realistic portrayal of what goes on in school provides a richer context for understanding life in the organization that a technical interest cannot (Ryan, 2000). The introduction of new assessment, in particular, is a facet of evaluation that builds on the notion of providing a more realistic understanding of student achievement. When students are engaged in authentic assessment, they are involved in real-world tasks where the assessment criteria are not hidden, abstract or mysterious. This approach calls for dialogue with and among students and includes constant re-assessment and self-assessment. Students are not, in these instances, passive recipients of the wisdom of teachers’ judgements about their learning. They are active, engaged and challenged as contributors to their own learning (Hargreaves, Earl and Schmidt, forthcoming).

As if to legitimize a knowledge that relies on teachers’ experiences and beliefs, it is what researchers call teachers’ practical knowledge that seems to be an important mediating factor alongside formal knowledge of assessment, when assessing their students. Practical knowledge, unlike propositional knowledge, is viewed within a particular context or situation or within a particular instance in time. This knowledge
reflects the interpretivist paradigm or according to Habermas, the practical knowledge interest. Two strands of research on practical knowledge prevail, presented by Elbaz (1983) and by Clandinin and Connelly (1990), that highlight teachers’ experiences and that are rooted in notions of reflective practice presented by Schön (1993); Munby et al. (1989); and Russell and Munby (1992). Each of these strands attempts to gain an improved comprehension of teachers’ practical knowledge; however, each employs different methodological approaches. For example, Elbaz (1983) places primacy on the practical skills of implementing tasks, resolving conflicts and correcting plans with instruction. Clandinin and Connelly (1990) place more emphasis on personal practical knowledge which is grounded in teachers’ past, present and future pragmatic experiences in addition to plans and actions. Through all of this, however, teachers construct and reconstruct knowledge through experience and reflection.

In the second strand, Schön (1983) goes beyond scientific inquiry and technical rationality and focuses on the problems and tasks of everyday practice. Teachers’ knowledge in this sense is not the knowledge of science, but rather, it is the knowledge of practice, where situations are confusing, messy and incapable of technical solutions. For Schön (1983), our knowing is inherently in our action. Schön (1983) introduces phrases such as knowing-in-action, reflecting-in-action, reflecting-in-practice and framing and reframing to capture this type of knowledge. Similar to practical knowledge, proponents of personal knowledge view knowing in a particular instance from a perspective or frame of reference that is focused on the individual, even if it has been influenced by external forces such as public ideas. Carter (1990) maintains that this personal knowledge is closely related to practical knowledge, the major difference being that it is more implicit than explicit. Personal knowledge, therefore, refers to the knowledge teachers use to address practical dilemmas they face in classroom situations. More specifically, teachers’ personal knowledge is used during the process of planning for and executing of teaching activities and decision making. Educational researchers who have studied this form of knowledge have done much to legitimize it within the teacher knowledge literature (for example, Clandinin, 1985; Elbaz, 1983; Johnson, 1992).

Practical knowledge, according to some scholars (Jonsen and Toulmin, 1988; Shulman, 1986b) consists also of performance knowledge (which refers to competence).
Shulman (1986) introduces strategic knowledge, which combines both propositional and practical knowledge (while placing more emphasis on the latter). He claims that strategic knowledge manifests itself as principles of practice which inform the resolution of conflict. This knowledge relies on professional judgement. By this definition, strategic knowledge appears to mediate conflicts between rules or principles that are developed out of propositional knowledge and the specific instances encountered in practice.

Another strand of research claims that teachers hold intuitive views about how students learn that guide their pedagogical and assessment practices. This knowledge is referred to as personal-practical knowledge, which is largely a constructed knowledge from an individual's personal experience. Olson and Bruner (1996) maintain that personal-practical knowledge is rooted in constructivist learning theories, advocating that individuals have a belief that learning is a process of subjective interpretation whereas teaching involves creating opportunities for the interchanges of ideas, for sharing beliefs and for investigating ideas that reflect the collective wisdom of a particular culture (for example, textbooks, narratives, theories, and models). From this perspective, teachers might have varied views about the role of assessment in the learning process.

The corollaries of practical knowledge include craft knowledge and local knowledge. Leinhardt (1990) explains that craft knowledge includes deep, sensitive, location-specific knowledge of teaching as well as fragmentary, superstitious and often inaccurate opinions. Grimmett and MacKinnon (1992) claim that

...craft knowledge of teaching is not substantive, subject matter knowledge.... It is a particular form of morally appropriate intelligent and sensible know-how that is constructed by teachers, holding progressive and radical educational beliefs in the context of their lived experiences and work around issues of content-related and learner-focused pedagogy. (cited in Fenstermacher, 1994, p. 33)

Situated knowledge, another form of practical knowledge, is a form of knowledge that is restricted in its range of application by place, time or context (Orton, 1993). More specifically, it is a knowledge that is proceduralized and automatic and that is used to resolve very specific problems in teaching (Leinhardt, 1990). This knowledge however, cannot always be articulated (Fenstermacher, 1994). Another knowledge that cannot always be articulated is tacit knowledge (Orton, 1993). Tacit knowledge, however, is often not even viewed as a legitimate knowledge because it lacks procedure. Rather it can
only be inferred from performance. Tacit knowledge therefore, remains an ambivalent phenomenon, and debates continue among researchers as to whether or not tacit knowledge can be considered epistemologically justified. Foucault (1972) speaks of "episteme" as meaning a systematically organized knowledge. For knowledge to be epistemologically justified it must be an operative form of knowing. In other words, when a phenomenon is treated in a certain way based on the rules, the rules determine what information will be accepted and recognized as knowledge.

For the purpose of this study, tacit knowledge is treated as a legitimate knowledge. Habermas (1971) maintains that tacit knowledge makes up much of our knowledge-base. In fact, many of our impressions are tacit. Tacit knowledge according to Habermas (1971), is a kind of knowledge or epistemology because there is a structure defining this type of knowledge; that is, principles that define or frame when tacit knowledge is being used. Accordingly, there exists a heuristic to examine whatever happened in that instance that defines the knowledge as tacit knowledge, which may include things that teachers do routinely.

Finally, embodied knowledge as introduced by Johnson (1989) is knowledge that reflects connections between the structures of our bodily experience, and what we regard as our more abstract cognitive capacities. This knowledge, Johnson (1989) claims, is central to Connelly and Clandinin's (1988) research and is developed from participating in and reflecting on action and experience. These situations are bounded by context and cannot be easily articulated. This knowledge is generally reduced to a feeling or emotion.

**Modes of Practical Inquiry**

The modes of inquiry found in the practical interest paradigm focus on examining knowledge within a context where the distinction between objective and subjective knowledge begins to blur. Inquiry moves away from the scientific and towards more intangible forms of knowledge that cannot always be articulated. Teachers begin to construct their own knowledge based on their experiences, morals, logic, emotions and intuition.
Logical Inquiry

Rooted in pragmatism, logical inquiry relies on a problem solving format while incorporating individuals' experiences in the inquiry process (Dewey, 1933, 1938). While still following a five-step model prevalent in scientific inquiry, this mode of inquiry challenges traditional views of rationality where rationality is viewed as a way of applying criteria and is closely linked to a desire for objectivity. Such rationality supports disciplined inquiry that is methodical (where criteria are specified in advance) and inquiry that has the ability to predict (that is, control some part of the world). Logical inquiry is a way of blurring the distinction between objectivity and subjectivity and is located between the interstices of the scientific and interpretivist paradigm of knowledge.

In essence logical thinking proceeds largely according to specifiable rules, "Logic, thus defined, is a rule of rightness: it tells us how we must reason in order to derive correct and ample conclusions from given premises" (Polanyi, 1962, p. 333). Polanyi (1962) continues, "When I listen to another person’s argument I appraise it in relation to the standards of correctness which I have set up by acknowledging certain rules as the rules of logic" (p. 333). Similarly, Piaget (1969) established a systematic series of appraisal points in the mental development of children. He posits that a child's reasoning employs more and more sophisticated levels of logic and shows a developmental commitment to logical rules of rightness as they develop mentally.

Tacit-Intuitive Inquiry

In the next phase of inquiry, intuition and tacit knowing are used interchangeably. Intuition has a place in both scientific and cognitive inquiry where cognitive examination or reasoning is applied to an idea which results in different outcomes depending on the mode of inquiry (that is, a scientific or an intuitive mode of inquiry) being applied:

An intuitive mode that is intellectually oriented is characteristically directed toward understanding or insight. This orientation is contrasted with analytic modes, which are product-goal oriented. Success in an analytic mode is realized in an answer: a proof, a numerical result, a sustained hypothesis, a finished poem. Success in an intuitive mode is realized in seeing, creating a picture in our minds, understanding. (Noddings and Shore, 1984, p. 80)

Within the intuitive mode, Peirce (1985) refers to affirmatory intuition as the "mark of successful completion in the personal quest for meaning" (p. 152). Peirce
(1985) maintains that the first stage in scientific or interpretive inquiry involves intuition, the development of a vision or perceptual image or what Dewey (1933) calls the idea of a situation (for example, at the initial creative stage, Mozart heard melodies in his head and Michelangelo saw figures trapped in the marble block.) Noddings and Shore (1984) note that in the visualization of a problem, individuals appear to adopt a passive role by making themselves receptive to a phenomenon and seemingly waiting for an image to appear.

In this almost passive acceptance of the phenomena, the subject loses sight of her own contribution to the intuitive process, and virtually identifies or becomes one with the object. It is as though things are accomplished through one and not by one. (Noddings and Shore, 1984, p. 55)

Not every idea that originates as intuition, however, is valid; ideas may just pop into our heads, yet these ideas may not merit further examination. They also may not even be accurate. Peirce (1985) advocates that all instinctive insights should be carefully scrutinized before accepting them for further examination.

Similar to van Manen’s (1995) pedagogical tact, tacit knowledge and intuition is comprised of skills teachers develop where they know inherently in any given moment how to deal with situations. Intuition is usually characterized by a combination of perceptiveness, insight and feelings, as well as cognition. Most teachers develop a repertoire of strategies to resolve daily problems which help them cope with the complexities of teaching (Day, 1999). Such repertoires are often referred to as routines that reflect methodological work patterns; intuitive responses to classroom situations and events; and assumptions which are governed by intrinsic judgements and subliminal knowledge that defines practice (Polanyi, 1967; Yinger, 1979). Habermas describes tacit knowledge as our knowledge of everyday life where certain things are taken for granted. This type of knowledge is not usually conscious knowledge. In other words, we often do not know we are doing something intuitively.

**Reflection**

I struggled with remaining pure to the notion of inquiry for the purpose of this study and felt compelled to exclude the notion of reflection. However, in my research reading, I came across statements that were extremely powerful, arguing for the
importance of reflection within the inquiry process. For example, Day (1999) maintains that reflection lies at the heart of inquiry. He qualifies this statement by saying:

...while [reflection] is a necessary condition it is not sufficient in itself.... In the broadest sense, teachers who reflect in, on and about their actions are engaging in inquiry which is aimed not only at understanding themselves better as teachers but also at improving their teaching. (p. 22)

While reflection is not intended to be a huge component of this study, it has been included here as part of the inquiry process which should not be ignored.

Day (1999) suggests that the notion of the reflective practitioner that has arisen out of theories posited by such scholars as Schöll (1983) have gained in popularity with teachers. Reflective practice, has become synonymous with professional practice. The most popular notions of reflection are derivatives of Dewey’s (1933) perspective on critical inquiry and how that relates to practice. Dewey (1933) suggests that reflective thinking consists of two stages:

1. a state of doubt, hesitation, perplexity, mental difficulty, in which thinking originates, and
2. an act of searching, hunting, inquiring, to find materials that will resolve the doubt, settle and dispose of the perplexity. (p. 12)

Since Schöll’s (1983) research, reflective thinking has received more and more attention in teacher education programs, yet reflective teaching itself has not been well-defined. Grimmett and Erikson (1988) present reflective practice as a way of describing and developing skilled and thoughtful judgement in teaching. Schöll (1983) claims that the heart of reflection is the capacity to exercise discretionary judgement in situations of unavoidable uncertainty. Other researchers describe reflection as a process of critical thinking and learning, both of which are processes that can lead to self-development (Peters, 1991). Hannay (1994) concurs with this previous view stating that reflection is a naturally occurring process through which individuals organize personal and professional concerns. Finally, Osterman (1991) views reflection as a professional development process, which moves beyond imparting knowledge into actually creating active change. Teachers in large part have begun to move beyond the more technical aspects of reflection regarding the details of classroom judgement towards more critical reflection about action and about the social conditions and consequences of one’s actions as a

This contemporary attention to reflective practice can be attributed primarily to the efforts of Zeichner (1991) and Cruickshank (1981). Both advocate the development of reflective teachers and have produced practical programs to facilitate the achievement of this goal. However, their approaches differ markedly and both have actually disassociated themselves from each other's concept of reflective teaching. For instance, Cruickshank (1981) makes reference to Dewey's (1933) work, acknowledging the need to make teachers thoughtful and alert in their practice. Cruickshank (1981) dichotomizes subject matter and teaching method and reflection. In contrast, Zeichner (1991) defines reflection as an integration of attitudes and skills in the methods of inquiry. For Zeichner, reflection at the classroom level includes consideration of ethical, moral, political and critical orientations. Other outlooks include Van Manen's (1977) model in which reflective growth is sequential and requires that the individual move through stages. Grimmett's (1989) and Louden's (1991) models are closer to Habermas' theory of knowledge that suggests practitioners operate at any reflective level depending on purpose. Schön (1983) has written a seminal work about reflection that describes what he calls reflection-in-action and reflection-on-action, which he presents as reflective approaches enabling individuals to reinterpret and reframe their work. Russell and Munby (1992) describe the notion of reframing as a process whereby teachers view a difficult or problematic situation or event differently after reflecting upon it. They maintain that reframing is not always a logical process and at times is spontaneous and even beyond our conscious control. Overall, we see that reflective processes differ in purpose and method.

Reflection-in-Practice

Reflection-in-practice refers to the process of decision-making by teachers while actively engaged in teaching. In this capacity, reflection is usually a conscious effort, although it is not limited to being articulated in words. A critical function of the reflection process is the questioning of certain assumptions that structure our actions. Teachers develop a capacity to think critically about not just the action that is in question but also about the thinking that led to this action. By doing so, teachers are likely to begin
restructuring strategies of action, understandings of phenomena or ways of framing problems. Finally, a significant characteristic of the reflective practitioner and perhaps what distinguishes Schön's (1983) reflective method from others is that teachers actually experiment in the classroom with these new strategies in order to test their new-found understanding of a situation.

Criticisms directed to this form of reflection emphasize that reflection-in-action does not necessarily account for the context in which teachers work (for example, school structures, timetable, classroom situations and so forth) (Eraut, 1994). Day (1999) argues that time is a viable limitation for the opportunity and success of reflection since the schedule required for reflection-in-action may vary, depending on such things as class composition, pedagogical strategies, and student behaviour. Finally, teachers may reflect on old patterns of solving problems rather than taking the time to define or reframe a situation to look for new strategies. (Day, 1999)

*Reflection-on-Action*

The principle distinction between reflection-in-action and reflection-on-action may exist in the practice of reflection that occurs both prior to and following the action. Teachers have adequate opportunity to incorporate new learnings from this reflection systematically into their plans for further teaching and learning. Unlike reflection-in-action, this other form of reflection introduces an important component of talking with others about their practice (Schön, 1983).

*Narrative Inquiry*

In narrative inquiry, teachers gain understanding of practice by both observing and reflecting upon that practice and by situating practice within personal experience. This knowledge usually manifests itself as insights, awareness, understanding, recollections, predictions and anticipations (Fenstermacher, 1994). Although practical knowledge is refuted by some as an epistemology altogether, other researchers state that if the ideas, conceptions, images or perspectives that teachers generate in their practice can be justified, in an epistemic status sense of knowledge, with reasons or evidence, then this knowledge can be deemed legitimate (Fenstermacher, 1994). A major contributor to the concept of narrative inquiry is Clandinin (1986), who maintains that while teachers
are acknowledged to have experiences, these experiences are rarely seen as valued or crucial knowledge. She suggests that this omission in the traditional literature on teacher thinking is due to the lack of existing conceptual thinking modes relating to practical knowledge (Fenstermacher, 1994). Narrative inquiry (Connelly and Clandinin, 1990) relies on teachers arriving at a better understanding of themselves and their practice through a process of telling their experiential, professional and personal story through interviewing, diaries and journals and the use of metaphors and images (Clandinin, 1986; Lakoff and Johnston, 1980). Narrative inquiry can be both cognitively challenging and emotionally vibrant. It is a form of introspection that relies on peer criticism or reinforcement and collegial dialogue as well as reflecting on practice after the fact.

**Emancipatory Interest**

In the paradigm of emancipatory interest, concern for individual growth as well as for social change is considered crucial (Miller, 1988). An emancipatory analysis of knowledge "identifies unnecessary internal (for example, psychological) and external (for example, social or environmental) constraints on human action in a specific context with the hope that such awareness will promote autonomy" (Seidman, 1994, p. 177). Inquiry in the best sense, especially in the social sciences, should lead to processes of self-reflection. Emancipation has a strong orientation toward equality, autonomy and participation of all in the establishment of social knowledge. In the processes of enlightenment, there are only participants. So through this process, the expert becomes a participant. Therefore the question remains: "Who is an expert?" According to Habermas, an expert can be a child-student in certain things. In this perspective, teachers are not only encouraged to take an emancipatory role in their classrooms themselves but to encourage their students to do so also (Carr and Kemmis, 1986; Liston and Zeichner, 1991; Tabachnick and Zeichner, 1991). Such roles lead teachers to develop a critical, participatory culture of inquiry; use their voice; participate in educational debates; and continually reflect on their practice (Zeichner and Tabachnick, 1991). Critical theory shows that

...there has been a shift from positivistic epistemology to a more responsible and autonomous position in education. From the positivistic viewpoint, the teachers' responsibility is transferred to educational authorities and experts and
is dependent on their advice and supervision. Critical theory emphasizes teachers' active role and invites teachers to [engage in] critical awareness and action. (Ruhotie, 1996, p. 241)

Often what happens in schools is ultimately associated with power relationships that extend far beyond schools themselves. These larger influences establish conditions that are often challenging for certain groups or individuals. The students who belong to these groups routinely do poorly as a result of wider relationships of power (Ryan, 2000). To illustrate this point, the historical practice of student assessment has been to categorize and select students by allocating credentials (for example, diplomas) for students' achievements. The teachers' role (intended or not) has traditionally been one of having 'power-over' students (Greene, 1995) when evaluating and credentialing student achievements. Power, in this sense, may often appear to be debilitating for certain groups or individuals. However, as considered from the emancipatory perspective, power is not always negative (that is, something that constrains or oppresses). Power can also be positive, particularly when teachers work with their students, implementing power-with stratagems in assessment (Foucault, 1980; Greene, 1995). Emancipatory interests speak of empowerment by encouraging students to take control of their own learning in autonomous and responsible ways. Emancipatory interests are defined as "a fundamental interest in emancipation and empowerment to engage in autonomous action arising out of authentic, critical insights into the social construction of human society" (Grundy, 1987, p. 19).

An emancipatory interest often challenges teachers to transform the pedagogical into the political; teachers using their own critical reflection become a fundamental part of their assessment practices (Freire, 1985). In this sense, the emancipatory lens may be viewed as a catalyst for liberation as well as a synthesizing agent for what comes out of both the technical and practical paradigms. By politicizing their assessment practice, teachers may come to realize that they have the 'power to interrupt' traditional assessment practices and employ the 'power to begin' (Greene, 1995) stratagem, thus identifying new ways of assessing that empower students. Teachers' classroom political activities might include the selection of certain curriculum knowledge to be assessed or the acknowledgment of gender as well as class and race as variables in their assessment practices. Through emancipatory interests, teachers can challenge assumptions that
categorize technical and political activities as mutually exclusive phenomena; that the classroom cannot be a political domain; and that the concept of power is to be understood in only two ways: as power exercised over others and as the absence of power over others. An examination of the politics of assessment suggests that there is another coefficient of power: power-with. This characterizes power as an expanding, renewable resource available through partnership, dialogue and cooperation (Greene, 2000). For example, the process of constructing the curriculum is a power struggle in which teachers play an active role. While most teachers today generally do not have the autonomy to officially determine the curriculum, they do, to varying degrees, choose to accommodate, resist or create alternatives to the curriculum determined by others. The curriculum that teachers present to students sometimes challenges the ideologies and actions of policy makers.

While the emancipatory perspective in its attempts to achieve certain ends is like technical interests, it takes into consideration more value-laden issues on wider social concerns rather than narrow organizational goals. Ryan (2000) maintains that implementation of innovations from an emancipatory interest includes measures that will combat the negative aspects of these social issues which might include racism, anti-Semitism, homophobia, sexism, ageism, political oppression and various other forms of exploitation. From this perspective, for example, individuals are encouraged to recognize and understand unfair practices. An interest in this perspective, as a form of knowledge, includes systematic efforts to critique the status quo (Smyth, 1989). The prime purpose of this perspective then, is to be educative, political and critical in nature. While practical interests focus on revealing and describing conflicts, these interests do not have the capacity to resolve conflicts. Rather emancipatory interests set out to resolve conflict in defense of the powerless and disenfranchised. For Habermas, the emancipatory interest is based on the idea of freeing oneself from illusions.

An emancipatory interest is more radical in its outlook than the previous two interests. This perspective considers teachers' understanding of assessment that go beyond conventions, the status quo and technical matters. It requires teachers to not only understand assessment from the perspective of others, as was seen from the practical, but
to also dialogically talk with each other about the process (inside and outside the profession).

Habermas emphasizes the necessity of ongoing human dialogue as a generative characteristic of change and as a way of reaching other modes of consciousness. In developing the concept of what he called communicative rationality, Habermas draws heavily upon the work of Peirce (1985) and Dewey (1933) and their vision of a participatory democracy. He posits that when a disagreement occurs over a specific issue, a process of dialogue is required to resolve it, where no form of domination can exist other than the force of the argument itself. Dialogical encounters such as these also provide individuals with an increased sense of personal freedom in a variety of settings (for example, within the organization). Emancipatory interests also challenge those approaches of assessment that marginalize groups or individuals by giving voice (and visibility) to multiple representations of student learning (Hargreaves, Earl and Schmidt, forthcoming). In this sense, an emancipatory assessment system entails "multiple forms of representation of students' achievement through narrative, descriptive, numerical, oral, visual, technological or dramatic media, that embody a mixture of styles, and that are collected in a diverse portfolio of activity and achievement" (Hargreaves et al., forthcoming). Hierarchical distinctions of worth, as made most evident in paper and pencil tests, are diminished or eliminated when using new assessment approaches. Students' work is seen through multiple perspectives that acknowledge the complexity of their abilities and identities (Hargreaves, Earl and Schmidt, forthcoming). Such a system of assessment empowers by involving the students in the process of assessment and in determining how the products of assessment might be compiled and used. Such student involvement is not just an act of empowerment but also a way for teachers to acknowledge that they cannot know their students in any complete sense. They may not even begin to know them without having access to the self-understanding of students themselves. The struggle for knowledge about students is no longer something that depends only on the technical judgement of the teacher. Instead, various people continually dialogue with students about their learning and achievement. Such conversations invite a wide range of involvement with the community including people
from business, parents, teachers and students engaging in conversations centred around the student's work (for example, portfolios) (Earl and LeMahieu, 1997).

An emancipatory interest attempts to make classroom assessment criteria transparent, accessible and contestable; criteria that are known to students and often developed collaboratively with them so that a better understanding can be developed with classroom power redistributed; assessment judgements as acts of explicit negotiation among all those involved; and assessment processes that involve students, teachers and parents (Hargreaves, Earl and Schmidt, forthcoming). The potential of new assessment strategies in this study becomes apparent when teachers invite self-evaluation.

Most importantly, for Habermas, emancipation does not stand for freedom from economic misery and suffering, rather, Habermas redefines emancipation on the basis of his assumption that domination is linguistically, rather than economically, determined. Habermas is committed to the full attainment of rationality which stands for a high degree of communicative competence. He stresses that the apprehension of the undistorted structure of communication alone, or, of the ideal of language (that is, the ideal speech situation), makes emancipation possible. He claims that due to the domination of scientific reason there exists only distorted and subverted communication in which a critical perspective is difficult to attain. He maintains that the language of scientific rationality promotes one-dimensional thought and through critical reflection emancipation can be actualized.

**Modes of Emancipatory Inquiry**

The modes of inquiry in this paradigm provide a forum for teachers to gain a better understanding of their practice and to examine these practices critically by first engaging in inquiry as a social practice and secondly, by identifying, challenging and testing assumptions which are often based on accepted traditions and habitual patterns against teachers' own experiences, understanding and contexts.

**Action Research**

Action research has existed as a coherent movement since the 1940s and has had two purposes: to simultaneously contribute to social science and social change. The underlying principle for both of these purposes has been to involve those affected by the
social change as active participants at all stages of the planning, observation and reflection of the change (Carson, 1987). The principles behind action research have evolved from a positivistic view of social science interested in developing laws with which to govern social life; to a practical-pragmatic view of social science interested in participants' understandings in situational case studies; and finally, to a form of research that appeals to a conception of social science informed by critical theory (Carson, 1987).

In a practical sense, action research provides a forum for teachers themselves as researchers. Described by Carr and Kemmis (1986) as a systematic form of inquiry, teachers attempt to gain a better understanding of their practice and of the situations in which these practices are carried out. In doing the research, teachers collect empirical data to develop hypotheses or conclusions from their research. Teachers are often encouraged to start with a classroom problem that they intuitively have a solution for and to explore the validity of these insights. One of the advantages of action research is that it can be easily adapted to suit the beginning teacher or become complex and sophisticated enough to meet experienced teachers' criteria. The most important prerequisites for action research is the support of the school environment and teachers' own enthusiasm for reflecting on their individual practice.

Criticisms are that the systematic, collaborative and critical features of action research result in a form of practice that is foreign to the teacher's style and which is not amenable to daily work exigencies and complexities (Doyle, 1986; Jackson, 1968). Other criticisms include those where action research has gained a reputation for being a panacea by allegedly closing the theory and practice gap:

[Action research] seems to promise a utopia of relevant research and thoughtful practices if only there is sufficient willingness on the part of professional educational researchers and academics to help teachers do research and develop corresponding trust in teachers that they can conduct research in their own classrooms. (Carson, 1987, p. 1)

**Teacher as Critical Inquirer**

Teachers as critical thinkers highlight their capacity to identify and challenge assumptions. This mode of inquiry is perhaps one of the more problematic and may be the rarest mode to attain. Generally what occurs is that assumptions, which are often based on accepted traditions and habitual patterns, are tested against teachers' own
experiences, understanding and contexts. Critical thinking encourages teachers to explore alternatives that challenge the status quo. In doing so, teachers create professional narratives that consist of a repertoire of actions, decisions, and choices, through reflection, critical thought and dialogical relations (Clandinin, 1986; Cochran and Laub, 1994).

Piaget’s (1969) four stages of learning describe the development of various levels of critical inquiry. In stages one and two, children begin to create mental constructs for their world, and begin to interact with the environment by creating mental patterns (for example, blueprints or maps), and to organize that learning; in stage three, previous mental constructs are rebuilt since many of them no longer work, (many individuals never grow beyond this stage since they use these same blueprints repeatedly to solve new problems); and in the final stage, individuals learn to deal with abstractions and to create new blueprints or maps. It is during this final stage that the capacity for critical inquiry occurs since the learner begins to take risks and learns to relinquish earlier conceptual blueprints that have become obsolescent. During this stage, learners experience feelings of ambiguity and uncertainty, but it is this very feeling of discomfort that Meyer (1986) states, “forces a learner to make cognitive changes....Disequilibrium leads to growth...the learner is learning to think critically. Only when we fail to make sense of the world because we are applying the wrong blueprint will we grow by building new blueprints for organizing learning” (p. 30). Teachers for example, in inquiry teaching, provoke disequilibrium so that the student is encouraged to develop a new blueprint. Usually the student will be uncomfortable and will resist. While this is normal, the student works with data and creates a new blueprint while at the same time suddenly realizing that all of his or her observations and logic are leading him or her to disavow and reject an old belief. It can be frightening! Meyer (1986) points out the very emotional nature of critical inquiry:

One reason that reconstructing thinking processes can be painful is that structures of thought are not merely matters of dispassionate cognition. They are also highly personal and emotional, involving cherished values and beliefs.... It can thus become a very emotion-laden process. (p.15)

Critical thinking, as part of Habermas’ emancipatory paradigm of knowledge interests, involves conscious action in the face of struggle or in situations where things
must be a certain way. Sumner (1959) maintains that when knowledge is arrived at critically, there is no fail-safe, technical path to follow. Problems are not viewed technically as a movement from an initial state through a series of transformations (or operations) to a final (answering) state. In other words, critical thinking cannot be reduced to an operational procedure. Once into the ebb and flow of mundane life, into its messy criss-crossing of categories, values and points of view, its inevitable blending of the intellectual, the affective, and the moral, its embodying of irrationality in social practices and beliefs, there is little room for the neat and abstract procedures of technical reason. What is called for is dialogic, point-counter-point, argument for and argument against, scrutiny of individual event against the background of this or that global “totalizing” of it into one’s life. What is called for is liberating emancipatory reason, the ability to reason across, between and beyond the neatly marshaled data of any given technical domain...It must consider how this, or that situation might be handled if we looked at it this way, or how if we looked at it that way, of what follows from this construal and what from that, of what objection can be raised to this and what objection to that. (Paul, 1984, p. 12)

Freire (1990) maintains that “every human being is capable of looking critically at his [her] world in a dialogical encounter with others, and that, provided with the proper tools for such an encounter, [s]he can gradually perceive his[-her] personal and social reality and deal critically with it” (p.12). In other words, by transforming one’s own world and challenging existing beliefs, one is able to participate positively, yet critically and dialogically, in the transformation of change (Freire, 1990).

**Teacher as Transformative Intellectual**

This mode of inquiry relies, perhaps more than the others, on a whole school implementation of critical awareness and advocates for teachers as transformative intellectuals. These teachers combine scholarly reflection and practice in the service of educating students to be thoughtful, active citizens. As an ideology, this mode of inquiry emphasizes reflection on, and the questioning of, the principles underlying different classroom methods, research techniques and theories of learning and of education. In other words, teachers are encouraged in their practice to ask the ‘why’ questions. Teachers need to question feelings, assumptions or definitions; they need to address educational and ethical implications; they must be concerned with stimulating or nurturing their students’ intrinsic desire to learn. This mode of inquiry “provides a
theoretical basis for examining teacher work as a form of intellectual labor, as opposed to defining it in purely instrumental or technical terms” (Giroux, 1985, p. 378). Giroux (1985) argues against the deskilling of teaching because it reduces teachers to being specialized technicians. He advocates that teachers develop critically appropriate curricula to fit specific pedagogical concerns.

Central to Giroux’s (1995) notion of the transformative intellectual is the necessity of making the pedagogical more political and the political more pedagogical. Within the former perspective, critical reflection and action become part of a social justice agenda which helps students overcome economic, political and social injustices. In the latter perspective, that is, making the political more pedagogical, it means using instruction and assessment strategies that treat students as critical agents, that make knowledge problematic and that utilizes critical and affirming dialogue. Transformative intellectuals give students an active voice in their learning experience. It also means developing a critical approach to teaching that is sensitive to problems and experiences connected to classroom practice. In this way, teachers must acknowledge students’ varied cultural, class, racial, historical and gender backgrounds.

Communicative Rationality

Habermas’ (1970) concept of communicative rationality is the final mode of inquiry presented in this section. Inquiry, in this context, relies not only on professional or expert competence but also becomes a social practice including all members of society, not merely experts. For Habermas, inquiry occurs within the context of a community of inquirers. A willingness to give reasons for one’s views, as well as a willingness to change one’s views in the light of reasons presented by others, is a prerequisite for inquiry. Habermas indicates that inquiry involves not merely a willingness to accept objective evidence about the facts of a case, but also to accept reasons as good reasons. Habermas appreciates the value of empirically tested skills and techniques, but he recognizes that these must be complemented by a theory of inquiry that allows for more interpretive and critical dimensions in addition to tolerance of other arguments. This theory of inquiry seeks sound, argued justifications rather than passive acceptance for current views and practices. Inquiry of this kind is appreciative of a diversity of views, but recognizes the value of such diversity and plurality as a means of
further growth in mutually agreed understandings rather than taking diversity and plurality as dogmatic principles and as ends in themselves.

**Classroom Assessment**

Just as inquiry and knowledge can be conceptualized and classified to fit different paradigms, so can assessment and its application in classroom practice. Classroom assessment practices reflect a variety of epistemological assumptions underlying student evaluation where evaluation is perceived differently from what it was 30 years ago. At the epistemological and methodological levels the changes that have occurred are so pronounced that several researchers (Earl, 1995; Ryan and Miyasaka, 1995) report a paradigm shift in educational evaluation. The latter part of this decade has seen a renewed interest in new assessment strategies in the literature as well as in practice. In Ontario, specifically, *The Common Curriculum: Policy, 1995*, advocated the use of a variety of assessment strategies operating concurrently with instruction. More importantly, however, contemporary classroom assessment reflects a shift in the learning paradigm from a factory-model of learning to a model of constructivism (Shepard, 1991).

The change reflects a shift in “basic beliefs about what students should learn and how they can best be taught, tempered by public demands that educators explain what they are doing and demonstrate that their efforts produce discernible student learning” (Ryan and Miyasaka, 1995, p. 1). While classroom assessment in Ontario has commonly been a teacher directed activity, assessment in other parts of the world is increasingly viewed as an integral part on the teaching-learning continuum (Baratz-Snowden, et al., 1993; Ryan and Miyasaka, 1995). It has become an activity that has advanced far beyond its original “decontextualized, objective process” of providing accountability “from which the influence of teachers should be removed” to a process that relies on teachers “as the central and most important assessors in the lives of students”—one in which “assessment is seen as one of the important tools teachers use to facilitate learning” (Ryan and Miyasaka, 1995, p. 10). Therefore assessment of students’ knowledge requires students to demonstrate their knowledge in the context it was first perceived (Wiggins, 1993). It “make[s] better sense to think of understanding as being more like good judgement or a disposition than the possession of information” (Wiggins, 1993, p. 202).
Wiggins (1993) argues that “potential harm of our current tests is that we are not preparing students for real, messy uses of knowledge in context--the doing’ of a subject” (p. 202). In addition, studies show assessment is important in defining the attitude students take towards their work, “their sense of ownership and control of their own learning and the strategies they employ in learning and their confidence and self-esteem” (Broadfoot, 1996, p. 41).

There is evidence among educators for the promotion rather than the inhibition of learning (Broadfoot, 1996). This new assessment agenda has been the impetus for new types of assessment. New purposes of classroom assessment characterize teachers’ varied dilemmas. Assessments such as performance assessments tend to be complex and ambiguous in an attempt to maximize student response. Such approaches assess more than right or wrong answers. The test maker’s dilemma, then, when designing such assessments, is to maintain precise indicators of achievement. On the other hand, the advantage is that teachers are able to determine whether students have the capacity to use wisely what they know. Such a judgement can only be made when students perform in highly contextualized situation. Wiggins (1993) argues that “to assume that tests should assess whether all students everywhere have the same knowledge is to short-circuit a vital educational dialogue in a pluralistic and diverse society” (p. 202).

Although interest in new assessment strategies has been increasing during this past decade, assessment reform has impacted Ontario differently than other countries. Classroom assessment has always been an important component of Ontario teachers’ work. Teachers typically were in charge of their students’ achievement:

Ontario has never had a tradition of standardized testing. Until very recently, the province has not had a large-scale assessment programme at all. There were no central examinations (in recent history) and no standardized tests. Since 1986, the province had undertaken assessments in a sample of schools in different subject areas and grade levels each year. The first census assessment took place in 1993-94. This was a performance assessment in grade 9 reading-writing. A two-week, integrated reading-writing-mathematics assessment in Grade 3 has taken place in 1997. Other than this, assessment of individual students has been left to teachers in classrooms who have developed classroom assessment procedures based on guidelines in provincial curriculum documents. Unlike many other jurisdictions, classroom assessment (as compared to more standardized, school-wide or system-wide assessment) has
been recognized as being particularly important in Ontario curriculum guidelines. (Hargreaves et al., 1997, p. 10)

What is shifting for these teachers, then, is not so much the introduction of classroom assessment as a new phenomenon, rather that, there is a changed emphasis on what teachers are expected to do. The interest in classroom assessment in the United States on the other hand, remains tempered by claims that standardized testing still has a place in education: “There is no reason to believe that objective-format standardized tests will disappear any time soon—nor should they” (Ryan and Miyasaka, 1995, p. 9).

Earl (1996) and Stiggins (1991) maintain that assessment is one of the most complex and important tasks teachers undertake in classrooms. Classroom assessment has been determined to be the most important kind of student assessment (Earl, 1996). The main purposes of classroom assessment have been identified as the following: classifying students, planning instruction, assigning grades and informing parents (Earl, 1996). Assessment for learning is a process that involves feedback and more importantly, provides a forum for students to monitor, adjust and improve their learning (Earl, 1996). Teachers, according to Earl (1996), generally do not rely on a single method of collecting assessment information about students’ achievement. Rather, teachers on the whole, use a variety of methods. These methods include the following: paper and pencil tests, performance assessments and observation (Stiggins, 1994). Studies show that teachers overwhelmingly prefer teacher-made tests in combination with project-based assignments and written assignments, and there is variability in assessment procedures across subject areas and grade levels (Anderson, 1989; Stiggins, 1994; Wilson, 1990). There also seems to be a consensus in the literature that most classroom assessment activities focus on lower-order thinking skills (for example, knowledge, recall), placing less emphasis on higher-order thinking skills or affective qualities. There is, however, little consistency among teachers as to the “content, criteria and standards used in creating assessment” (Earl, 1996, p. 214). Interestingly, many teachers are comfortable with their level of expertise (or non-expertise) and seek little further training (Earl, 1996). This may be attributed to teachers’ lack of knowledge of what high-quality achievement data look like (Stiggins, 1990). In addition, “teachers who are assessment illiterate are willing to accept
achievement data at face value and lack the tools to be critical consumers of assessment data” (Earl, 1996, p. 217).

Reporting of assessment and evaluation information is primarily used for the purposes of parent and community accountability, for the purposes of ranking students and for placing students appropriately within the school (Earl, 1996). There is concern, however, that teachers’ grading practices lack accuracy.

Academic grades are generally contaminated with other non-academic factors; the quality of the data used to form the grades is not clearly articulated and may not even be known; formative and summative data are often mixed together and the process for summarizing scores can include errors of aggregation. (cited in Earl, 1996, p. 215)

Complicating matters even further is the evidence that teachers rely on patterns of student performance that often inadvertently inform their grading procedures (Wilson, 1990).

Overall, in the past decade then, there has been increasing scholarly interest in classroom assessment with hopes for its usefulness as an instrument of school reform. There is less discussion, however, of the challenges teachers encounter when implementing new assessments in their classrooms and the consequences of these: “We cannot assume that new approaches to assessment...will be immediately understood and embraced by practitioners” (Aschbacher, 1993, p. 1). Researchers in this past decade have begun to note some of the challenges in developing and using new assessments. These include problems stemming from the relative lack of assessment literacy among educators (Stiggins, 1991) and the need for extensive teacher training in order to implement new assessments. “Classroom assessment typically is carried out by teachers whose formal training in assessment is minimal and narrow in focus” (Earl, 1996, p. 216).

We are a nation of assessment illiterates...educators and non-educators alike are not sufficiently literate in the basics of assessment to know whether or not their achievement data are sound or unsound...or to be critical consumers of assessment data. (Stiggins, 1991, p. 535)

The primary knowledge that is missing among teachers is in the area of measurement (Earl, 1996; Stiggins, 1995). Teachers’ assessment practices, as a result, lack rigour and possibly appropriateness, the impact of which can influence the achievement and self-esteem of learners (Earl, 1997; Stiggins, 1995). Broadfoot (1996)
maintains that “any kind of educational measurement can be at best only a rough estimate of particular kinds of ability” (p. 13). She continues by saying that, “even more important, however, is that variations in contextual factors produce real differences in student performance which are not just measurement errors” (p. 14). In addition, “performances vary because assessment is fundamentally an interpersonal exercise which cannot be divorced from human subjectivity” (Broadfoot, 1996, p. 14). Broadfoot, in essence, challenges the emphasis of the current research agenda on the technical aspects of assessment by arguing the fallibility of measurement. She maintains that rather than focusing on whether teachers’ assessment is accurate and efficient, the emphasis should be on “educational assessment...as much an art as it is a science; an instrument of power as much as a source of social liberation” (p. 13).

To put it another way, if only the efficiency of assessment practices is questioned—and not their purposes and effects—the debate, such as it is, will continue to center on means rather than ends. (Broadfoot, 1996, p. 14)

Finally, the implementation of new assessments demands new roles for teachers and students, and it requires a shift in thinking among educators from a focus on covering content to one of achieving outcomes (Schmidt, 2000). Teachers are increasingly having to employ a variety of assessment strategies within the classroom as mandated by curriculum policies. Earl and Cousins (1996) maintain that no single classroom assessment procedure “can possibly serve to assess all facets of learning, and since there is growing awareness that assessment should become a part of instruction that provides feedback to guide further learning, teachers are searching for ways to enhance and expand their assessment practices” (p. 24). Teachers are faced with a confusing array of assessment decisions to be made on a daily basis. Earl and Hargreaves (1997) discovered in their research that classroom assessment is one of the most important and decisive areas of teachers’ work.

The typical teacher can spend as much as a third to half of his or her professional time involved in assessment-related activities. Teachers make decisions about how to interact with their students on average at the rate of one every two to three minutes—and most of those have antecedents in an assessment of student achievement—asking questions and interpreting answers, watching students perform, examining homework assignments and using tests and quizzes, among other means. Assessment is almost continuous in many classrooms. (Stiggins, 1994, p. 11)
Earl and Hargreaves (1997) report that “teachers routinely told [us] that assessment is the hardest part of their work” (p. 46). One might conclude, then, that the process of understanding assessment and its implementation in the classroom is a difficult one.

Many new assessment devices and strategies are being constructed, but what they mean and what they will achieve for the students and teachers using them is far from clear. The current changes in classroom assessment present teachers with intriguing opportunities, confront them with great technical difficulties, and draw deeply on their intellectual and emotional energy. (Earl and Hargreaves, 1997, p. 45)

If we hope to bring new forms of assessment and instruction into schools, we need a more profound understanding of teachers’ responses (and resistances) to new assessments.
CHAPTER THREE: CONCEPTUAL FRAMEWORK

This study’s research questions extend beyond the answers that would normally be accessible from the more traditional positivist frameworks. This project provides an interpretive and critical response to modern views of knowledge-building as a feasible alternative since there has already been an established cogent challenge to the philosophical and methodological foundations of positivism within this era of postmodernity. The limitations of the modern outlook to knowledge-building have reasonable support (Bauman, 1987). By including a critical outlook, this study augments positivist notions of knowledge-building by presenting an alternative discourse. This study offers a conceptual continuum of various approaches to knowledge-building, focusing primarily on Habermas’ (1971) seminal work, Knowledge and Human Interests, which presents a contemporary philosophic base from which to begin an investigation of classroom assessment in schools. Here only certain aspects of Habermas’ theories are presented, however, since many other parts of his theories would divert us from the study’s focus. From a survey of Habermas’ works, I assembled some of his ideas and observations relevant to teachers’ practice and epistemologies of assessment as well as the modes of inquiry employed by teachers as they confront various duties and tensions that affected their assessment practice.

Habermas’ theoretical importance lies in the potential use of those theories to establish a foundation of social theory and knowledge. More specifically, Habermas’ three levels of knowledge and interest help in a close examination of the complex phenomenon of teachers’ implementation of classroom assessment.

A Rationale for Using Habermas’ Three Levels of Knowledge Interests

Habermas is renowned as a significant social philosopher and is described “as the leading social thinker in Germany today” (Thompson and Held, 1982, p. 1). Habermas’ approach to examining social phenomena and social change was unique for its time since it offered an alternate perspective of illuminating social reality, comparing that to the scientific one that prevailed at that time and was often assumed to be unalterable. In Knowledge and Human Interests Habermas describes his intent to reconstruct the history
of positivism to embrace other theories of knowledge, which include reflection and critical thinking.


I am undertaking a historically oriented attempt to reconstruct the prehistory of modern positivism with the systematic intention of analyzing the connections between knowledge and human interests. In the following the process of the dissolution of epistemology, which has left the philosophy of science in its place, one makes one’s way over abandoned stages of reflection. Retreading this path from a perspective that looks back toward the point of departure may help to recover the forgotten experience of reflection. That we disavow reflection, is positivism. (Habermas, 1971, p. ix)

Habermas argues that since the middle of the 19th century, knowledge has, to the exclusion of other paradigms, collapsed into one theory of knowledge, that is, scientific knowledge, which he claims was a mistake:


If we imagine the philosophical discussion of the modern period reconstructed as a judicial hearing, it would be deciding a single question: how is reliable knowledge possible? The term “theory of knowledge,” or “epistemology,” was coined only in the 19th century; but the subject that it retrospectively denotes is the subject of modern philosophy in general, at least until the threshold of the 19th century. The characteristic endeavor of both rationalist and empiricist thought was directed likewise at the metaphysical demarcation of the realm of objects and the logical and psychological justification of the
validity of a natural science characterized by formalized language and experiment. (Habermas, 1971, p. ix)

Habermas argues that epistemology (the theory of knowledge) can only be pursued as social theory. On this basis, he attacks positivism in its various forms. He argues that knowledge is created in communities of inquiry, guided by sets of rules of conventions for warranting propositions and theories. These sets of conventions are expressive of three anthropological foci of the human species: a technical interest in controlling the environment; a practical interest in understanding the social world; and an emancipatory interest in freedom from dogma (Young, 1989). The positivist view claims that knowledge relies on science and theory. In the scientific paradigm, the causes for phenomena can be identified by following rules and laws of reason—a set of human understandings, which are systematically employed in science. While science can teach us about cause and effect in the physical universe, Habermas argues that other kinds of knowledge might also be legitimate, and he raises the question, "If all knowledge has collapsed into scientific knowledge, what happens with critical reflection of knowledge?" Since it was very difficult to ask these questions within the positivist paradigm, Habermas resurrects the possibility of asking what is the purpose of knowledge within other paradigms of knowledge, such as the practical and emancipatory interests of knowledge. One of the answers he offers provides a place for emancipation. He explains that if one collapses all of knowledge into science then there is no room for knowledge as emancipation. That is, the critique of knowledge and the critique of reason is not possible and the process of critique is not a scientific process. Habermas therefore presents an epistemological theory that identifies three levels of knowledge to counter the belief that positivist science is our only real basis for knowledge of the world.

Levels of Knowledge and Human Interests

In *Knowledge and Human Interests*, Habermas develops a framework that recognizes three levels of knowledge. In addition, he purports that these three levels of knowledge reflect three different human interests: technical, practical and emancipatory. This framework is particularly relevant as a starting point for the current study since it does not exclude any one paradigm of knowledge building nor does it call for a hierarchy of knowledge.
Orientation toward technical control, toward mutual understanding in the conduct of life, and toward emancipation from seemingly natural constraint establish the specific viewpoints from which we can apprehend reality as such in any way whatsoever (Habermas, 1971, p. 311).

Habermas does not advocate one paradigm as being superior to another. In fact, Habermas challenges positivist and interpretivist philosophers who claim that their paradigm is "a distinctive form of knowledge as if it were the only or the most fundamental type of knowledge" (Bernstein, 1985, p. 10). Instead, Habermas maintains that

...a critical social science is a dialectical synthesis of the [technical] and the [practical interests]. It incorporates the study of nominological regularities and the interpretation of...meaning[s].... But, at the same time, it goes beyond both of these one-sided approaches. (cited in Bernstein, 1985, p. 10).

It is this unique characteristic of Habermas' theory that is most useful in this study and differentiates Habermas from other theorists of knowledge. His theory makes room for the simultaneous use of multiple modes of inquiry and levels of knowledge found throughout any teachers' given work day.

Conceptually, Habermas views the technical and the practical paradigms as being intellectually and epistemologically equally abstract, having very strong substance, while the emancipatory paradigm holds less substance, but is of more consequence and far more rare. This view is similar to the Hegelian dialectical where the thesis and antithesis are on the same epistemological level prior to the synthesis, which always adds something not found by merely examining the thesis and the antithesis in isolation of one another. It builds on the two, combining them but also transcending their apparent limitations. The levels of knowledge can be visually represented as overlapping ellipses that may, in fact, influence each other (see Figure 1).
Epistemological Modes of Inquiry

Scientific Inquiry
- research is a systematic and methodical process of acquiring knowledge.

Technical Inquiry
- individuals focus and reflect on technical skills.

Teacher Researcher
- systematic, intentional inquiry by teachers about their own classroom work.

Logical Inquiry
- a problem-solving approach rather than a truth-seeking theory of inquiry that involves the individual's own experience.

Tacit-Intuitive Inquiry
- involves an intuitive sense of how to do things that cannot be explained in conceptual terms.

Reflection
- encourages teachers abandon technical teaching approaches and use reflection to improve practices.

Narrative Inquiry
- teachers gain understanding of practice by observing and reflecting upon that practice by situating practice within personal experience.

Action-Research
- teaching is a self-reflective, experimental process in which teachers examine theories within the context of their own practice.

Teacher as Transformative Intellectual
- provides a theoretical basis for examining teacher practice as a form of intellectual labor as opposed to defining it merely in isolated technical terms.

Teacher as Critical Inquirer
- adds a dimension of critical theory to teachers' inquiry about their classroom work.

Communicative Rationality
- continuous dialogue as a way of reaching alternate modes of knowledge.

Figure 1. Conceptual Framework
These three paradigms of thought are not mutually exclusive and can overlap ideologically. Visually then, the three can be presented as concentric circles, which, in practice, influence each other. Similarly, while the conceptual framework presented here may appear as a linear model, teachers do not necessarily move sequentially from one level of consciousness to another. Rather, their inquiry and learning folds into itself as they develop, that is, teachers may progress and regress between levels, depending upon the problem or issue and purpose of assessment they are addressing. In addition, each paradigm has the capacity for various modes of inquiry.

**Conceptualization of the Research Questions**

The research questions in this study rely on an understanding of Habermas’ three human interests that guide his levels of knowledge. In research questions number one and two, Habermas’ technical, practical and emancipatory knowledge interests have been utilized to categorize the assessment challenges teachers experience as well as teachers’ reported assessment practice. Habermas speaks of action in terms of being interested in the achievement of goals, cause and effect, means-ends while his theory of communicative action or symbolic interaction is rooted in constructivist notions of knowledge. The third lens of emancipatory interest builds on Habermas’ notions of social justice, freedom from illusion and dogma and social inquiry that relies on all participants.

**Technical Interest**

Knowledge, from a technical interest is an objective, well-defined body of information detached from human subjectivity, to be transmitted in a unidirectional and intact fashion for the student. The emphasis is on the acquisition of hierarchical sequences of information specific to given disciplines and unrelated to other disciplines or to everyday knowledge and experience. Evidence for this type of learning is generally an observable or measurable outcome (Herganhnahn and Olson, 1997; Habermas, 1971) Often learning from this perspective is trial-and-error learning; learning that is incremental; and learning that is direct and not mediated by thinking or reasoning (Herganhnahn and Olson, 1997.) Such approaches to teaching and assessing in general, might ensure that students cover relevant content and have opportunities to learn facts that are documented in textbooks. Intended outcomes often are expressed in terms of
behavioural objectives. Accordingly, assessment determines whether students can reproduce facts and provide correct answers to problems.

**Practical Interest**

Contrary to a technical interest of learning in which the learner's role is usually an object receiving stimuli from a teacher, practical interests of knowledge introduce the learner as the subject of the learning process (Carter, 1990). The learner selects his-her own learning orientation, develops knowledge inquiry skills and learns to construct and reconstruct his-her thoughts (Ruohotie, 1994). This type of learning is, however, not an isolated process. Habermas stresses that individuals actively construct their own knowledge. In other words, knowledge is not passively received but rather, actively built up by the learner (Fosnot 1989; Prawat 1992).

The practices of teachers guided by practical interests are markedly different from technical interests. Teachers with a practical interest have student learning as a primary concern while teachers with a technical interest are generally concerned about achieving a particular outcome in an efficient manner (Herganhnahn and Olson, 1997; Habermas, 1971). The facilitation of learning becomes an important teaching role for teachers with practical interests. Teachers' with a technical interest are concerned with management and the transmission of knowledge (Herganhnahn and Olson, 1997; Habermas, 1971). External reinforcements are necessary conditions for learning when employing technical interests in the classroom while practical interests emphasize learning that is independent of reinforcement (Herganhnahn and Olson, 1997). Problem solving as a technical interest relies on similarities to other problems that individuals have experienced in the past. In the event that solutions fail or if the individual has never confronted such a problem, trial-and-error behaviour is resorted to until a solution is reached. On the other hand, a practical interest maintains that learners think about the problem until they gain an insight into its solution (Dewey, 1933). By introducing ambiguity to their students, teachers with a practical interest then help students clarify that ambiguity by suggesting strategies for solving the problems. This approach involves negotiation between the teacher and the students. Teachers must know the conceptual basis from which each student is starting before they can help the student continue toward understanding what is being taught (Hergenhahn and Olson, 1997). In this paradigm of learning, students are responsible for
acquiring their own knowledge. The teacher's role is often that of facilitator, guide, coach, enabler, and so forth (Lampert, 1985; Piaget, 1953, 1969). This philosophy of education draws on Habermasian, Piagetian and Vygotskian theory that views cognitive development as a socially mediated process.

**Emancipatory Interest**

A third category of emancipatory interest of knowledge is introduced by Habermas. For Habermas, an adequate understanding of our society and the state of our knowledge can be obtained only by critical reason. The limitations found in the technical and practical interests are illuminated through a critical analysis and alternatives offered. For example, knowledge formulated through technical interests cannot provide guidance in, for example, ethical or political matters (Young, 1989). Practical interests, on the other hand, can overcome some of the limitations of technical reason. It can provide understanding of systems of meaning. It can locate the meaning of relationships and actions in a culture or organization by restoring an ethical dimension to actions. The limitation of these two interests, however, is that they do not provide a form of knowledge that develops and changes culture (Young, 1989).

[Technical] reason, for example, pushes moral matters into a realm of irrational 'decisions', hermeneutic reason makes critique of culture a matter either of boldly accepting the priority of one culture over another, or of simply deciding, without rational basis, to change something within a culture. (Young, 1989, p. 36)

Emancipatory reason, on the other hand, makes it possible to say something reasonable, if not absolute, about ethical and political matters. Emancipation emphasizes the autonomy of the reasoner:

His or her freedom to use his or her reasoning mind without the results of reasoning being caused by forces external to the reasoning process. In this sense, [Habermas] suggests that individuals as historical subjects become aware of their historical self-creation through reflection. It is this capacity for critical reflection, which by its nature expresses an interest in autonomy, which is the basis of critical reason and the capacity of providing a unified understanding of knowledge which incorporates the insights of both instrumental and hermeneutic reason, but transcends them both. (Young, 1989, p. 36)
A critical notion of knowledge seeks to uncover the connections between objective knowledge and the norms, values and structural relationships of the wider society. It can provide a model of engagement that facilitates the close examination of the underlying political, social and economic contexts within which we live. These theories recognize that the problems of society are more than simply isolated events or deficiencies in the social structure. Through a critical lens the problems facing education, and more specifically, the assessment challenges teachers face are part of the interactive context between the individual and society. Critical thought reveals the influences of human activity and knowledge as both a product of, and force in, the shaping of social reality. Furthermore, it can be used to expose the linkage between knowledge, power and domination. Essential to any critical understanding of assessment is the dichotomous view of schools and classrooms as being sites of both empowerment and oppression. Here, the traditional view of school as neutral, value-free sites that provide students with the necessary skills and attitudes for becoming good and responsible citizens in society is clearly rejected. If this way of conceptualizing difficulties faced by students who do not succeed in school is utilized, we may begin to develop questions that will help to reveal how oppressive or coercive relationships are linked to differences among people, including class, gender and race. Emancipatory interests seek out social contradictions and provides a process of questioning that requires open and thoughtful communication between the object and the subject, knowledge and action and process and product.

In research question number three: How do teachers inquire into assessment? varied modes of inquiry have been identified in Table 1 as a starting point to investigate teachers' emerging modes of inquiry. The modes of inquiry range from scientific approaches of inquiry to cooperative modes of inquiry. Habermas introduces an alternative view of inquiry that places the subject or consciousness at the center of inquiry. Instead, this new approach begins with a concept of inquiry as an intersubjective practice (or procedure) among social beings. For Habermas, inquiry is almost always seen as a collaborative process in a context of a community of inquirers. While the study includes Habermas' conception of inquiry as a social phenomenon, sole use of his theory begins to depart here and includes not only his notion of communicative rationalism but other modes of inquiry. This study does not champion any one inquiry model. Rather the
study relies on the modes used by the teachers who question assessment practices in their classrooms and which may involve moving beyond an algorithmic problem-solving format found in scientific modes of inquiry to one that relies more on teachers' unique style of inquiry. The modes of inquiry presented within this study are used as lenses to assist in the analysis of the data, but the study is not limited to these modes of inquiry. Rather, the study's focus considers the teachers' unique styles of inquiry as they emerge in their discussion about assessment. Habermas' notion that inquiry is a social phenomenon, therefore, is but one of the possible modes of inquiry.

To support this more extensive approach, Elbaz's (1983) study of practical knowledge, Clandinin and Connelly's (1986) emphasis on teachers' classroom practice narratives and Dewey's theory of experience as an organism (1938) where experience is the study of life, have been influential. In these models, which include tacit and intuitive knowing, reflection and narrative inquiry, teachers' inquiry of assessment is examined for understanding of its meaning based on the teachers' own experiences. Clandinin and Connelly (1986) and Elbaz (1983) suggest that teachers "begin with their own experience and work to understand and articulate it" (Connelly, 1980, p.117). Beginning with personal experience, teachers "proceed from the inside out" (Cochrane and Laub, 1994) and work toward an understanding of practice by beginning with observation and reflection upon that practice. This way, inquiry guides and illuminates one's understanding of practice through a dialectic unfolding, rather than through a predetermined approach to inquiry (for example, scientific inquiry). Inquiry of assessment might become a part of a teacher's narrative unity, a concept which has been described as "a continuum within an person's experience which renders life experiences meaningful through the unity they achieve for that person" (Connelly and Clandinin, 1990, p.32).

In sum, inquiry may very well be based upon a teachers' active use of knowledge rather than passive acquisition and recollection of facts (that is, transmission), or vice versa. This study's exploratory approach to inquiry takes into account the range of different abilities and attitudes toward assessment arising out of teachers' personal assessment experiences. It examines, when possible, what the teacher brings, as an individual, to the inquiry process, how his or her background affects their interpretation
of assessment while also taking into consideration teachers' readiness for learning and any skills or attitudes that affect learning. More importantly, it recognizes that individuals approach inquiry from varying starting points. In Figure 1, we see three distinct, although not mutually exclusive, epistemological approaches to inquiry (that is, paradigms of knowledge). The modes of inquiry explored in the study have been deliberately placed to align with the appropriate epistemology as a way to locate teachers' inquiry in an epistemological perspective according to Habermas' three levels of knowledge interests. The categorization of these modes of inquiry have been explicated in Chapter Two.

The following modes of inquiry are guided by technical interests: Scientific Inquiry, Technical Inquiry, and Teacher as Researcher. In the historical-hermeneutical paradigm that is guided by practical interests, we find the following modes of inquiry: Logical Inquiry, Tacit-Intuitive Inquiry, Reflection, and Narrative Inquiry; and in the third paradigm, emancipatory and guided by emancipatory interests, are the following modes of inquiry: Action Research, Teacher as Critical Inquirer, Teacher as Transformative Intellectual, and Communicative Rationality.
CHAPTER FOUR: METHODOLOGY

Design of the Study

This study emerges from Earl-Hargreaves' (1997) larger project, Beyond Transition: How Teachers Interpret and Integrate Transition Years Reforms in Their Practice, and Earl’s (1997) continuation of this same study: A Longitudinal Study of Teachers Committed to Innovation in Ontario Schools. The larger study was a Ministry of Education sponsored longitudinal investigation into how teachers implement change (for example, curriculum, assessment) in their daily practice. The initial phase of the larger study included 32 Grade 7 and 8 teachers who were selected from four large school boards.

The Common Curriculum and Broad Policy Context

The study references a number of curricula and policy initiatives in Ontario between 1997 and 1999. In 1997 teachers in Ontario were using the Ontario Ministry of Education and Training document, The Common Curriculum: Policies and Outcomes, Grades 1-9, 1995. By 1998, a series of standards-based, subject-specific curriculum documents were released by the Ministry of Education. The study focuses on assessment innovations which were introduced into Ontario schools with these policy initiatives.

The Common Curriculum

One main characteristic of The Common Curriculum in particular, included the measurable and demonstrable learning outcomes for all students that teachers in this study were using in 1997 and 1998. While there are a variety of outcome-based design and delivery models, the model teachers in this study were using was most closely aligned to outcomes-based models that included outcomes of varying specificity. There were ten essential learning outcomes that applied to all subject areas. Outcomes-based learning relies on learning expectations that are aligned with performance standards that are intended to be used by teachers in measuring student achievement. Specifically, the learning outcomes provided in the document are said to “...identify the observable-measurable knowledge, skills, and values that students are expected to have developed at certain key stages of their schooling” (Ministry of Education and Training, 1995, p. 9).
More importantly, however, *The Common Curriculum* emphasized the use of a variety of assessments to describe student achievement. For the purpose of this study, the documents of particular interest are *The Common Curriculum, Provincial Standards, Language, Grades 1-9, 1995* and *The Common Curriculum, Provincial Standards, Mathematics, Grades 1-9, 1995*. These documents provide performance indicators, or descriptions of student performance, that show the level or degree to which the student has achieved the specific learning outcomes for language or mathematics that are found in the *Common Curriculum: Policies and Outcomes, Grades 1-9, 1995*. Teachers were encouraged to plan authentic learning situations that allowed students to collaborate with others in “a constant search for meaning” (Ministry of Education and Training, 1995, p. 17). Learning, from this perspective, was seen as an outgrowth of existing knowledge and skills that transcended traditional subject boundaries and resonated primarily with a constructivist learning approach. On the other hand, the outcomes-based learning seemed to have a behaviourist approach to learning. Teachers were attempting to reconcile these with the constructivist approaches that were inherent in the new assessment requirements. These two dialectical positions present an initial and ongoing tension that is played out in the classrooms across Ontario as teachers attempt to resolve that dichotomy.

**Methodology**

A qualitative research methodology was used for this study to investigate assessment from the perspective of teachers’ own experiences with, and understanding about, classroom assessment. Data from semi-structured interviews have been gathered over three years (1997-1999). The study’s multi-year approach assisted in gaining some insight into teachers’ developmental understanding of, and practice with, assessment by providing rich, thick descriptions that have emerged for the purpose of this study. Data collection occurred over three years in two distinct phases.

**Phase One**

Phase One involved semi-structured interviews with eight teachers from the original sample over three years (1997-1999). A different interview protocol was prepared each year. The interview protocols included a range of issues concerning educational reform that related directly to Earl’s research: *A Longitudinal Study of*
Teachers Committed to Innovation in Ontario Schools. Eight to ten questions relating directly to this study of teachers’ understanding of, and practice with, assessment, were included in each of the three protocols. Therefore, over a period of three years, (1997-1999), a total of 37 questions were asked specifically about assessment issues.

Sample
The teachers for the larger study were selected with the assistance of The Learning Consortium, a partnership for teacher development established between OISE-UT and four school boards. The teachers were identified as displaying serious and sustained commitments to new initiatives. Due to teachers’ intensive schedules in these times of rapid change, promotions and retirements, only twenty teachers participated in the longitudinal study in 1998, and twelve teachers in 1999. From this larger sample, the eight teachers who participated in this study were specifically chosen for their recurring participation in each of the three years of Earl’s study. That is, the eight teachers neither worked with a teaching partner, nor did they take on full-time roles outside of the classroom during this period.

Interview Protocol

Design
The relevant interview questions found in the previous three interview protocols (1997-1999) that were employed by Earl’s research team over the past three years were extracted and amalgamated for the purpose of this study. Since a number of questions were asked that were not relevant to this study, it was necessary to extract only those questions that had some relation to the research questions in the current study. Appendix A includes the interview protocols by year (1997, 1998, 1999). Tables 2, 3 and 4 delineate the relationship between those distinct questions that were demarcated for the purpose of this study and this study’s research questions.
Table 2
Interview, 1997

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Interview Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do teachers’ reported assessment practices relate to epistemological paradigms?</td>
<td>13, 14, 17-20, 27, 28</td>
</tr>
<tr>
<td>How do teachers inquire into assessment?</td>
<td>25, 26, 30-33, 54, 55</td>
</tr>
</tbody>
</table>

Table 3
Interview, 1998

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Interview Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do teachers’ reported assessment practices relate to epistemological paradigms?</td>
<td>6</td>
</tr>
<tr>
<td>How do teachers inquire into assessment?</td>
<td>25, 26, 30-33, 54, 55</td>
</tr>
</tbody>
</table>

Table 4
Interview, 1999

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Interview Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>What challenges do teachers experience in attempting to implement new classroom assessment practices?</td>
<td>9, 13, 27</td>
</tr>
<tr>
<td>How do teachers’ reported assessment practices relate to epistemological paradigms?</td>
<td>10-12, 23,-26, 28</td>
</tr>
<tr>
<td>How do teachers inquire into assessment?</td>
<td>25, 26, 30-33, 54, 55</td>
</tr>
</tbody>
</table>

Procedure

In Phase One, interviews were arranged by mutual consent. They were tape-recorded and ranged in duration from 45 minutes to one hour. The sequencing of the questions in the interview guide began with demographic information and then continued with questions ranging from specific to general level in format. The interviews were conducted in a location that was private and within the school setting. Participants were
given the opportunity to view the transcripts (upon request) and to make changes if necessary.

In this phase, the interview protocol reflected Earl's larger research team's objectives; however, seven to eight questions related directly to the assessment issues for this current study were included. Over the three years some of the earlier questions were repeated, and new questions were added to fill in the gaps from the earlier years. In 1999 specifically, attempts were made to garner teachers' responses that related to their understanding and application of assessment.

**Phase Two**

During the interviews in Phase One, in 1999, the eight teachers were invited to participate in follow-up interviews which comprised Phase Two of the study. The teachers received an explanatory letter describing the purpose of the study. They also received an agreement form that they were asked to sign to verify their voluntary and informed participation. In Phase Two therefore, five teachers from the above sample of eight volunteered to participate in follow-up in-depth interviews in the summer of 1999, two months after the last 1999 interviews were conducted in Phase One. These interviews focused exclusively on assessment issues which included more extensive and in-depth questioning involving assessment issues (see the follow-up interview protocol in Appendix A).

**Interview Protocol**

**Design**

This section is of particular importance since the entire interview protocol is dedicated exclusively to questions that relate directly to the research questions in the current study. The questions were more intense and penetrating than those found in the Phase One protocols. The intent was to gain greater detail and clarity about teachers' understanding about assessment and to fill in any noticeable gaps of information from the previous interviews.
Table 5
Follow-Up Interview 1999

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Interview Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>What challenges do teachers experience in attempting to implement new classroom assessment practices?</td>
<td>8, 18, 25</td>
</tr>
<tr>
<td>How do teachers’ reported assessment practices relate to epistemological paradigms?</td>
<td>1-4, 5-7, 9-12, 13-15, 16, 17, 23, 27, 28, 31</td>
</tr>
<tr>
<td>How do teachers inquire into assessment?</td>
<td>18-22, 24, 26, 29, 30, 32, 33</td>
</tr>
</tbody>
</table>

Interviewing

Interviewing can be misconstrued as deceptively simple in that the interview seems to be merely a face-to-face conversation with purpose, consisting of people who appear to be *just talking* or “persons relating to each other” (Hughes, 1990, p. 17) and using language to give meaning to that interaction. The researcher-interviewer intends to gain valuable personal insights that a survey questionnaire might not reveal and which could be relevant to the current study. Interpretivists claim “that social realities cannot be identified in abstraction from the language in which they are embedded; language is constitutive reality” (Hughes, 1990, p. 117). Language, as a social mediator and as a primary function of the interview (that is, the exchange of information), assists the researcher in obtaining information about individuals in order to make inferences about general subjective processes (Hughes, 1990). The interview methodology explores the subjective world of the respondent; that is, perceptions, attitudes, beliefs, memories, feelings, hopes, judgements, and plans, while positivist scientific methods would “give only a partial account of social life” and the experiences and beliefs of human beings (Hughes, 1990, p. 95). In this way, interviewing moves beyond collecting only objective, isolated facts to discovering the contextual meaning of social reality (Hughes, 1990, p. 115). The task of the social scientist, then, is to advance beyond the external observation and seek internal validation of social science hypotheses by adopting a research paradigm that is adequate to investigate the circumstances and reasons for a phenomenon, rather than merely recording results and claiming them as causal factors (Hughes, 1990).

Interviewing, however, is certainly not a method of research without any weaknesses. The very nature and idiosyncrasy of human understanding and language and
the possibilities for social influence in the interview encounter may lead to some or all of the following: reluctant respondents and a lack of trust for the interviewer; lying, evasion, denial, minimization of information, and defensiveness; trauma, embarrassment and self-awareness; limited access to cognitive processes which lead to inaccurate recollections of a respondent's personal reality and forgetfulness of information; chronological confusion of events; speculation or inferential responses which impinge on theory building by the researcher; the need to perform for the interviewer due to false expectations on the part of the participant, or the necessity to speak the right answers rather than the real answer; "being inconsistent, irrational, or just not thinking" (Hughes, 1990, p. 120); and feeling detached or disembodied from the interview process and its context resulting in artificial responses (Hughes, 1990; Tomlinson, 1984). These latter weaknesses clearly "impinge upon or coerce persons into certain behaviour" by attaching role expectations to a respondent (Hughes, 1990, p. 98). Additionally, descriptions of personal reality by respondents "are always in principle, incomplete. Whatever is included in a description is always selective and cannot exhaust all that can be said about an object, event or a person" (Hughes, 1990, p. 106). The interviewer, then, can at best "only index what it might mean; a quality referred to...as "indexicality" (Hughes, 1990, p. 107).

Notwithstanding these limitations, however, the benefits of interviewing for this particular study far outweigh the limitations. A number of significant strengths associated with the interview as a viable research method have hopefully enhanced the results of this study. These strengths include flexibility in questioning; follow-up probing and the opportunity to guide the respondent in his-her interpretation of complex or abstract questions; the ease in which the interview can be adjusted to circumstances; observation of non-verbal behaviour; and an increased rapport with and cooperation of the respondent (Babbie, 1992). We soon see the advantage of leaving room for interpretive discovery which otherwise would not occur in more positivist forms of research methodology and allows the interviewer to achieve direct and reliable access to the subjective, inner world of the respondent. Given the subjective nature of the research topic, this method of data collection was most suitable.
Ethical Procedures

The following ethical procedures were observed: appropriate confidentiality protocols were adhered to with the use of informed consent forms that stipulated the rights of participants and the protective confidentiality procedures; individuals had the option to choose whether to participate in the research after being informed about the details of the study with no risks or penalties associated with non-participation; a letter of explanation of the purposes of the research, the expected duration of the participants' involvement, protocols for dealing with confidentiality, and a description of the procedures to be followed were forwarded to both the principal and the participating teachers; in the presentation of the results, participants were not identified--pseudonyms were used for the teachers, thus confidentiality has been ensured for the participants; no potentially identifying characteristics of subjects have been reported so that individuals cannot be identified; data (for example, tapes, transcripts) were kept in locked storage and were destroyed after the study had been completed; teachers were promised copies of the results upon request; and only the researchers had access to the data relevant to this study. Most importantly, the follow-up process did not violate the anonymity of the Phase One interviews.

Data Analysis

The interviews were analyzed through a process of analytic induction (Lofland, 1971). A brief summary report was written corresponding to the categories of the interview schedules. This provided a device for quick cross reference between subjects on any issue and also familiarized me with the data. Analytic memos were written on the themes that emerged in this stage of the analysis. Data for each phase were analyzed separately according to individual research question and teacher. Teachers were viewed as individuals to enable the researcher to examine their conceptualizations and practice of assessment. In all phases, the interview data were analyzed for major themes, sub-themes and descriptions of teacher experiences about assessment as they related to the research questions. Folio Views, a qualitative research software program was used as an adjunct in the process of data organization. Activities necessary for rigorous data analysis included meticulous readings of the entire transcripts to capture the literal and conceptual nuances
within the interviews. For purposes of identifying themes and for comparative analysis, the data were first categorized in relation to the research questions and secondly according to the interview questions. Descriptive words and phrases were highlighted with the use of Folio Views and grouped according to headings. These were studied for identification of common themes.

The conceptual framework was used as a paradigmatic organizer to analyze the data. While the data provided insight into teachers' understandings and practices of assessment as these understandings emerged from the interview analysis, the interpretation of these data were limited to the structure of the framework. The study attempts to clear a conceptual path through the variety of ways in which both the terms assessment and inquiry have been employed. Linking the interview protocol to related literature on assessment and teacher thinking, the first research question was designed to explore teachers' perceptions of the challenges they face when implementing assessment in their classrooms. The second research question attempted to draw relationships between teachers' reported assessment practice and the epistemologies they hold. The final research question examined how teachers inquire into assessment.

The data were analyzed after the collection of data had been completed. Before beginning the in-depth analysis, however, as LeCompte, Millroy and Preissle (1992) suggest, I made note of some assumptions regarding each research question. For the first research question: What challenges do teachers experience in attempting to implement new classroom assessment practices? implicit in this question is the assumption that these problems were of varied genres. For example, not all problems would be of a technical nature, rather some would be of a social and political nature as well. In the second research question: How do teachers' reported assessment practices relate to epistemological paradigms? what is implicit is the idea that teachers are not restricted to only one epistemology. Teachers in this study applied varied approaches to instruction and assessment that were characteristic of different epistemologies, which if examined further, would reveal the types of knowledge at work (for example, technical, practical, emancipatory). This study therefore, makes a first attempt at illuminating teachers' epistemological assumptions and at drawing relationships between teachers' reported practice and their epistemologies.
Finally, the third research question, How do teachers inquire into assessment? seeks to examine the modes of inquiry teachers employ when learning about assessment, and attempting to resolve some of the dilemmas that emerged. Implicit within this question is the assumption that since the teachers in the study were deemed individuals who had demonstrated a sustained commitment to change, they would use at least one or more of the inquiry models depicted in Figure 1. It is primarily for this reason that Habermas' theory was chosen to ground the study, since he does not treat knowledge as mutually exclusive categories but rather, allows for the overlapping of epistemologies and purposes.

Approach to Data Analysis

Research Question Number One: What Challenges Do Teachers Experience in Attempting to Implement New Classroom Assessment Practices?

The data analysis for research question number one relies on an understanding of Habermas' three human interests that guide his levels of knowledge. In the first research question, assessment challenges have been categorized using Habermas' three human interests, that is, technical challenges, practical challenges and emancipatory challenges. The study moves beyond a technical analysis of teachers' understanding of classroom assessment towards an examination of the various purposes and socio-political implications of assessment that shape teachers' understandings and inquiry into assessment. In this way, technical aspects of assessing are examined alongside more liberatory notions of assessment.

Research Question Number Two: How Do Teachers' Reported Assessment Practices Relate to Epistemological Paradigms?

While teachers' reported practice have been operationalized as technical, practical and emancipatory, this has been done to help clarify their assessment approaches and to draw relationships with epistemological paradigms. This categorization is not meant to imply that teachers' reported practice is found solely and consistently in one or another category. Habermas suggests that knowledge overlaps between and within these categories and challenges the notion of internal logical consistency among the various dimensions of an individual's knowledge. Berlak and Berlak (1981) suggest that it is not
surprising to find these contradictions and inconsistencies in the knowledge of individual teachers since contradictions are embedded in the society and institutions in which teachers work.

Research Question Number Three: How Do Teachers Inquire into Assessment?

Research question three employs Table 1 as an organizer. The modes of inquiry discussed here have been drawn from an extensive review of the literature, and as we can see there are a variety of ways in which the term inquiry can be employed. On a continuum, these modes of inquiry reflect a wide range of methods to inquiry. As I analyzed the teacher data in this study, the principle I followed in developing the categories which appear as modes of inquiry, was to be as inclusive as possible. In that way, the categories attempt to represent the full range of inquiry which appear in the data analysis of this study. As depicted in Figure 1, the modes of inquiry align with a particular paradigm of knowledge or more appropriately, correspond to Habermas’ three knowledge interests: technical, practical, emancipatory.

Technical Interest and Inquiry

Within this paradigm of knowledge are located the following modes of inquiry: scientific, technical and teacher as researcher. These are defined as follows: Scientific Inquiry--research is a systematic and methodical process of acquiring knowledge; Technical Inquiry--individuals focus and reflect on technical skills; and Teacher Researcher--systematic, intentional inquiry by teachers about their own classroom work. Data that were placed in this category indicated some “fidelity of teachers’ practice to some set of empirically or theoretically derived standards and the development of technical skills of [assessment]” (Louden, 1991, p. 151). Stiggins (1991) maintains that teachers with knowledge of assessment are in a position to ask the questions: “What does this assessment tell students about the achievement outcomes? What is the effect of this assessment on students?” More specifically, when teachers have the fundamental assessment knowledge to answer these questions, they are able to use assessment methods that reflect precisely defined achievement targets; they are aware of extraneous factors that can interfere with assessment results; and they know when the results are in a form that they understand and can use (Stiggins, 1991).
Practical Interest and Inquiry

In the next paradigm of knowledge, guided by practical interests, are found the following modes of inquiry: logical inquiry, tacit-intuitive inquiry, reflection and narrative inquiry. These modes of inquiry are defined as follows: Logical Inquiry--a problem-solving approach that involves the individual’s own experience; Tacit-Intuitive Knowing--involves an intuitive sense of how to do things that cannot be explained in conceptual terms; Reflection--encourages teachers to move away from technical approaches to teaching and assessing, and use intuition and reflection to improve practices; Narrative Inquiry--teachers gain understanding of practice by observing and reflecting upon that practice by situating practice within personal experience. The data placed in this category demonstrate some “connecting of experience with an understanding of teachers’ own lives and is concerned with resolution of the problems of professional action. These problems generally fall outside the established technical knowledge of a profession and include situations that are not in the book” (Louden, 1991, p. 156).

Emancipatory Interest and Inquiry

The final category of knowledge is guided by an emancipatory interest and includes the following modes of inquiry: action research, teacher as critical inquirer, teacher as transformative intellectual and communicative rationality. These inquiry modes have been defined as follows: Action-Research--teaching is a self-reflective, experimental process where teachers examine theories in the context of their own practice; Teacher as Critical Inquirer--adds a dimension of critical theory to teachers’ inquiry about their classroom work; Teacher as Transformative Intellectual--provides a theoretical basis for examining teacher work as a form of intellectual labour; Communicative Rationality--ongoing dialogue as a way of reaching alternate modes of knowledge. Data located in the emancipatory paradigm involve

...questioning taken-for-granted thoughts, feelings and actions. Through such inquiry, teachers may confront and perhaps transcend the constraints they otherwise perceive as normal or natural. [Emancipatory] inquiry begins with the assumption that reality is socially constructed and that people can act to influence the conditions in which they find themselves. To this end, [emancipatory] inquiry involves considering who benefits from current practices, how these practices might be changed, and personal or political
action to secure changes in the conditions of classroom work (Louden, 1991, p. 160).

Limitations

Limitations of Methodology

Teachers' thought processes inevitably influence their judgements and decisions in the classroom and ultimately inform their practice (Fang, 1996). This realization has led to research studies that focus on how teachers search for, select and represent information in memory. Numerous methods of capturing this information have been documented (for example, self-reported data; policy capturing; repertory-grid technique; process-tracing). These methods attempt to capture teachers' thoughts, judgements and decisions. A major methodological problem with many of these approaches, however, is the extent to which these methods yield reliable and valid information about teachers' beliefs.

The attempt to draw a relationship between practice and teachers' knowledge-base or theory of assessment is a rigorous and viable research approach and enables us to obtain a sense of what teachers actually do in the classroom and why. Far too many teacher thinking studies are conducted in a vacuum without also examining teachers' work in practice (Clark, 1988). Traditionally, teachers' attitudes and beliefs were examined through the use of questionnaires (Zeichner and Tabachnick, 1984). More recent studies, however, have begun to employ qualitative means to discover the more subliminal aspects of teacher knowledge that guide teachers' actions in specific contexts, for example, clinical interviews (Elbaz, 1983), teacher seminars (Lampert, 1985), stimulated recall (Marland, 1977) and repertory grid technique (Connors, 1978). These methods were often used in conjunction with observations of teachers' work (Tabachnick and Zeichner, 1984). By the late 70s and early 80s researchers employed social interactionist approaches to understand the nature and development of teacher's knowledge, which began to examine teachers' beliefs within a framework of actions. Examples of new approaches include the study of teachers' conception of reading (Duffy and Anderson, 1982); the study of the structure and content of teachers' practical knowledge (Elbaz, 1983); the study of teachers' construct systems (related to curriculum,
learners and their working environment) (Bussis, Chittenden and Amarel, 1976); and studies of the principles that guide teachers’ classroom practice (Marland, 1977; Conners, 1978).

Qualitative approaches of understanding teachers’ beliefs have also been criticized for yielding results that fail to draw a meaningful relationship between how teachers organize and interpret their experience and subsequently act in specific situations. By focusing exclusively on teacher beliefs without relating these to what teachers do results in a very limited view of the nature of teacher’s knowledge and of the processes by which it is developed and maintained over time. We are reminded, therefore, that undertaking such research is not a simple task. In fact, it is quite complex. In this study, I have attempted to gain insight about both teachers’ thoughts and beliefs about classroom assessment and their reported practice using (a) semi-structured interviews, (b) repertory-grid technique and (c) process tracing. Using these three methodologies involves: (a) face-to-face interviews in which probes are used to clarify information; (b) a series of statements or scenarios about classroom assessment in which teachers are asked to indicate which statements or scenarios best characterize or correspond to their beliefs and practice; and (c) think-aloud interviews in which teachers are asked to verbalize their thoughts when faced with a statement or scenario. The use of these multiple methods has resulted in more robust findings. The study however, has not attempted to examine the relationship between practice and teacher belief. Nor does the study claim to actually tap into teacher behavior.

These methods, however, present possible sources of error. When interviewing, for instance, Bloom (1956) suggests that the accuracy of the recall of conscious thought is only high enough when interviews are conducted within a short time after the event being discussed. Retrospective interviews ask teachers to retrieve information from long-term memory which forces them to search for information not readily available, leading them to reconstruct or invent the missing information. A problem with the repertory-grid technique is that it produces data which represent hypothetical situations. For example, the written or verbal responses collected via this method reflect what should be done rather than what is actually done in real instructional settings. Finally, process-tracing procedures pose measurement challenges for the researcher mainly because of the
introspective nature of the self-reported data. Nisbett and Wilson (1977) criticize the use of verbal reports as legitimate data by contending that there is little or no introspective access to high order cognitive processes. In this study’s data analysis the findings do in fact reveal inconsistencies in teachers’ thinking about assessment due to a variation of teacher judgement about the same scenarios on different occasions and inconsistencies in judgement due to slight changes in the wording of scenarios.

**Limitations of Participants**

Teachers in this study have been viewed as individuals to enable the researcher to gain a rich understanding of their assessment knowledge. Initially it seemed as if I had collected too much data and wondered why I had chosen to examine the teachers’ reported assessment practice over three years. In hindsight, I believe I would not have gathered the valuable insights that are present in this study if I had not done so. In addition, due to the nature of the topic, that is, teacher thinking, the various years of data collection have aided in triangulating teachers’ responses from year to year providing a modicum of legitimacy in their words and actions. By way of explanation for the reader, there are two kinds of text in reporting the results of this study. One contains my words and ideas supplemented by the voices of the participants; the other, the words of the participants which have been clarified by myself to present a biography or portrait of teachers’ classroom assessment beliefs and reported practice. One limitation to this approach is that I did not have an opportunity to revisit with the teachers about the narratives I created. Some teachers moved, transferred to other schools or retired. The profiles in this study therefore are not mutually constructed text. In that context, there is always the danger of not doing justice to the complexities of teachers’ professional lives at the times of the interviews. In addition, complexity is added when a reader of the text enters the dialogue where written text about a life is limited by the reader’s interpretation of the text. In addition, the narratives are shaped by my own life influences in the interpretations I made of their comments. Given the richness of these stories, however, I made every effort possible to honour the teachers by capturing close details of their lives as they were told to me. While elements of the narratives are fictionalised and assumptions on my part made in the narrative, in doing so, I have tried to ensure that an accurate representation of the teachers’ experiences has been presented.
Finally, the data presented in this study might not present an accurate picture of teachers' beliefs and practices because the information that appears in this study were selected to reveal critical incidents or turning points, that is, moments which resulted in a memorable realization about the meaning of experiences, possible courses of actions and thoughts. These are the elements of teachers' professional lives which aided me in writing their narratives. These narratives are, however, only moments in time, distorted or subverted by a combination of fiction and reality. A major dilemma then was how to represent their lives accurately given the lack of collaboration with the teachers. Despite the aforementioned limitations, I believe that, the essential elements of the teachers' narratives convey the heart of the meanings which I have attributed to their experiences. In summary, the study is exploratory in nature and relies on the accounts of a limited number of participants, based on their subjective interpretations and memories of their individual situations. As a result, the findings may not easily be generalized beyond the scope of the present situations.
CHAPTER FIVE: TEACHER PROFILES

To assist with analysis of the data and to develop a deeper understanding of teachers' work, individual profiles were created for each teacher. Pseudonyms have been used to protect their identities. These profiles include teacher demographics such as the teachers' years of experience, age, information about the school or schools in which they were working in over three years and the students, grade levels and subject areas they taught. Each profile also highlights the teacher's major concerns regarding assessment and provides brief descriptions of their assessment practice. In many cases, it became evident that the teachers employed some sort of method, model, program, philosophy, way of thinking or framework that can be applied to their instruction and assessment and is viewed as a frame of action. Since the data collection comprised three years, I have set each teacher's story in 1999 and have weaved in past incidences from 1997 and 1998 when I felt this information added clarity, depth or richness to the 1999 information, or when I felt the information reflected a critical incident significant enough to include in the story without being redundant.

Participants

Helen

Helen taught grade 7, 8 and 9 science in 1997; grade 8 and 9 science and grade 8 math in 1998; and grade 8 English in 1999. By 1999, Helen had taught for 8 years. A typical class in 1999 comprised 30 to 38 students of mostly Asian background and a few Greek, Jamaican and Somalian students. Helen said that "in terms of math and computational skills the [students are] very, very good. The language she said, is "a little bit low; it's still an area of concern." Consequently, Helen "work[ed] on a lot of language in science." Special education students were fully integrated and a support person came in to assist Helen. The science room was set up with science tables in groups of four. Helen, being occasionally stern, nevertheless, had an amicable relationship with her students while having high expectations for them:

[My relationship with the students is] fairly easy going. They know I can be very stern and I do have very high expectations, and if they don't meet them, we need to sit down and we need to talk, and we need to put some things in place. They
know that they can’t get away with a whole lot, but I’m pretty reasonable too. I think it’s O.K. from what I can see.

Helen has been experimenting with different assessment approaches. She explained:

I’ve been teaching for eight years and I continually have to change it. I continually have to look at it. It’s very easy just to give a test or do a very quick observation or a very quick check list or read a piece of writing and assign a mark, but this to me is a little bit more work and my ideas around it are, I think continually changing.

A challenge Helen encountered in all of the subjects she taught was that she had to provide evidence of how she assessed her students: “I think what’s challenging but interesting is that we can’t just say your child passed. We have to say, ‘This is why your child passed’, or ‘This is why your child didn’t meet the expectations.’” Her assessment, by and large, relied heavily on traditional testing with measures of performance usually being derived from paper-pencil tests and graded class-work. In the third year of this study, Helen found that her assessment took more time. She attributed this to the fact that she was teaching a new grade (grade eight English) and because there was a new report card and different standards. Helen also discovered over the years that her assessment approach differed from her colleagues. In fact, her colleagues objected to some of her approaches: “If you talk to other teachers in the school, they don’t like a lot of the ways I test. Often I give open book tests.” Her assessment changed because of how stressful formal testing was becoming for her students. She preferred to give “more little quizzes.” She was “a little easier going when it comes to writing a test. You know it used to be [that it] took a whole period and it was very tense, and you’re all up tight. I’m a little easier going in terms of that now a days.” She was continually fighting with administration about her unorthodox approaches because they preferred traditional evaluation:

I fight with them. I’m looking out because some of the people upstairs are very traditional and as the chair of my department I can set the standards that I want and I have my tests worth 20% to 30% and sometimes it’s less. Well we have a problem with that with geography and history because their tests are worth 40% and they’re very test oriented, and I totally disagree with that. I totally don’t think that’s appropriate. That’s an ongoing fight.
Feeling too confined with traditional forms of testing, she liked to dig deeper by looking closely at what students were really saying on these tests to let her know if what she was doing as a teacher was working: “Basically, in a formal and summative and those sorts of evaluations certainly that’s in areas that I want to explore a little bit further. I look at what they write too. I look at what they’re saying.” She believed that students learned best if they were interested in the topic:

I think if students hate what they’re doing they’re really not going to get too much out of it. If they’re coming and there you know they’re running down to science because they want to be there, and they want to try something and if you listen to them talking within their groups and they’re talking science, to me I feel that I’ve been successful in getting the ideas.

Helen used a variety of assessment approaches, which included self-assessment, although she admitted that this approach was difficult when there were so many students in the class:

Often we do an awful lot of group work and that’s based upon merely on the fact that there’s 37 students in there and...they learn more with groups. They’ll evaluate how well their group did the particular piece, and they often do self reflection in terms of journal writing, and I write back to them you know those types of things yes. We should do more. We don’t do enough.

Peer evaluation was generally used when students made presentations and their peers assessed them. Helen’s use of portfolios was not consistent from year to year. She used observation more than any other approach. She hoped more teachers would realize that there were more approaches to assessment than traditional testing: “Assessments are going to continue to change and hopefully get better and hopefully more teachers [will] buy into the fact that we just don’t pass or give exams; that’s basically about it.”

Helen’s assessment framework was curriculum driven although she struggled with some of the directives in the documents and in getting all her students to a point where she felt comfortable to move on to the next stage. Helen taught and assessed her students in stages all the while looking for evidence that the students were ready to move on to the next stage. Consequently, she felt she did not have enough time to cover the curriculum she was expected to teach. Her instruction was frequently interrupted by pre-testing that she did with her students to prepare them for benchmarks: “We’re getting
ready for benchmarks in grade eight, so we’re doing a lot of pre-tests.” Helen also found that the smooth flow of covering the curriculum was often interrupted when students were not able to capture the concepts she was trying to cover.

**Jane**

By 1999, Jane had 17 years of teaching experience and was over 50 years of age. In 1997, Jane taught grade 7 and 8 family studies half-time, as well as being her school’s guidance counselor. She had 35 students in her class. The school was a French immersion school, and in the French immersion classes, the girls tended to outnumber the boys. Jane noticed that the boys did not have the same level of linguistic skills as the girls. There was a “very, very small number of ethnic people with different cultures and languages [or] cultural backgrounds.” Jane said there were “maybe two Black families in the whole school. We have a few East Indian families. And we have several Oriental families. That’s about all.” Jane described the students’ abilities as average or below average:

We are seeing and have seen in the last few years a lot more kids who would be going on to basic level programming at the high school, particularly boys. We’re seeing a lot more kids who may be capable but for whatever reason have lost interest in school. Certainly, I probably have 10 or 11 kids who are going into vocational high school this year and probably the same number last year. We are also seeing a lot of really bright students. To me, it’s a bit like society: you’re getting that larger wealthy class, a larger poorer class, and a shrinking middle class. I get sometimes the same sense about school. We have a much larger number of needy kids in terms of academics. And a large number of really bright kids, that sort of average group in the middle...It just doesn’t quite exist any more, those ‘C’ kids just aren’t there.

In 1998, Jane taught grade 8 family studies and worked in the guidance department half-time. In 1999, she taught grade 5, “everything but science including physical education.” She also taught grade 6 social studies. A huge frustration for her was only seeing the students during four periods a cycle.

I don’t see them any more than that, and there is so much in the grade six social studies curriculum that really should be integrated with a language program, so you can get two marks out of it, and yet I don’t have the kids for that language period of time or any other period of time that I can kind of manipulate the material into a larger space of time.
"I have two students identified 12, which is educable retarded." Although she had no gifted students, she felt that she had some really strong students, who were very good thinkers and very good writers. There were also a lot of risk-takers in her classes, who were willing to try new things. She said, "They're not terribly worried about making fools of themselves."

Jane's classroom had no door or permanent walls (she had folding walls) which posed a problem during quiet reflective moments. The configuration of the seating plan depended

...on the moment. Most of the time they're sitting in groups of two desks or...in this kind of semi-circular kind [of] shape--mainly because I find it very difficult to teach with backs turned to me. You know, when you're sitting in groups. We swing a lot into groups. This allows us to kind of dialogue in a circle, and I can be kind of here or on the edge of the semi-circle, and the kids can talk to each other across the room.... I think there's still a lot of kids who don't function terribly well in groups. So I try to use it, flip-flopping back and forth.

She noted that in terms of the physical layout of her room,

...we're running into some difficulty as the class sizes get larger...it sort of depends on the class and what they're doing. People have pretty, sort of fluid classroom arrangements. There are times when they're in pairs or rows facing lengthwise in a classroom. Other times they'll be in groups.

Jane's preference was not to have any desks in the classroom. She said, "I have tables in the family studies room. That's nice because then you can move them into all kinds of configurations and move them around." In a typical class, in 1999, Jane had thirty students, which she explained, was "a little higher than the provincial average." Yet for Jane, it was "a delightful year, an invigorating year."

Jane described her assessment as an integral part of instruction. She said, "There are a number of ways [I assess]. First of all, I try to keep track of kids' responses to my questions as I'm circulating around the room." Concurrent with her observations, Jane kept a checklist for each activity that students completed. Finally, Jane had students engage practically that enabled students to put the concepts they had learned in class to practical use. Jane maintained that once students "start constructing their own things or their own games or creating their own situations or being able to do it without having the
manipulatives in front of them, then you can begin to see if they’re transferring what happened hands-on or onto sort of more paper and pencil tasks.” While there was usually a paper-and-pencil component to her units, Jane’s ultimate goal was to have students engaged in performance assessments that were relevant to students’ lives and which made room for different learners to shine. As a result, the students in Jane’s classroom experienced very little teacher-directed instruction and were encouraged to talk with each other and Jane directly. Activities were student focused and designed to engage and motivate students as well as to relate to their lives. Jane saw her role in the classroom primarily as that of a facilitator and guide. Jane admitted to finding assessment harder to do than instruction. She said, “There are always issues about assessment because it’s very, very, very hard, no matter how we structure things.” Jane’s primary assessment strategy was the use of interactive dialogue and observation although she used the odd paper-pencil test. After each unit, the students wrote an end of unit test. She characterized her teaching and assessment as driven by the subject and the students she taught. Family Studies, in her mind, was a hands-on type of subject which relied on performance assessment (for example, sewing, cooking).

Rachel

In 1997 Rachel taught grade 8 math, history, geography, and English as well as grade 7 and 8 science. There were generally 27 students in the classes with mainly Caucasian students but a few students from Pakistan, India and Korea. Her students were grouped in pairs, threes or fours depending on the task. In 1998 Rachel taught grade 8 math.

By 1999, Rachel had taught 18 years and was 40 years old. In 1999, Rachel taught grade 8 math, science, language, computers and art. The students she taught were predominantly Caucasian. She described the school as “a bubble...in the middle of nowhere.” The previous year, she had been in a different school which she explained had more diversity. In 1999, however, she only had a few students from Pakistan and India. Most of her ESL students were from Korea.

Rachel commented that the students she had were different from when she was in school. She noted students’ excessive use of expletives and inappropriate language and poor behaviour. She commented that “kids are changing. What’s acceptable now, you’d
[have been] mortified at [a few years back]. My grade 8’s use the words ‘hell’ and ‘damn’...and ‘oh shut up!’” Rachel said she told students: “You don’t say ’shut up’ in my classroom, to anybody.” She pointed out that the students would “look at you...like you’re from Mars like, ‘What do you mean I can’t tell someone to shut up?’” She explained that she would be quite stern at the beginning of the school year about this and said, “They know it now, and they’re quite used to it, and they’ll apologize as soon as it’s out of their mouth [and say,] ‘Oh sorry!’” Rachel wasn’t sure why the students were so different from her own memories as a student and said, “They’ve just grown up with that kind of vocabulary, and they see nothing wrong with saying, ‘What the hell’s the matter with you?’ instead of just ‘heck’ you know? Just that sort of thing, it seems to be different. It’s tougher.” More specifically, she attributed this behaviour to different social rules where “the boys wear pants down past their hip, and when they bend over in the science lab, I see boxers. [I’ll say,] ‘No, pull up your pants! I don’t want to look at your boxers!’” While Rachel admonished this type of behaviour, she also noted positive changes that have emerged over the changing times such as students’ critical thinking skills:

[However,] there are a lot of things that I like about the changes. [For example,] the kids ask questions. They’ll question. I think the question has to be challenging, but you don’t want them to come right out and challenge—[in an] aggressive [way]....They know they’re right, which is good.

In the past, she said she probably viewed students differently than she did today. For example, she said she “probably didn’t look at kids quite as holistically then as I do now.” She attributed this change in perspective to the fact that she is a parent and has her own children that are the same age as her grade 8s. She elaborated by saying, “Whereas, I think, maybe 20 years ago, I would’ve thought of them as individuals [who] are here to perform a function, and this is what my job is.”

The layout of her room varied. Rachel said, “I change it all the time, and I change who the [students] sit beside all the time because, otherwise, you get stuck with each other.” She has had students working in pairs at times and students sitting in rows facing the board, depending on what task the students were assigned.
Rachel’s assessment practice has changed gradually over the last few years, moving from end of unit tests to more varied approaches of assessment that include for example, journals and rubrics. With her emphasis on wanting to know more about what students are thinking, Rachel adapted her assessment to align with this goal. She used more peer- and self-assessment protocols than she did in the past. Observation was Rachel’s most predominant form of assessment, and she kept an anecdotal report for each student. By keeping a running record for students, Rachel was able to observe their growth.

Rachel characterized her teaching in terms of a personal, theoretical model that she employed over and over. Using this framework, Rachel described her practice of teaching as organized into stages of pedagogy and assessment, providing students the scaffolding necessary to move on to the next stage. Rachel employed this framework in her teaching and assessing using it to guide her own sequencing of material and formulation of questions. She used the framework to help her monitor her students’ thinking. Although as a teacher she maintained control of the classroom discourse, her teaching goals were to liberate her students’ minds. She was so committed to this end that she was receptive to teachable moments, the possibility of pedagogical shifts in midstream and to involve her students in assessment by asking them if what they were doing was working. Whichever subject she was teaching, she understood how to organize it, frame it for teaching, divide it appropriately for assignments and activities. She seemed to possess a mental index of key episodes organized in her mind for different pedagogical purposes, different levels of difficulty, different kinds of pupils, different themes or emphases while at the same time she was ready to improvise, adapt and modify.

**Jack**

By 1999, Jack had taught 33 years. He was in his late 50s. In 1997 Jack taught grade 7 English, math, history, geography, visual arts and rotary grade 8 history and geography. His classes comprised 34 students and consisted of five Caucasian children with remaining students from Caribbean and Asian countries, including India, Korea and China. Jack described two thirds of the students as a “very creative, bright, engaging group...[while] a third are very much challenging, and are not particularly at grade level in either math or reading or language.” The students were usually grouped in rows due to
lack of space and the large number of students in any given class. A small carpeted area at the back of the room was used for group work. There was a computer in the room.

In 1998, Jack taught grade 2 visual arts and grade 8 math, visual arts and computers. In 1999, Jack taught grade 7 and 8 history and geography on rotary. There were more female students in the class. Jack commented: “It’s a little more toward female and extremely ethnically diverse.” Jack’s classroom set-up varied from seating students in

...two’s, sometimes four’s, sometimes three’s, sometimes individually. My desk is not at the front of the room. It’s at the back, and that’s where my round table is too—by my desk. The computer’s back there if they want to come back and use it. We have a computer lab. Basically, it’s rather flexible. There’ll be times when I say, “O.K., work with someone you haven’t worked with before.”

Jack’s assessment comprised written records of students’ observations of art or photography. Jack indicated that he was not worried about the students’ ability to do well in assessment situations because they always had sufficient practice beforehand. Jack’s assessment approach was designed to reduce anxiety. The final summative assessment at the end of a unit was often an open-book assessment, and the students were always well prepared. Jack’s rubrics generally did not assess things like spelling and grammar but rather students’ abilities “to make that adjustment through” the concepts. Jack used a rubric because of his abhorrence of numbers: “I’d rather not use numbers. I use statements.” Jack saw himself as partly an enabler to give students some of the skills they needed as well as a supporter and a prober and pusher. Overall, he was very much an advocate of discovery learning. He believed that students learned from everything they did, and he encouraged a love of learning among his students.

Jack discovered during his 33 years of experience as a teacher that students came to him with attitudes that they either can or cannot learn. He said, “They’ve already got this [attitude] built in through years and years [of feedback] in school and other places. You can do it, or you can’t. So my favourite saying is ‘No, you all can do it.’” Jack used this approach in his assessment because he believed that “once [students] get into high school they’ll find too many people [who will] say: “This is what you must do” and “You didn’t do that, so therefore you get a fifty-one.” He didn’t really understand the reasoning behind that view: “I don’t see that. You’ve got to get them into different media and give
them a chance to work it through, and not penalize them.” He believed that learning became punitive when teachers encouraged competition among the students. Consequently, he was comfortable not grading everything his students did. He had been using portfolios more and more, yet, logistically, the rotary system constrained his use of portfolios. Jack used both formative and summative assessment although he spent more time engaging the students in formative assessment tasks. His diagnostic assessment enabled him to “see where we’re at, and where things are going.” Assessment was frequent, and ongoing; “and it doesn’t always have to be a formalized thing, although a lot of it is.”

Jack found that his assessment changed with the group of students he had at a given time in his practice. For example, in 1999, he attributed his frustration with his assessment practice to the fact that he did not believe that his students had a love of learning. Consequently, he noted that the students were not able to stay focused on tasks and certainly not able to persevere.

I found this year that I don’t think I did as well assessing as I have done in the past. First of all, it’s the mix of kids I have. They do not have a love of learning.... But the basic reason I had trouble with evaluation was their abilities to focus, to stay on task, persevere. Everybody gives up on the first try. I can’t do it.

As a result, he changed his assessment so that he was assessing for small chunks of information.

So my evaluation and assessments had to change a lot. Like I found I was adjusting to small amounts of information or skills, an area covered and then assessed. Sometimes it wasn’t worth assessing in other ways. It came down to almost assessing as if I was a grade one, two or three teacher. A lot more observation than before. It became anecdotal comments rather than doing it hard and factual, as the government wants, with numbers.

Jack believed that his students’ backgrounds affected his implementation of assessment as well as “their learning styles [and] a lot of the skills they may not have.” He claimed that

…the content is given, in a sense. We know we have to have the content. But there are so many variables that slowly creep in, and I [also] have to look at learning styles.
Like whenever I do a mini-theme, there's always something that will appeal to different learning styles, somewhere.

His concern for the students stemmed primarily from his belief that when dealing with adolescents, successful learning occurred primarily due to the teacher rather than the content being taught.

I've concentrated more on contacting kids and communicating with kids, especially during adolescence. They can quickly turn off and go somewhere else, so how do we keep them going? And a lot of it is that I'm not too sure that a lot of learning doesn't occur just because [of] the person who's trying to initiate the...student's learning. I'm not too sure if that's not more important than a lot of the stuff we do. And all our faculties of education are geared on other things, than really the person that's there. And can the kids connect with that person?

Jack had a great deal of experience as a classroom teacher and appeared extremely comfortable in that role. His assessment was well grounded in a belief that all students can learn. He had heated discussions with his principal that statements were more pedagogically sound than marks for his students as he created an environment in which learning for the sake of learning took precedence. Both his instruction and assessment were structured and well planned, and students were prepared in advance for summative evaluations. Jack's practice followed more of a philosophy than a framework consisting of layers of scaffolding and where assessment played an equal part of Jack's practice as his instruction. Jack continually monitored students' progress and made instructional decisions based on what he observed and on his assessment. He said, "It's the movement you look for, at least I look for. I look for the movement and the progress they're making." Since Jack did not believe students achieved the outcomes in any given grade level, he attempted to give students the most positive experience possible.

Tom

In 1997, Tom taught grade 8 and 9 science, math and computer. He was the science head of the school. His program was rotary. His class sizes ranged from 20 to 37 students. There were about 60% female students, and the classes were comprised of 25% Jewish Russians or Jewish Israeli students. Tom explained that there was a major ESL
initiative in the school for grade 8 students. His science classes were held in a wet lab with sinks and large tables that seated 4 to 6 students each. Tom explained:

A lot of the work, even if it's individual work, will be done in a group setting, with kids sitting beside each other and helping each other. In the French classroom, they all have their own seats and their own desks.

By 1999, Tom was 38 years of age and taught grade 6 language, social studies, and science and grade 7 science and technology. There were more boys in his classes and most of them were of Asian descent "which makes up about sixty percent of the [school] population." About two thirds of the school was ESL and Tom accepted level 3 and 4 ESL students in his classes. He described these students as being "quite comfortable verbally but are still working on their written literacy skills."

Tom described his relationship with students as open and especially close with particular students. He worried that he did not know all of his students.

I have a very open relationship with some of my students. I have students who I don't know well at all. That's the negative side of things. I have some students that I relate to very well.

He described his role as that of coach and mentor. In his experience, his students have had difficulty with his attempts to encourage them to take responsibility for their own learning.

I try to foster the coach-mentor student-teacher relationship because I find that that works better for me, and students find that very, very hard. They are very used to "This is how you're going to do it," and I found that I've become a better learner when I've taken responsibility for that, so I try to encourage that.

He explained that the reason he had a poor relationship with some students was because he reproached students for not confronting him with their problems.

I come down really hard on kids who come to me with problems after the fact that could have been very quickly solved up front if they would have thought about it. Some kids really dislike me a lot because I come down hard. All it would have taken was ahead of time to say, "I can't do it. I need your help." And I come down hard only if I know they do that...so some students don't like me because I put so much emphasis on taking responsibility for their learning.
He also encouraged the students to take responsibility for their mistakes. He stressed that he makes mistakes too.

[I want the students to] take the responsibility for making mistakes. I make mistakes too. [For example in class] I[‘ll] realize afterward it’s a piece of garbage. It shouldn’t have gone out. It’s not worthwhile doing. [I’ll say,] “I’m very sorry I gave it to you. I shouldn’t have done that.” It’s taken me about three months to get the kids to the point of saying, “I struggle with that; I know I’m not going to be able to do that,” but some kids are not moving to that [point] and they don’t like it. They see me as the controller.

Tom said in reference to assessment: “I’m not afraid of it as much anymore.” He was spending more time on communicating with students, encouraging them to get involved in assessment and letting his students “know what their strengths and weaknesses are.” Tom did express discomfort in the fact that he could never say for sure if a student had achieved the outcome: “I can never say that for sure because some of the things are unmeasurable or again I don’t have the right tools to measure them.” It was for this reason that Tom incorporated a system of minimum competency in his assessment whereby if students met the minimum competency level (that is, 60%) he knew they had at least met part of the outcome. The report card, however, was another issue “that comes up over and over again you know.” He frequently asked himself: “Why the heck am I doing this marking [and] all this work?” The challenge then, for Tom, was trying “to get assessment into a report card.” To deal with this, he said, “Like all good teachers, I played and played and tried to be as fair as possible with my students so that they could find out what they needed to do to get better.” He said it wasn’t easy to let his students know what they needed to do to be successful while still assessing for the report card. The issue became philosophical for Tom and required a lot reflection: “Well hopefully there’s an answer, philosophically, for me now.” He continued by saying,

...that’s one of the big changes to occur in my practice because the report card was the driving force behind most of the assessment that I did when I started, and now, I don’t know, maybe I feel secure enough myself to say report cards aren’t the end all and be all. It’s my students’ learning that’s the end all and be all.... The bottom line was student performance and letting the kids know “you’re good at this, you’re not so good at this.” “You need to work on this this way to show understanding better or to develop your understanding further.”
Ultimately Tom said that, he marked his students on whatever evidence they provided him of their learning. For example, he would ask them,

"Show me what you've learned." That's really what it comes down to. "Show me what you've learned, and here are the ways that you can show me." And the 'show me' may not take the same form for every student and...the 'show me' doesn't take the same form each time [either].

Tom's knowledge of science was far more extensive than the average science teacher due to his personal and professional background. As a result, he believed that science was not an entity unto itself, and he worked hard to integrate it with other subjects.

Science doesn't exist by itself. It cannot. It's wrong for it to be by itself. Math does not exist by itself. It can. You can do math [by itself] but it's so much more powerful when you can put it to use to really use it. That's what I hear kids saying. Math is so abstract. It has no connections. Well here's an instance where it does have a connection. But that's science. [I'll ask students], "How can I use this? You show me ways to use it. How you use it is up to you but I'm going to make it explicit now."

It seemed because of his extensive subject knowledge he was able to widen his repertoire of assessment approaches in order to give all students an opportunity for success. The purpose of assessment, then, for Tom was the following: "I think [the purposes] are still similar: feedback to kids and reporting to parents is really important, and also feedback to myself." He described his formative assessment as "ongoing assessment...[that] does not get written down as a mark." For example, "It isn't a lab report every time." Over the years, Tom has relied [increasingly] on his students for their feedback about his own practice. He said,

I do reflect about the process and think about how I can improve it. About once a term, I always ask my kids to [provide feedback]. And I've been doing that for a couple of years, and they give me great ideas about what sucks and what works well, and what didn't happen that should have happened or that they would have liked to have seen.

Tom could comfortably provide parents with reasons why he did not test the students more.

It seemed that the predominant form of assessment Tom used in his classroom was self and peer assessment: "I use peer evaluation [and] self-reflections, [which are] probably, for me, one of the more powerful tools. [I can ask students]: "Can you tell me
"what you learned?" He said he liked to find out what his students think about, what both he, as an instructor, and they, as students, were doing. Therefore, self and peer assessment "makes it fun to mark because now I'm getting individual perspectives on the activity, overall summary reflections on you as well as the test. Well it's all those pieces together that make up the assessment for me anyway."

Tom described his practice in the following way: "Most of the time in class we spend on learning about what it is we do, either through teacher directed lesson, or interactive discussions or the whole gamut of it." When I was talking to Tom, he made a statement that I thought reflected his teaching well. He said, "I didn't get into education to do the same thing day in and day out." In fact, Tom seemed to treat any given moment in and outside the class as a teachable moment in which both he and his students learned from the experience as well as from each other. His teaching was iterative and did not move linearly. Rather Tom moved back and forth in his practice depending on the type of students he had and their learning abilities. When things did not go quite as planned, he consulted with the students and started again. When a teachable moment arrived, he seized it.

**Natalie**

In 1997, Natalie taught grade seven and eight math, English and self and society. Her class comprised about 29 students. She described her classes as being highly diverse ethnically. She described the physical layout of her classroom in the following way: "I'm physically bound to tables with five to six chairs around them positioned either horizontally or north-south or east-west so that [students] can see the black board."

In 1998 Natalie started teaching in a special high school for students who were qualified as educable retarded. She taught visual arts. She explained that the school was...

...run like a regular high school.... The goal is to give the [students] as normal a high school experience as we can. They have come from other high schools and not been able to fit into those programs, for various reasons. Some are intelligence factors. It's a really enriching type of school to work for; it opens your eyes. I'm glad I'm here. I've had days when I'm not glad I'm here, but most of the time I'm glad I'm here.

By 1999, Natalie had taught for 20 years. This was her second year at this school. The school was a special education school with more boys than girls, that is, a 70-30 split...
boys to girls. She commented that "the girls just love it 'cause there are 4 boys for each one of them." Sixty per cent of the students were African American. Natalie explained that she taught in two different classes: "In one, there are two long tables, (that is., two groups), and in the other one there are 3 square tables." She explained that the rooms were not regular classrooms since she taught woodworking, and students worked at tech tables rather than at regular desks.

Natalie's assessment was influenced by the student dynamic in her classroom. Since her students were identified as special needs students with behaviour or academic problems, they required a fair bit of structure, immediate feedback and tangible evidence of their achievement. Consequently, Natalie followed a school framework of evaluation, which featured formal testing where students were given an exam six times throughout the year. The students also wrote smaller tests throughout the year: "There is testing once a week where you actually give them a written test, and they give it back to you." These tests were in addition to the formal evaluation at the end of six weeks, which were designed to see how much students have retained. Despite all of these approaches, she said,

...some of the kids don't get it, because that's the nature of the special ed kid. And no matter how many times they review it and talk about it, they don't get it for various reasons. One [reason] could be they're just not interested in that particular thing, so they'll tune it out. [Another reason is that] they're not interested in learning about it.

Natalie stated that formative "assessment is done in several ways." For example, she consulted with each student daily: "Once a day each student has a consultation with me." She added "It's done through observation. Are they doing their homework correctly?" Most importantly, a file was kept for each student. Natalie explained that every six weeks or so she and a team of teachers met to discuss the progress of students who were not achieving. She said they discussed "where [students] are at and what levels [they are working at] and perhaps see what [the teachers] can do." They will "have a consultation and try to figure out where we're going to go from there." She elaborated by saying that the students are asked to participate in a daily assessment that she calls "class practice" where they
...are assessed every day. They have daily assessments. And the students assess themselves in terms of preparedness, attitudes [and] work habits. They give themselves a daily mark, so it works both ways. What's your mark for today: "I deserve a 2 instead of a 3." "I did this, this, and this and I didn't come prepared." "I didn't do the homework." "This is all I deserve today." And they're actually pretty good at it. So the students assess themselves and we assess them.

The students also completed a survey which asked them questions: "How they felt the courses [went]? Did they feel the marks [were fair]? ... [They might respond with]: 'My marks are the same;' 'My marks have improved;' 'I can't tell the difference;' 'I really don't care;' and 'My marks have gotten worse', that sort of thing." She explained that "there's a whole list of a two page survey where they gave us feedback on how they thought it was working for them because it's important to see how they felt about it."

Natalie emphasized that her assessment generally integrated a number of subject areas. While woodworking, for example, might be the core area the students were working in, they were also doing both math and English. Quite regularly, however, her assessment was thwarted by students' emotional problems. She decided not to assess students at all if she saw that they were having a bad day. She said that presentations generally worked remarkably well "where they g[e]t up to say a little bit about what they were doing in their work." The feedback Natalie gave her students was often verbal. She explained, "I take them into the office, and I say, 'Let's look at your marks.' I show them their marks and I show them where they are. Then I tell them what they're doing wrong or doing right. It comes in [the] form of written reports, which they get four times a year." She explained that she uses either grades, marks or percentages on the report card, depending on the format of the report card: "They see exactly where they are, where the median mark is in the class [and] what their average is--same as any high school."

Natalie noted that her students were less successful when they had to be more reflective about their work. For example, Natalie said when she asked them to

read [their work] out loud and tell me if it's any good, or read it to yourself and tell me if it makes sense or tell me if it doesn't make sense...that self-reflective part was probably not as successful than if I handed out their evaluation papers saying, 'You got a sixty-five; now you can relax.'
Natalie explained, "They preferred a final grade from me....It's pretty difficult [however, with] a special ed kid to assess where they are and where they're going."

Natalie continued by indicating that student behaviour sometimes dictated what they learned: "They [are expected to] accept the class, and accept the rules of the game, follow instructions as it were." She sat down with students: "I did that a lot during exams. I have two kids that can't write...and I sat down, and I'd scribe for a few of them." Natalie also observed her students' work. She explained that there was some peer assessment, but it was not common because the students had so much difficulty understanding what the objectives of the lesson were that they were unable to help themselves, let alone others.

I wouldn't say it's a general thing because it's very hard for them to assess when they have so many difficulties assessing. It's hard for them to find the stakes when they can't get at their own work.

Natalie's practice was quite structured and she relied heavily on teacher direction with her students. She said that, "the units are highly prescriptive" and "we've sort of given them a top down [where she tells the students:] 'You're doing it this way this year.'" Her units were designed to integrate a number of subjects that highlighted numeracy and literacy and generally were centred around a particular project:

I have a pretty structured program. It's like connections though. It goes all over the place. Sometimes we go off here and sometimes we go off there. But it's all loosely centered around one project.

Reva

Reva was 31 in 1999 with 7 years of teaching experience. In 1997 Reva taught grade 8 science and grade 7 English as well as a grade 8 ESL component. There were approximately 30 students in each of her classes. Reva explained that about 80% of her students spoke English while 20% were ESL and 50% spoke a different language at home. Reva said she had "students that should be in grade two, and I have students that could already be in high school." In her classroom, there were eight tables and four students at a table. She said she would have preferred to "have single desks that [she] could put together and move apart depending on if we want[ed] to do group work or not."
In 1998, Reva taught grade eight and nine history and geography and a grade seven science course.

In 1999, Reva taught grade seven family studies, grade nine geography, and grade seven and eight social studies as well as a grade seven ESL history class. Reva noted that there were generally more boys than girls in her classes. The school was located in an Asian community, and 80% of the students were Asian, who were very hard working and academically at a very high level.

Reva’s desk was at the front of the room, and she arranged her students in groupings of four. When asked if students chose their own groups, Reva said:

Oh, never. Never. Never. But I'll just do it quick[ly]. I found over the years it’s too time consuming for me to go, “O.K., you’re smart, and you’re stupid, and you talk well, [etc.]” It’s too hard if you do it all the time.

Her style of instruction and assessment had changed from working in an elementary school due to the timetable difference. For example, she used to be able to integrate subjects but was not able to do that now in high school:

If I wanted to do a project, then I could take my English and geography periods and put them together. Here, if you’re going to do a project, you’re going to have to take three weeks of class time to do that project, whereas I could get it done in a week by taking all of my four periods and doing it. And then, you can play with your timetable a little better, and you knew the kids a lot better. And you knew the parents a lot better.... So it became more than just coming up with a mark here for the report card, because you knew the students and you knew where they were coming from, and you could see them grow.

Reva noted that in the elementary school setting, teaching was more personal and learning was more for learning's sake. In the high school, she was implementing programming that was curriculum driven.

[The elementary school] was more personal. It was more personal teaching [and assessing] in a sort of elementary setting where you’re with the same kids, and they knew you. Here they see you, and that’s basically it. You’re one of their nine teachers. So it’s curriculum driven, where the other one was more student driven, which is the middle school philosophy as opposed to the junior high philosophy.

Reva said she did not know how to sew before she had to teach and assess sewing. Her inability to sew had an impact on the quality of student products and ultimately on her
assessment of students' work. Reva stated that while she thought she devoted more time to students' work and instruction, "There are times where you get bogged down with a lot of marking." She said, "there's always ongoing assessment. In subjects like family studies, most of the students did well because they were motivated to do hands-on activities. In addition, Reva checked homework every day.

I've gotten to the point where I'm trying to make it really quick. I take a quick walk around the room to see if people have their homework. I don't check to see if it's right or wrong. But I just check so that it's done. When I do take their notebooks in, or when they have a test, or when they have a project, [then] there's the big marking.

She said, assessment became more difficult for her when she had many students. Overall, Reva devoted less time to assessment than she did in the past:

I think it's become less. I've gotten smarter in my marking or what I have the students mark. If we have a notebook test, then we just pass them out and they mark each others, or they check each others' homework. Like the tests and that sort of thing I always mark, but I try to be smarter about it.

She explained that she did not mark everything the way she used to:

I guess over the last couple of years I'm not marking as much as I had. I am marking what's important as opposed to marking a lot of things and just really simple marking schemes like a 1, 2 or 3, "you did a good job", "you did it or you did it bad". So the kids have an idea of what they did, but it doesn't have to be picked at. So, that saves me some time.

If she marked students' presentations, for example, she explained, "There would just be [a] marking scheme of the test, with a...presentation, and...marks on...their content." She also assessed "the way they were able to present it." She said, "Sometimes the students do peer-assessing, which I don't count a whole lot, but [I incorporate it] just to let them understand what it feels like to be in that position, and what you actually have to look for." When the students assessed each other, Reva took that mark and with her own mark "average[d] the two, or put their's down a little bit lower."..."If it's a written assignment, then I sit down [and] I think [about] what I [am] looking for. And I make marking sheets, so I know I'm looking for these exact things [and] so I'm marking the same [criteria]." When in doubt, Reva did not hesitate to consult with colleagues or the
administration and ask them: “What would you do here? How would you make this work? What do you feel we should look for? What do we need?”

Reva’s primary assessment approach was observation. There was, however, also “a lot of peer coaching [in her classroom].” Basically, she said, “in the end, if they’re able to master all the different stitches, then the bag [they are making is] going to turn out really well by the time they’re done. The slower [students] won’t get to put on like little decals and stuff like that. But they’ll just have a nice plain bag in the end.”

In terms of feedback, Reva said,

I’m constantly talking to them. I’m looking at them when I’m walking around and I’m saying, “That’s good,” and “You’re going to have to work on this.”...So it’s constant oral feedback, the entire time. [After that,] they get a little evaluation sheet on the final product. It just is a little marking scheme on the overall look of the bag, the seams, the hem, and then, effort and then their mark on it. So it’s just a little, twenty marks or whatever.

When I asked Reva if she gave students the criteria beforehand, she said, “I’ve never given it to them before. I should probably but...that’s a very good idea. I’ll incorporate that into my lesson next year.”

Reva’s instruction and assessment revolved around a performance project which consisted of a series of steps that provided essential scaffolding for her students. The skills they learned in the practical courses she taught (for example, family studies) were easily adapted to projects and application learning in various units.

**Monica**

Monica had taught for 22 years and was 43 years old in 1999. In 1997 and 1998, Monica taught grade two early French immersion which she said, “was a great departure from having taught grade eight late immersion for a number of years.” Monica was also working half-time this year. She taught French language arts and social science. Her classes were comprised of 20 students where most students were Anglo-Saxon. Monica described herself as motherly and enjoyed being with her students.

I’m very comfortable with them. I think motherly more than anything. I just love them to pieces. They’re great kids. It’s always fun to come in and see what’s going to hold for that particular day. They’re really wonderful children.
In 1999, Monica taught French language arts, social studies, science and math. Her class size was around 23, primarily Anglo-Saxon, ESL students. Monica described her class as having

an open carpet area in the centre, which is for [any] sort of group teaching and so on, and then its a U, two rows that form a U around the carpet, and facing the front board, with a row of computers along one side, and a round table and another sort of rectangular table at the back for different centres.

Monica stated that “assessment was one of [her] personal goals for the year” since she was concerned with “how [she was] assessing for the new report card format.” Monica’s assessment was both focused on the individual and the collective as a whole. She explained that the reading activities that students engaged in and which were tape-recorded were individual endeavours where she was “looking for specific things [like] word recognition, pronunciation, [and] expression for their reading.” Collectively she video-taped students in groups where “we watched ourselves, and we looked at what things we did really well, and what things we can improve on for another time.”

Monica’s assessment, like many of the teachers at her school included, in part, a homework requirement which focused on students’ organizational skills. Since students essentially had different learning requirements, Monica explained that some students routinely achieved the outcomes while others did not. Throughout her units, Monica explained, “we’re not evaluating. [Instead], we’re kind of assessing if they’re able to do what we thought they should be able to do in [a] particular lesson.” When they’ve gone through that exploration, had a little bit of practice, then the assessment part will [take place].” Students received a worksheet where they had to explain what they did during a particular activity. In that way, both Monica and her students had “a record of what [students] needed, [whether] they showed knowledge? Were they able to apply [this knowledge]? And of course, did they go that extra mile? Did they really pick up on this, and did they see? Were they more creative in their application?”

As for other assessment strategies, Monica used an ongoing daily record of what students had learned on any given day. She also observed students and used checklists to document completed assignments with no actual opportunity for students to engage in
self- or peer-assessment. Monica provided informal feedback to her students regularly by communicating via journals. For instance she said,

I write back to them whatever they’ve written about, some personal comment about what they have shared about either their learning or what’s going on. As far as their day-to-day school work, they get incentives such as seeing [the] end-product, the display of all of their work. We set a criteria for what it should look like and what it should include and then model those things.

One of Monica’s’ personal expectations for her students was to ensure that they were engaged in their own learning. One of the ways she made sure of this was to reward them: “You know, they love the very immediate motivators like the stickers and candy kind of stuff. Plus, they know when they’ve done good work.” Other motivators included displaying students’ work.

Monica presented a consistent picture of her pedagogy over three years which was structured to provide students with the scaffolding necessary to move from one learning stage to another. She worked primarily within a framework of three stages that started off with oral work then moved to an application stage and finally, a performance stage. Very little summative assessment occurred until the third stage. Monica relied a great deal on past years of experience to plan her program and was constantly comparing the current year’s students with past student groups and their accomplishments. While her program allowed for different learning styles, she did not plan for this. Although she required a set order in the progression of the program and was extremely organized and structured, she was flexible enough to make changes in the programming if necessary although she struggled with this. Nevertheless, her instruction and assessment seemed regimented, lacking any sense of renewal as she used a familiar pattern that was replicated from year to year.
CHAPTER SIX: WHAT CHALLENGES DO TEACHERS EXPERIENCE IN ATTEMPTING TO IMPLEMENT NEW CLASSROOM ASSESSMENT PRACTICES?

This chapter addresses the first research question. Situations that teachers describe as those that challenge the assessment processes within their classrooms are examined. This study’s conceptual framework provides a guide to categorize the challenges according to three epistemological paradigms of knowledge interests: technical, practical and emancipatory. These interests provide lenses with which to scrutinize the phenomenon of classroom assessment and the teachers’ own experiences when implementing various assessment strategies in their classrooms. The chapter is divided into sub-sections that discuss the implementation of new assessment from the perspective of each of these paradigms in detail. Each sub-section contains responses from teachers over the three years of data collection (1997-1999).

Technical Interest of Assessment

This sub-section presents those issues or challenges the study’s sample of elementary teachers identify as technical issues in their practice of assessment during the years 1997-1999. An examination of technical issues of assessment that emerged from this study’s data set draws attention to the following: developing valid forms of measurement (for example, of outcomes, standards); assessment in integrated subjects; using a variety of new assessment procedures; reconciling assessment and reporting practices; and time, resources and school structures that influence the implementation of new assessment practices into the routines of the classroom.

Developing Valid Forms of Measurement

The majority of the teachers in this study were concerned with the accuracy and quality of their assessments that stemmed from difficulties that arose when working with outcomes and standards.

Outcomes

The challenge for the teachers in this study, then, became understanding the intent of the outcomes; developing plans for the use of these outcomes; establishing ways to
connect the outcomes to existing curriculum; and developing appropriate ways of measuring student performance.

Seven teachers (Tom, Helen, Jane, Monica, Rachel, Natalie, Reva) expressed experiencing difficulties working with outcomes which interfered with their instruction and assessment. Three of these teachers (Jane, Rachel, Tom) specifically raised concerns about developing indicators of the learning outcomes into reliable tools for measurement:

What is an "exceeds outcome," for example, in reading in a grade seven class? What is it? No one has really told us. For example, if your outcome was--and these are from the list that they gave us--"reads widely and diversely," well, what does "exceeds" mean? Does that mean that they read 20 books a term, 40 books a term? No one is really clear.

Tom felt that he could never be sure if he had the proficiency to measure outcomes-based learning. He recognized that he frequently did not use the appropriate assessment tool to evaluate students.

Well for me again it comes back to this: if you meet the minimum standards of this lab write-up or of this whole unit and you've got the pieces of evidence and together along with my anecdotal notes that will allow me to say that, "Yes this student has probably met the outcomes." I can never say that for sure because some of the things are unmeasurable or again I don't have the right [assessment] tools to measure them.

Compounding this situation of not being able to accurately measure student outcomes, Tom found himself focusing on the final product rather than on the process because the process was too difficult to evaluate: "Even with performance tasks, there's still a really heavy [emphasis] on product rather than on skills that are applied to get it there because skills are not easy to measure."

Like most of the teachers in the study, Helen used her assessment to determine the degree to which the students had achieved the outcomes. She relied on her assessment to validate her students' learning. Both Helen and Jane worried about their ability to create a good test that would reveal their students' actual learning.

I've written some really good tests and some really, really crummy tests. I consider if they can do well on a test, then I've done my job. If they don't do well there is something wrong with the way either I've [created] the test material, or the way I presented this piece of information. I...don't feel that most of us are good enough at
designing tests that really, really determine what kids have learned, and what kids can do, or where kids need help.

Monica was also concerned about the quality of her assessments. For example, she taught French immersion and noted that assessing the learning of a new language was different from assessing understanding of content or performance of a task. Consequently, she did not always feel her assessments were successful.

It's easy to assess understanding; it's easy to assess how you can perform on a given task, but we have to keep stressing that this is a highly oral program. Although we do practice things like phonics, it's not pencil-paper. These aren't papers you're evaluating but rather the process. It's always process. Teaching this level has really made me think about the process of learning, because you don't have it in any tangible things. You don't have the essays or the paper or the composition or the test.

Rachel pointed out her concerns of having to assess her students based solely on the achievement of outcomes (mandated by the report card) while she believed that she could make a better judgement about their abilities when she also considered the affective domain:

I can't use anecdotal stuff anymore. In previous years... if [students] put a lot of really good effort into [their work], I might have had a mark for that. But according to the new assessment guides, there is no room for that. It's just what they achieve whether it be on a test or a project or seminar, whatever. And that's all that I can use, so I take those marks, and I get the grade that way.

Standards

Natalie spoke wistfully about the seemingly impossible task of creating standards that would satisfy everybody. She asked why there were standards to begin with since students who were unable to achieve the standards were rarely held back:

...they set standards. Like, they say, in grade 3 every child is supposed to have multiplied to the 5 times table, or whatever it is. But how many grade 3 children are kept back because they don't? What does it really mean to set a standard? Nada, really.

Jane noted the discrepancy between the secondary and elementary panels' notions of standards. She was concerned about the incongruent expectations at the elementary
level used to maintain standards but which were not aligned with those at the secondary level.

I’m also concerned sometimes when I hear about what’s happening in secondary schools...we’re working really, really hard to develop this whole Common Curriculum, this whole standards-based stuff and it is not happening [at the secondary level].

Tom struggled with understanding the terminology used to describe student achievement levels. He said he found the achievement levels too vague:

It's easier in one way to mark with the levels, but I think they’re still a little bit vague and general. I prefer really clear criteria that sort of spells out what’s expected and then leaves a little bit of room.

Reva found that her expectations for her students were too low because she had never taught grade nine before.

[When]...I...start[ed] to teach grade nine, (’cause the oldest I had taught was grade eight), I wasn’t sure where they were, [that is,] just what their levels would be. So I think I started very low. I’d given them a grade out of five at the start...so it was just, sort of figuring out. I’m still figuring out where they should be at.

In another instance, Tom described how some students in his math class solved a problem in several different ways. He was left with the following questions: “How should I mark students’ solutions when they are all so different, yet correct?” “Whose solution is better?”

Some things aren’t measurable. The other day I had a [number of] student[s]...in math in grade 8 who got the solution...Five kids put up their hands. I know that...showed me that [they] had the solution...I get such a buzz out of recognizing the diversity of solutions and recognizing that there are different ways of solving the problem.

Having discovered, therefore, that similar outcomes used with different groups of students generally had different results, Tom raised the reliability issue by asking, “How repeatable are outcomes” for different sets of students? Another teacher, Jack, commented:

[Teaching] is a living thing. You’re always adjusting, finding things to do. I’m looking at every group of kids that come in [and who] change [my assessment]. You might
have the same outcomes. You may use different indicators. You might use the same methods to get there [but they] aren’t always the same.

Jane also wondered if students could realistically “reach a common set of expectations [or outcomes]?” She continued by saying, “[students are] all going to be at different levels [anyway]. According to Tom, *The Common Curriculum* document offered limited assistance for teachers in situations where it was difficult to measure student achievement.

I don’t want to speak for other teachers but I’ve heard this a number of times now, and personally *The Common Curriculum* is a neat idea but it doesn’t help right now...; it doesn’t help students; it doesn’t help teachers program for student success...If I see that a kid can’t reach that outcome at a respectable level or can’t reach it at all, there’s nothing in place [in *The Common Curriculum*] besides what I know already to program for them, and we all feel limited.

When making measurement decisions for students who either met the outcomes in different ways, or when students did not meet the outcomes at all, Tom confessed to being confused: “I don’t know how to relate my assessment or how to relate my evaluation that tightly with the *Common Curriculum*.”

Some teachers in the study found the job of understanding outcomes and standards and turning this understanding into practice difficult. The teachers did not explicitly indicate that they were in disagreement with the notion of outcomes-based learning, but there was aggressive questioning about what those expectations should be, what purpose they served and how they could accommodate all students. Since educational outcomes are allegedly the best judgments by educators about what students should know and be able to do, understanding student outcomes and how to translate this understanding into practice emerged as a focal point of teacher concern in this section. The following questions were the most common among the teachers: How do you assess outcomes (for example, which assessment strategies to use)? How repeatable are outcomes for different sets of students? Can students realistically reach a common set of expectations or outcomes?
Assessment in Integrated Subjects

Two teachers (Jane, Tom), expressed anxiety related to assessment in those subjects with which they were the least familiar. These concerns were rooted in the teachers’ own insecurities concerning the learning (and teaching) of unfamiliar subject matter when involved in an integrated curriculum, as well as abandoning their traditional single subject-based practice. These teachers showed a lack of confidence or expressed anxiety over the loss of control when they were asked to integrate unfamiliar subject matter.

Lots of people who came into teaching say 25, 26, 27, 28 years ago came because they had a control over a subject. Now there isn’t that same level of control, either of the material or of the students themselves.

This lack of subject knowledge had serious consequences when creating tests for students since the tests often were not designed to give students their best chance for succeeding. Jane commented: “I…don’t feel that most of us are good enough at designing tests that really determine what kids have learned, and what kids can do or where kids need help.”

Tom said that he found doing assessment in subjects with which he was unfamiliar, difficult: “[In English,] I really didn’t have any basis [for instruction and assessment], besides my own knowledge of literacy and language curriculum [with which] to assess them.” Assessment in science was much easier (a subject he was extremely familiar with and which lent itself to a certain kind of knowledge and skill) than in other subject areas with which he was less familiar: “With science, [assessment is] much easier [than other subjects] because it’s lots of skills-based stuff as well as knowledge content.”

Jack was the only teacher who was actually able to conceptually move beyond the technical issues of integration and critically discuss his beliefs about integration. He was not convinced that what was taught and learned under the heading of integration was as rigorous and coherent as teaching and learning of the more traditional subjects.

The problem is keeping integrity to discipline, because our report card is still set up by discipline, which I kind of, at this stage in my career, still agree with. When you go
into complete integration, and fudge the lines, or fade the lines between disciplines, then some of that essence that the kids really need, is lost.

Teachers, therefore, expressed anxiety related to assessment in unfamiliar subjects. These concerns were rooted in the teachers' insecurities concerning the learning (and teaching) of unfamiliar subject matter, as well as abandoning their traditional single subject-based practice. Such teachers showed a lack of confidence or expressed how the loss of control affected them when they were asked to integrate unfamiliar subject matter. This lack of subject knowledge had serious consequences when creating tests for students since the tests often were not designed to give students their best chance for succeeding. It seemed, from one teacher's perceptions, that unless a teacher was passionate about and also an expert in the subject they taught, competency levels dropped in teaching and assessing as well as in the students' own learning in that subject.

Using a Variety of New Assessment Procedures

Teachers in general are struggling to understand the relationship between outcomes, proficiencies, indicators, criteria and standards (Marzano, 1994), as well as learning a whole new set of assessment methods (for example, performance assessment, portfolios, demonstrations), changing the way they keep records of student learning, coming to agreement about the criteria for judging student work and designing new ways of reporting to parents. Earl and Cousins (1993) maintain that teachers are also beginning to realize that assessments are becoming more complex and sophisticated since there are more culturally diverse populations of students in their classrooms and because assessment strategies themselves are becoming more wide ranging; one assessment approach does not accommodate all students.

All the teachers in this study either used a variety of methodologies to assess and evaluate student learning or seemed to recognize the value of new assessment. Monica commented: "I'm always looking for some more assessment tools...So I'd like to have...more of a variety of assessment tools...I'd like to try to do some different things that I didn't do [in the past]." Teachers' understandings and approaches to assessment in this study, however, were sometimes problematic. Often they were not sure what assessment strategies were available to use; how to use these assessment strategies; when to use them appropriately; and when to be satisfied that these assessment strategies were
useful. While more and more teachers in the study were using new assessments, some experienced more difficulties than others. For example, Tom commented:

I think it's one of the toughest topics in teaching right now, doing assessment, doing good assessments so that kids know what's expected of them, and how they can demonstrate what they need to know to meet the expectations. That's a tough area...the more I get involved in assessment the more confused I get.

Other problems included the time-consuming nature of implementing new assessments with no extra resources. Helen thought that new assessments were "very time consuming." While classroom assessment includes various strategies, five teachers spoke specifically about portfolios, self and peer assessment, group work, rubrics and writing folders. Rachel noted that since portfolios were rarely used in the high school there was little incentive to continue the use of portfolios in grade eight:

...they don't take their portfolios with them to high school, at least not yet.... That's why I've always stopped around January. Like, I need a reason to keep going. And I know there are good points to portfolios...but [these good points] are not [enough incentive for their continued use].

Jane commented that students did not always return their work from home, which hampered the successful implementation of self and peer assessment.

I have a lot of self-assessment on the kids' parts, [and] peer assessment. I sometimes have them take it to somebody else entirely. Another adult, another non-involved adult...like a parent...It could be a parent, but my only problem is we seem to have kids who never bring things back, so it's really risky when you send a lot of stuff home.

Jane was also cautious when using group assessment and found it necessary to assess students individually as well:

I'm a little bit careful about too much group stuff because it is always very hard to distinguish [the work among students].... So, I have them do a lot of stuff together, but I do a lot of individual checking as best I can with thirty people.

Most teachers in the study avoided using rubrics altogether or used them sparingly since, from their perspective, developing and implementing rubrics was time consuming as well as provocative since their students preferred marks. Rachel commented, "Creating rubrics is very time consuming. I do it with the students. I haven't done it [in] math. I've
done it [in] English. But still, they’re very time consuming to create.” Rachel noted that the use of rubrics was an unfamiliar concept for many teachers at her school: “Designing a rubric was another thing—you know, coming up with those things, that was totally new for us.” Reva stated that she did not use rubrics in sewing because “it’s too hectic.” Jane found that she had to translate any generic rubrics she received from her board to ensure that her students understood them.

I set out for each project that they did to design some really clear-cut kid language rubrics. Some of the rubrics...are wonderful and I think it delineates things very well, but sometimes I think it’s in language that the kids find a little bit challenging. It sounds too educationese.

In addition, Jane noted difficulties in her split grade 7 and 8 class when some of her students could not distinguish between levels in the rubrics. For example, while her grade 8 students could distinguish between levels, the grade 7 students could not.

You know it’s a little bit hard right now because when they come into family studies, and they are creating something, you can do it with the grade 8 kids, and I will do that with the grade 7 kids this year.

Jane concluded that “teachers [use rubrics] in subjects where kids already have an experience [with them].” More importantly, students often did not comprehend them. Students still wanted to know if their work was worth an A, a B or a C.

You see this is another problem with this, using the rubric for an assessment. The kids are still having a tough time buying into [them], like understanding. They still want to know, when you give them a rubric for the beginning of the unit, “is this an A, is this a B, is this a C?” And that’s what they try to work towards. So that’s going to take some time on their parts to get used to it too.

Jane cautioned against over rubricating. In other words, rubrics are not appropriate for every task nor are they objective: “There are some things for which the rubrics don’t work...[and] there’s always this bit of subjectivity in it that you want to make sure that you’re being as fair as possible.”

In this sub-section we see that the shift from traditional assessment to new assessment poses major challenges for teachers. Teachers described their experiences using portfolios, self and peer assessment, group work and rubrics. Some of the problems they encountered included: the time-consuming nature of portfolios and rubrics; negative
student dynamics when employing peer-assessment; and concern that students were not achieving the expectations while engaging in group work. While teachers allegedly have the sustained opportunity and intimate knowledge of both students and the program to capture in detail each student's learning over the course of time, the majority of the teachers in this study did not know enough to implement new models of assessment and evaluation. They were struggling with knowing what assessment strategies were available to use; how to use new assessment strategies; when to use them appropriately; and also in becoming personally convinced that these assessment strategies were useful.

Assessing and Reporting

Reporting was of particular concern for the teachers in this study. The majority of the teachers were faced with developing methods of translating their assessment into marks and then into grades for the report card. Teachers had difficulty understanding a new reporting system particularly since the report card was often inconsistent with the approaches to assessment that they were using.

Reconciling Reporting With Assessment

Reporting was a particular concern for the majority of the teachers in this study. Teachers were struggling with how to translate their instruction and assessment into marks and then grades for the report card. Teachers also had little incentive to use new assessment strategies with the demands for marks. For example, Tom said, “We can’t assess [the way the] Common Curriculum [advocates] if we’re giving marks for subjects. We can’t do it.”

Reva stated, “I feel really comfortable with the teaching [but] the assessing, not really great, because half of the time what [students are] doing isn’t being marked. But then again maybe [marks may not be] what it’s all about.” She explained that the tasks students were engaged in were designed to promote learning and did not revolve around marks, yet she felt obligated to mark everything in order to meet the requirements of the report card. She preferred viewing assessment as a component of student learning.

It would be nice if we didn’t have to [mark students]. Because, going back to the family studies, they’re sewing, they’re cooking, they’re not getting marked on it. And if I told them you know, “You’re not getting marked on this,” they’re still going to do it. But if I was to give them written work, they wouldn’t hand it in knowing that it
wasn't going to be graded. So it's driven by grades and report cards for them, and for us too.

As a compromise, Reva experimented with new marking strategies in another class, by involving her students in creating a marking scheme.

For my grade 7 history they had three choices of newspaper assignments on conflict. And I explained to them you know we have to mark them. We have to come up with three different marking schemes. So in their groups, they came up with the marking schemes. So they sort of understood... They probably could have come up with [a plan for] what do you have to have for A and B, a C or a D? So I think that's probably a really good idea, so they know what they're looking for.

Four teachers expressed specific difficulties understanding the new reporting system. Tom acknowledged the hypocrisy of marking for the report card and trying to do what the curriculum asked of teachers (that is, to introduce new assessment in their classrooms).

...because we report subject marks [where's the need to align our assessment with the curriculum?]. You know English 55%, English 90%, science, 75%, effort: poor and a comment. So where is the need to align this with the Common Curriculum? There's no need for it. So if there's no need for it, who's going to make the jump [in learning] and invest the hours in [using new assessment].

Teachers found that the requirements to complete the report card were often incompatible with the assessment approaches that they were being asked to use.

We had a lot of trouble this year because the marks didn't mesh with the [new outcomes-based] report card. I can certainly see if a kid is exceeding or meeting [the outcomes], but, then, when you have to match that with a mark, that's where we're having trouble.

Teachers discovered that assessment for learning made the reporting task more forbidding because they then had to defend why students received the mark they did.

I think what's challenging but interesting is that we can't just say, "Your child passed." We have to say, "This is why your child passed", or "This is why your child didn't meet the expectations."

Tom was concerned that the marks he assigned did not really indicate how a student arrived there. He did not feel he could adequately distinguish between an 85% and 87%.
It's all the same thing. If you have a level four and an eighty percent, between eighty and one hundred percent, what's the difference? What's the difference between a student who gets an eighty-five and an eighty-seven? There is no difference. There may be differences in the way that they got there, but that's not going to be reflected in a rubric, and it's not going to be reflected in a mark.

He continued along that line of thinking by asking: “Is this mark that they get on the report card a realistic look at what they have learned? And I'd have to say, “No it isn’t.” But it is something that represents what they have accomplished.” Helen commented that the hardest part of assessment and reporting was contending with shifting attitudes among teachers as they adjusted (or did not adjust) to new grading practices.

I think attitudes in a big way will get in the way. People are very, very used to saying the mark is eight-two percent and how do I make that into expectations? How do I do that, you know? It's going to be a shift in the way they think about reporting. I think that's going to be big, and [there will be] a lot of complaining.

In addition, Jane wrestled with questions like: “What do I assess?”; “Do I need to assess everything?”; “Do I need a rubric for everything?”; “Do I need to prove my marking?”; and “How do I prove my marking?”

This section has described how these teachers were situated on both sides of the assessment debate. They asked the following questions: “Is it possible to use the same assessments for sorting and selecting students (that is, marking, grading), as well as for providing feedback for improving learning?” Although it seems increasingly obvious that these two purposes were inherently incompatible, the teachers in this study, nevertheless, attempted to integrate them. The teachers tried to discover connections between the outcomes, assessment and evaluation components in order to provide an accurate and detailed picture of student learning for themselves as well as for students and parents.

**External and Structural Factors**

Seven teachers experienced problems in terms of their school’s capacity to accommodate new assessment. These teachers indicated that school structures and external factors (for example, curriculum) were barriers to use new assessment. Teachers identified the following as the main factors impeding their efforts with assessment: difficulty making sense of the curriculum guidelines; inflexible timetables; lack of time;
inadequate support and resources; and prohibitively large class sizes. These will be discussed in the following section.

**Curriculum Guidelines**

If teachers are going to experiment with new assessments as the curriculum documents suggest they should, they need to understand the instruction and assessment guidelines. Curriculum documents provide teachers with outcomes, performance indicators and pedagogical objectives for instruction and assessment. Ideally, teachers possess a level of curriculum literacy that enables them to build upon the information in these guidelines. However, five teachers in this study discovered that it took considerable time and effort to decipher the policy documents. Helen admitted that it took some effort on her part to learn the curriculum particularly since she felt it was vague and ambiguous. She said, “It took me awhile. As I said it took me a couple of years to get it. Sometimes it’s so vague, and you really don’t know what [the Ministry] is looking for.” Reva commented that she was not familiar with the curriculum document and as a result, relied on her personal outcomes for some of her lessons.

I guess the [goals of the lesson came] from me. I guess they must be in the guidelines as well too, somewhere. But I wasn’t really familiar with the family studies guidelines before having to teach it this year.

It seemed as if the lack of accessibility, clarity or the presentation quality inhibited the use of the curriculum to its fullest potential. Helen maintained that “sometimes [the Common Curriculum is] vague, and you really don’t know what they are looking for.” In addition, certain subject areas were without new assessment guidelines, which left the teachers with only their traditional assessment strategies.

You see they haven’t come up with a lot [of assessment guidance in the Common Curriculum]. In science, they’re starting. They’re starting to look at how we can do some assessment right now. I think it’s all still very traditional, the way you know, “O.K., here’s the information. Let’s teach it. Let’s maybe do a lab now. Let’s do a test,” and I think there’s got to be more to it then that.

Tom agreed that one of the limitations of the Common Curriculum was the lack of assessment guidance.
We don’t have evaluation tools [for assessment], and I think that’s probably one of the biggest weaknesses of the Common Curriculum. There are no evaluation tools in place that teachers can rely on at least none that I see. Most people rely on exactly the same things that they have always relied on.

Reva said she only selected the parts of the curriculum that she understood, thereby acknowledging her students did not receive a comprehensive education.

I pick and choose what I’m going [to do]…I have to understand it first. There are so many documents that are coming out now where the wording is so bizarre…I don’t know if it’s in that one but the new ones that are coming out where I don’t even know what they mean…like an outcome that the children will be able to philosophize about the literary element in [a certain subject]…and I don’t even know what it means so how can I teach it? And there’s no place that ever explains that. So I pick and choose. And maybe that’s not right to do, but until I can understand what they’re trying to get us to do [what do I do?].

On the other hand, there were teachers who appreciated the lack of prescriptiveness in the Common Curriculum. For example, Jack offered as a caveat that it was necessary to use the Common Curriculum simply as a guide since he found he was continually making adjustments for different groups of students. Monica supported this observation since she found that there was never perfect synchrony between curriculum and student.

You know it never really works for me for someone to just hand me, you know, “Here it is and now do it.” You know, it’s never quite the perfect fit. Just as this particular group of students, what they have been able to accomplish and where they will be in their growth by the end of the year is certainly not the same point where last year’s group was.

Two teachers expressed their concerns over not having the curriculum document with the expectations in their possession to adequately prepare for the instruction and assessment of the courses they would be teaching in the upcoming school year. For example, Jack had not received the curriculum of the subjects he would be teaching before the next school year.

We don’t have a copy of the topics we’re teaching in the fall. They’re still trying to work this out and I’d like to have it and do it. And I have an idea of the topics, but I don’t know what they’re looking at as expectations now.
Monica was teaching a French Immersion course for which there were no curriculum documents outlining the course expectations. Therefore, she did not know what outcomes to use with which to assess her students.

I always have a missing link right there because doing French immersion I don’t quite fit into any block. So we have the language and we have the math that are out, but we don’t have anything for second language and French immersion at this level, so, it’s like, “O.K., so what exactly am I assessing?” What’s realistic as a grade two French immersion expectation for French language arts? Well, in the end, you know, I made up the plan. You end up doing that on your own.

Tom expressed his discomfort about making judgments on students’ work without the aid of exemplars and felt that the absence of exemplars was a serious deficiency in the curriculum: “I had nothing really solid like the exemplars they’ve put out now to base my judgement on. It’s one of the shortcomings of the curriculum.” He also wondered if his marking was too rigorous and felt uncertain about the evaluation of his students since there were no exemplars available for teachers: “I don’t know if I’m marking too hard, and that’s really hard. There aren’t any examples.” Jack illustrated how even available exemplars were not user-friendly and hence they would not be very useful. He said, “[Even though teachers are] giv[en] exemplars on the way it could be done, if you don’t make it teacher friendly, it doesn’t get used.”

**Timetables**

Implementing new assessment required teachers to plan, share teaching assignments, develop and deliver integrated units and provide ongoing student support. However, many of these initiatives were contingent on a flexible timetable. Jane indicated the inherent difficulties associated with rotary scheduling and 40 minute periods by saying that, she didn’t have a chance to get to know her students, and they didn’t have time to do new things like creating rubrics together.

I don’t see [the students] enough. If I was in a language arts or social science class, where I saw the kids every day and had a block of time, then I would get them to develop [the rubric].

Jack said, “In forty minutes you can’t do a lot. So, by the time the kids come in, get their folders out and get moving, it takes awhile.”
Time

The lack of time for assessment was a problem for the majority of the teachers. Jack noted that it took him considerable time to learn how to link essential learning with the disciplines. He commented,

*The Common Curriculum* is [set up] with the idea of the ten essentials. It took a while for people to realize, (including myself), that you make your selection of the ten first when you do it, and then you tailor out the next 4 into that, so you’ve got a pretty broad outcome, and then you go to the discipline to see the disciplines where you can connect. To be very honest, as a classroom teacher, I don’t see any teacher having that kind of time to do that, if they’re doing the kind of evaluation, preparation, and presentation, they’re supposed to be doing in the classroom, to have that time to philosophically make the connections.

Jane noticed that when she was able to work with students for longer periods of time, activities like self-assessment became possible. That also meant, however, that she needed more time for this assessment approach.

Well, I think you get to know the kids better having them so much for such a long period during the day. So, things like self-evaluation become more relevant because you know the kids as individuals, whereas if you saw them 40 minutes a day for science, you don’t really get to know them as you would working with them on a more personal basis.

Insufficient time is one of the most frequent problems cited in the literature with regard to implementing new assessment (Stiggins, 1995). Writing anecdotal comments; undertaking one-to-one conferencing; and implementing other assessment strategies all subject teachers to major time constraints (Wilson, 1996). Jack noted, “I would really love to do anecdotal [reports], but I resent the amount of time that it would take me.” When Jack was asked what he would change if he had to do a unit over again, he responded by saying that he would have thought more carefully in advance about how much time and energy he would need to invest in his assessment of the students.

I’d have been a bit more disciplined myself about the evaluation process. It’s lingering on because of the nature of the project. It’s one of the considerations I tell any teacher – consider what it’s going to cost you, in your time. I mean, if I give an assignment, I have to now measure, because of the nature of what we try to do, what it’s going to do
to me. Because if I haven’t got any idea of when I’m worn out, then a lot of the other stuff doesn’t work.

Jack experimented with different approaches to circumvent the time consuming demands of writing anecdotal comments on the report card. For example, he used point form comments to shorten the whole process of filling in the report cards.

I played with [the report card] a couple of years ago. What a time consumer. If you do it in sentences, the way they say, and you work it all out—it would take an unbelievable amount of time. You wouldn’t believe how much time [it takes]. So I did it one term that way, then, the next term, I went back to point form and [it was] fine. There are pros and cons both ways. If you go to sentences, in those big spaces, you’ll get some teachers making two sentences, which doesn’t really reflect the expectations.... Sometimes I think the changes that are made really attack our integrity, and they’re almost encouraging us to cheat and find the easy way out.

Another example of the time-consuming nature of evaluation was given by Monica who used to stay up until four a.m. to complete her report cards.

When you’re doing reports at four a.m., maybe that’s a sign that [I’m spending too much time on assessment. For example],...I have this gal delivering the paper and she used to deliver it at four a.m. and I said, “Well, why don’t you just come in for coffee”, because she’d seen me at the dining room table. Either I could deliver papers or do report cards at four a.m.

Three teachers noted that assessment was just as important as instruction and took as much or more time as instruction.

...but now it’s almost [accepted that] the assessment [and] evaluation should have equal space as the lesson part itself. It’s part of them, and I don’t think it’s going to work ‘cause it takes a lot of time to do that.

Assessing is far more time consuming [than instruction]. Making the rubrics [is time consuming]. [So is] reading kids’ work. I mark almost everything they do. Not always. I suppose I don’t have to mark as much. But if I don’t look at it then I don’t know where they are. [I’m assessing them every day] pretty much. In one way or another, I take something home.

Sometimes I think in the past we set things up so that you could kind of give the kids the work and then you could sit back a little bit...But the way you need to assess now, and the amount of curriculum there is, all of those things, a whole package of things,
you’ve got to be out on that floor every minute, you know, moving, moving, moving, moving around. You know, there’s no sort of down time where you’ve given the kids the work and you say, “Alright, go to it guys,” you know. Because there’s such a varying level of need. But then you still have to assess it based on this standard.

When looking at assessment as a tool to guide student learning, it became even more time consuming.

I spend an awful lot of time assessing. I mean, now, even, if I give a math test, even a straightforward math test, I take it home, I put the mark on in my thing on the computer, and then I analyse everything that the kid had difficulty with or what they did well with, you know. So you’re looking at strengths or weaknesses with every little [thing]. That’s a lot of work. So it’s not just a matter of getting that grade on it, and saying they did this, but individually, so that I can comment to parents: “Well they did really well with this aspect of it, but struggled a little bit with this.”

Jack claimed he spent too much time on assessment but argued that assessment drives instruction and student learning.

[I devote too much time to assessment] considering what we have to accomplish in the year, according to the expectations. I spend too much time at home going through stuff. I can do a lot of peer evaluation. I can do a lot of individual evaluation with the kids. But there are some things that still come down to immense loads of time on my part to do. And if you do history and geography, there’s a lot of written material that needs to be worked through one way or another, or assignments they’ve had to do and you need to work [it] through. So I’ve learned very quickly in the last three or four years, you can kill yourself very easily.

Jack mentioned that it took time for new teachers to become familiar with the Ministry of Education’s expectations.

[ Becoming familiar with the expectations] can be very intimidating for a new teacher. And it takes a while too to make sure you have those expectations down to the very core of it too. I know [the Ministry] tried in writing to be very clear and specific, but they’re not, because all those little exemplars they put in and all this stuff confused the matter a great deal because then people didn’t read the expectation. They read the example. Oh, I’ve got to teach this example. But we don’t have time. And time is something that we’re going to have less and less of to do with. So I would say that the thing I’d like to shoot for is have more time to spend on planning to make sure that what I was going to do was basically following a very strong direction, and we don’t have that time.
Jack continued by saying that since effective learning relies on immediate feedback to students, “you reduce your effectiveness in the classroom because you can’t come back quickly with th[e] assessment they need, and after a while it’s meaningless, [that is,] they get it three or four weeks later. So, [the assessment] loses that effect.” Finally, Rachel said that although she would like to use portfolios in her class they were “too time consuming.”

I would like to be able to do more with portfolios. But it’s a time factor, so what do I do? I pull portfolios out of English...It’s taught me to balance all the things that need to be taught in the curriculum, get it done, and yet do the groups and the portfolios and so on. And I don’t think it’s mismanagement of time. There’s just not enough time. That’s probably what I find the hardest...I’d probably use the portfolio. I would really like a nice quick easier way of doing portfolios so that they’re not so time consuming.

Class Size

Class sizes affected teachers’ efforts to implement new assessment. Large class sizes made it difficult for teachers to have one-to-one contact with students. In corroboration of this, Jack said the following:

I [have a] problem [with] the number of kids I have in my classroom...If you were looking at spending ten minutes with each child, your school day is gone. You just cannot do that. So, you try to keep in mind about contacting every kid during the day, certainly in a day and a half...because I really believe [the interactions between] kids and their teacher are important, just like [those with] their parents are.

Class size frequently determined the type of instruction and assessment the teacher employed. Jack also found it challenging to find the time to confer with each student on a daily basis because he had so many students in his class: “If you were looking at spending ten minutes with each child, your school day is gone, and then more. You just cannot do that.” Tom concluded that it was extremely difficult to use a range of assessment tools with a large class.

...in a class of 37 I can’t give them that wide a variety of instruments in any one task. That’s too hard for me, hour wise, time wise to do...so over the whole course of it I use different assessment strategies, evaluation strategies to do that, but that’s just...I know it’s not a weakness, but I acknowledge the difficulty of evaluation and assessment.
Natalie explained how having too many students in her classes made staff evaluation meetings and parent interviews embarrassing because in the discussions she had difficulty remembering some of her students’ names.

If a parent calls, I would say, “Send the student with the work, and the evaluation sheets, and set up an appointment.” Isn’t that stupid? In grade 6? To have to say that to a grade 6 kid? It’s like, “Make an appointment with me,” like a professor or something. And I thought it was ridiculous. I mean, if I was a grade 6 parent, and I phoned a teacher, and they didn’t know who the student was at the end of the day [or] at the end of the year in June, and I would have to say make an appointment with the work and the evaluation sheets, wouldn’t that be [terrible]?

Reva explained how difficult it was to tailor a programme to students she did not know.

I don’t know who I’m tailoring it to. Like, let’s say you are a slow sewer. I wouldn’t know what your name was, but I knew that you were a slow sewer, and then I’d help you out, and you could get better at it. But I wouldn’t remember that I had to help you out, and I did that...So that’s probably the biggest problem with having so many kids coming through, and not for very long.

In summary, teachers experienced problems in terms of their school’s capacity to accommodate new assessment. These teachers indicated that school structures were barriers to using new assessment. Teachers discovered that it took considerable time and effort to decipher the policy documents which hampered their use of outcomes. In addition, certain subject areas were without new assessment guidelines. Teachers also noted that exemplars were not always available and when they were, they were not always useful. Many assessment initiatives were contingent on a flexible timetable. Teachers indicated the inherent difficulties associated with rotary scheduling and 40 minute periods. The lack of time for assessment was a problem for the majority of the teachers. Large class sizes affected teachers’ efforts to implement new assessment or one-to-one contact with students. Class size frequently determined the type of instruction and assessment the teacher employed.

**Practical Interest Of Assessment**

This section focuses on the problems teachers encountered when attempting to gain negotiated meaning with students and parents about the assessment approaches they were using in their classroom; when attempting to make assessment meaningful for
students; and when negotiating among the influences of power and politics that facilitated and militated against teachers' efforts. What characterized assessment in this second perspective was a focus on communication with both students and parents. Such an approach towards assessment brought teachers, students and parents together (or not), in dialogue or confrontation. Some students became much more knowledgeable about their role in the assessment process and about teachers' judgments of their learning. As well, some attempts were made by teachers to help parents become more knowledgeable about how their children were being evaluated and how they, as parents, could contribute to that assessment process. Teachers' attempts, however, were not always successful when communicating to students and parents about the assessment process. The data set indicates that teachers, parents and students often talked past each other.

**Negotiated Meaning**

Students, parents and teachers had different understandings of the purposes of assessment. Students' perceptions of marks, for example, were different than their teachers'. Specifically, both students and parents had difficulty understanding assessment as having any other purpose than for ranking; they had trouble seeing the benefits of rubrics as well as understanding the meaning of levels used in the achievement chart and in rubrics. In addition, parents (from the teachers' perspectives) were increasingly concerned about accountability issues. Teachers in particular experienced difficulties translating the report card into terminology that parents could understand. Other difficulties in communication occurred when teachers could not, in some instances, communicate effectively (or at all) about assessment to parents since the teachers did not understand certain assessment approaches themselves. Finally, the teachers in this study, had differing beliefs and understandings among themselves, about assessment.

**Student Understanding**

Jane described how her students still asked for marks despite her attempts to introduce other assessment strategies into her classroom. Perhaps more importantly, students wanted to know how they fared in comparison to their friends.

....the kids still want you...to give them a mark....In spite of all that we're doing, we're still hearing, "What did you give me?" "I didn't give you anything kiddo."

....There's still the emphasis [on marks]. I [taught] an English class last year and lots
of times I didn’t mark the final product. I had kids write about [the] final product. I mean I’ve always done that, but that bends them right out of shape—especially [when] I had French immersion students for English. They’re achievers. They’re number [type] people. They want a grade. They want a comparative grade.

While teachers used rubrics to guide both instruction and student learning, students had difficulty distinguishing between these purposes. For example, Jane’s students still wanted a letter grade on their rubrics.

You see [there] is another problem with this, using the rubric for an assessment. The kids are still having a tough time buying into [rubrics], like understanding [them]. They still want to know, when you give them a rubric for the beginning of the unit, “Is this an ‘A’? Is this a ‘B’? Is this a ‘C’?” And that’s what they try to work towards. So that’s going to take some time on their parts to get used to it.

She indicated that her students were also having difficulty comprehending the shift from letter grades to achievement levels. The difficulty she expressed revolved around the different conceptions teachers and students had of perfect work. While traditionally perfect work was rewarded with an ‘A’ grade, currently it only warranted a ‘B’ grade.

You’ve also got to get across to the kids that many times if you write a test, and you get perfect on it, that doesn’t mean it’s an ‘A’ level. I mean it’s not a level four. If nothing on that test sort of pushes you beyond what’s expected, and you do really well, well, it might be a high level three, but according to how we’ve been instructed to assess, it’s not beyond that. So right now, that whole shift from ninety to eighty to a hundred percent on a test gives you an ‘A’, which is a level four. It’s a great shift in thinking.

Jane continued by saying,

...you have to constantly remind the kids, and you almost have to teach them over and over again about how this assessment works. They’re used to having to get the [answers] all right. Therefore, [they say] “I got perfect, therefore I’m an ‘A’ student,” kind of thing. So you always have to remind them, if you give them a test that completing [the test], doing it well, getting most of it right, means that you are doing what you were supposed to do for a grade five [student], which puts you at a ‘B’ level.

Tom said that in three years, his students were only now shifting their thinking to achievement levels from percentages.
They're learning. They are now. I got an e-mail the other day, anonymous, that said, "[Teacher's name], do you think I'm going to get a level three on it?" They're getting used to that idea. You know, they can translate back and forth. Level three is a seventy-five, between seventy and eighty-five percent. A level four is over eighty-five percent. They've got that. They can flip back and forth. It's a piece of cake for most of them now.

**Parent Understanding**

In a traditional assessment paradigm, parents generally have little involvement in the assessment of their children other than signing the report card to verify its receipt (Hargreaves, Earl and Schmidt, forthcoming). Attempting to communicate with parents about the basis for report card marks, however, "is perhaps the most threatening step for teachers to take" since "in exposing students' work, they are exposing their own work to scrutiny" (Hargreaves, Earl and Schmidt, forthcoming). For example, when teachers made the effort to inform parents of their judgements and how they arrived at them, parents and teachers often differed in their criteria about how student achievement should be measured. The mutual understanding that is such an integral aspect of the practical interest of assessment was difficult to attain in many parent-teacher interactions. Misunderstandings resulted from the following scenarios: teachers measured students against achievement levels or a standard while parents wanted their children to be measured against each other (criterion vs. norm referenced based measurement). Teachers also stressed the importance of the process of learning while parents’ prime concern was the final product.

Within a practical perspective, the task of teachers becomes one of enriching everyone's understanding of assessment issues. This can mean not only explaining assessment criteria clearly and openly but also developing them with the cooperation of others, especially students, whenever feasible. Reva expressed concern about how little knowledge parents really had about assessment in schools.

I don't know how much [parents] really know [about our assessment]. I know that there are those sheets that come out for each school. You get a sheet that shows the benchmarks—that shows the outcomes for just how the students have done in their grading and a little bit of information about the school. There's a big binder in all the schools in [board name], and how they've done. So the parents could go to the
principal and say, “Can I see your sheet on the school?” sort of thing. So, that’s about the most information they have. I don’t think they really know a lot about the different booklets that we have and the documents that we have.

Tom noted that regardless of how hard he attempted to communicate with some parents about their child’s achievement, it was as if parents had blinders on. Not all parents would accept teachers’ judgements of their child’s achievement (or lack of achievement).

I call them to talk. I have one parent whose kid did not show up at school on a regular basis, and I called the [parents] up and said, “Your kid’s not doing well, and I’m going to fail him.” [All they could answer was] “but my kid has headaches.”

What generally occurred, from Jane’s perceptions, was that teachers ended up being dishonest with parents about their children’s achievement levels by telling parents what they wanted to hear.

You cross your fingers and hope that you’re doing the best all round at this point in time, and really, that’s all you can do until the whole learning process takes place for parents. You give them the results that they want to hear. I think, and it is my opinion, that we have not been very honest with parents over the last few years. I’ve particularly noticed this in Grade 7 and 8, where we’re making suggestions about kids’ high school programming. And kids whose reading levels are 2, 3, 4 years behind who have a nice 3 on their report card, which means the programs are modified, but there’s an ‘A’ or a ‘B’ on it so, it makes it sound like it’s all very good. That’s the one thing. When we truly get to outcomes-based learning...when we’re truly getting at that point where we’re looking at, “Has the kid reached the outcome? Yes or No.” There’s sort of a bottom line on this. Not that they’re badly behaved in class. [In fact,] they’re nice kids in class. They’re helpful and all that, but have they really achieved that [criterion]?

Five teachers commented on the difficulty parents had in understanding the new report cards. Both Helen and Tom noted that when parents shared similar values with teachers, and when they were supportive of teachers’ practices only then was shared meaning possible.

Parents...are wonderful, as I said before, [and] they’re very supportive. We just had interviews last week....they...generally say....really good things and [ask], “How can I help?”
I have some other parents who are extremely supportive, [and] who really like what
I'm doing... So parents who really like me have similar kinds of values that way.

Helen wanted to develop better communication strategies with parents: “I think I would
like to see clearer strategies in terms of how do we explain this to parents, and what is the
report card going to really look like?” Parents posed questions like, “What does a good
look like in relation to a percent, a letter grade and a level?” Some teachers were
concerned that parents would not interpret the report cards the way they were intended to
be interpreted. Since, traditionally, teachers translated their assessments into marks (for
example, grades), this permitted students to be compared to other students or measured
against a standard. Parents relied on a numeric grade as the symbol of their child’s
achievement. From the teachers’ perceptions, parents in this study did not hesitate to
communicate to the teachers their displeasure with the current report cards’ reliance
upon, what they perceived, as an alien system. The primary cause of the parents’
displeasure was the abandonment of the letter grades they understood and experienced as
students themselves and with which they were therefore familiar and comfortable. Jane
commented: “Parents still want to see where their kid falls out in terms of an ‘A’, a ‘B’, a
‘C’ and a ‘D’. Universities ask for the same things.”

[The] feedback on provincial report cards is [that] parents want grades on them.
Parents want letter marks on them, and they want to see ‘A’ = 80 - 100,...So, you’re
kind of caught in a conundrum as to what The Common Curriculum says and what
parents are saying.

Parents have already gone through that system themselves. We’re still fighting a battle
of parents who sat in rows, were assigned grades and there was the dumb part of the
class, well not quite,...but there’s a whole mind set.

The challenge for teachers was to communicate accurately and convincingly the
changes in assessment to parents. This became problematic and difficult for teachers to
do because the report card was often inconsistent with the approaches that teachers were
using for assessment. Teachers expressed feeling caught up in a dilemma due to
conflicting policy demands and with the new assessment they were attempting to
implement. Teachers’ difficulty in presenting a convincing argument to parents was also
augmented by the fact that teachers seemed to empathize with parents’ feelings and beliefs.

I would much prefer to be outcomes based but I also see the parents’ point. “You know my students are going to be in university and they give marks there, so why can’t we have marks now?”

Finally, a few teachers said that it became difficult for them to communicate expectations and outcomes to parents and the relation of these expectations to the achievement levels when teachers did not have a clear understanding of these concepts themselves. For example, Jane commented that she did not have a clear understanding of how to distinguish between achievement levels: “I don’t think many of us, if any of us, have come to grips with level one, level two, level three, level four.”

Communication with parents was made more difficult because teachers held differing beliefs about assessment among themselves. Inconsistencies among teachers’ knowledge of assessment was due to a general lack of assessment literacy. In this study, it became evident that teachers were struggling to understand the relationship between outcomes and standards as well as learning a whole new set of assessment methods (for example, portfolios, self-assessment, rubrics, and so forth), changing the way they kept records of student learning, coming to agreement about the criteria for judging student work and designing new ways of reporting to parents. Consequently, it was not surprising that there would be discrepancies among teachers in their assessment practice. Tom intimated that his assessment practice was different from those colleagues who used the bell curve as a tool in their evaluation of students: “A lot of my colleagues...[feel that if students] come in on the curve that’s great. I’m sorry, but I don’t buy that philosophically. I can’t buy that.”

Students, parents and teachers therefore, had different understandings of the purposes of assessment. The mutual understanding that is such an integral aspect of the practical perspective was difficult to attain in many parent-teacher and student-teacher interactions. Misunderstandings occurred when teachers measured students against achievement levels or a standard while parents wanted their children to be measured against each other (criterion vs. norm referenced based). Students also asked for marks despite teachers’ attempts to introduce other assessment strategies into their classrooms.
Such a deeply embedded outlook on assessment influenced the students' capacity to use rubrics and achievement levels.

Within the practical perspective of assessment, the task of teachers becomes one of enriching everyone's understanding of assessment issues. This means explaining assessment criteria clearly and openly. Teachers noted, however, that regardless of how hard they attempted to communicate with parents about their child's achievement, it was as if parents had blinders on. Not all parents would accept teachers' judgments of their child's achievement. Teachers were also concerned about parents' negative responses to report cards. They worried that parents would not interpret the report cards the way they were intended. The challenge for teachers then was to communicate accurately and convincingly the changes in assessment to parents. This however, became problematic and difficult for teachers to do because teachers expressed feeling caught in a dilemma due to conflicting policy demands and with the new assessment they were attempting to implement. Teachers' difficulty in presenting a convincing argument to parents was also augmented by the fact that teachers seemed to empathize with parents' feelings and beliefs. Finally, a few teachers said that it became difficult for them to communicate to parents their expectations and the relation of these expectations to the achievement levels when teachers did not have a clear understanding of these concepts themselves. There were also inconsistencies among teachers' knowledge of assessment. These discrepancies may be attributed to a general lack of assessment literacy.

**Transparent Expectations**

Teachers attempted to build better understanding with the students by clarifying assessment criteria, making them transparent and, where possible, involving students in developing and discussing aspects of the assessment criteria. Jane said that her students influenced her policy on clarifying her assessment protocol, which resulted in her providing more information as to how she arrived at their marks.

It used to be, I would say, traditionally kids got 8.5 out of 10, or 15 out of 20, and didn't really understand where those marks came from. So that has been my focus this year to develop all of my units that way so that the kids understood initially what was going to be expected and how it would be broken down. And how they would be assessed, and how they would self-assess.
Tom illustrated the difficulties that emerged when criteria were not transparent for students: "I had handed back the assignment they had done and kids were asking me why they were getting a seven and a half when they expected an eight out of ten."

Teachers attempted to build better understanding with the students by clarifying assessment criteria, making them transparent and, where possible, involving students in developing and discussing aspects of the assessment criteria. This practice was prompted by students asking, "What did their mark mean?" and "How did teachers arrive at student marks?"

**Power and Politics**

What we see in the data set are competing beliefs vying for justification. Who gets what and does what depends on the kind of power these individuals and groups can mobilize. Within a political framework, each group (for example, teachers, students, administrators, parents and government) has its own goals and interests that often conflict with the purposes of the others. Political tensions stem from the interactions among different groups of people. Politics, then, can undermine the successful implementation of innovations.

Teachers' efforts to introduce new assessment procedures were, at times, jeopardised by the prospect of a parental agenda that pitted new assessments with reporting. Teachers were dealing more and more with informed parents with a heightened awareness of accountability issues.

We have a community that keeps us very, very accountable for almost everything we do. We're under the[ir] scrutiny... There's an angry mob of about 15 or 20 [parents] that arrives here once a month with a bee in their bonnet and wait for the principal in the school office. But they're very aware of what's going on. They're much more aware of curriculum, what the expectations are at the provincial level, what the standards are, and boy oh boy, they want to see them being met. And I shouldn't [really] call them an angry mob. I mean, they're concerned.

Jack stated that his practice had evolved to the point that he felt he needed to be prepared to defend his judgements if challenged: "If someone [for example, a parent] were to walk in and say, 'prove it', I can take out my coded copy, and share it with somebody. And this is what we are doing."
Parents expressed discomfort with teachers’ use of rubrics. Parents’ disenchantment with the rubrics had the power to inhibit or even change teachers’ use of rubrics.

A lot of parents are very uncomfortable with the rubric as an assessment tool – the words that kept coming through were “it’s too vague; it’s not specific enough.” And, in fact, it’s more specific than it was before when you look at the learning outcome, and you look at how it’s going to be assessed. But parents are having a real tough time buying into it.

While it was noticeable that parents lacked a clear understanding of rubrics, this lack of understanding ultimately led to parents challenging teachers’ use of rubrics. As a result, teachers, who were themselves unsure or lacked confidence in their use of rubrics, complied with the parents’ wishes by discontinuing their use or modifying them. Without sufficient knowledge and a basic comfort level in how to use rubrics, these teachers were unable to successfully advocate for this new assessment tool. Parents’ negative reactions to the use of rubrics seemed to derail teachers’ efforts to use rubrics as is evident in the following remarks by Jane:

The teacher librarian here created a rubric...for marking a unit [that students] were working on together, and I think it was on disasters. The comment was - the parents didn’t like it - therefore they re-designed it. Well, again you’re caught in that middle, between the parental expectations [and wanting to introduce new assessment].

Two teachers also felt isolated when administrators did not take the time or show enough interest to support their efforts. For example, Jane expressed her frustration with a new administration since she and her last principal had been in agreement, but now, her new principal had no time to visit her classroom or to talk with her about assessment.

The administrators don’t really have time to do a whole lot of chatting....We’re shifting away from the notion of an administrator as a master teacher, who’s got time to really talk curriculum, to talk assessment. I mean, obviously, they care about [curriculum] a great deal and they support you in your quest for understanding it. But to actually have that sort of dialogue with them, no. Now, I’m supposed to be evaluated this year, ‘cause we do it on the three year cycles, and the vice principal is supposed to be evaluating, and I suppose that’s where the dialogue should come in. I grabbed him one day in the hall and said, “[Name] we’re deep into Egypt. You’re evaluating me this year. You better get in my room and chat with me—with my kids...
right now.” He said, “I don’t have time.” I said, “You have to make time right at this minute.” So I suppose in that whole process of evaluation we should be talking assessment, but he hasn’t. He hasn’t even had time to be in my room.

In another instance, Helen had changed her assessment from formal summative testing to a more informal formative assessment approach because she saw how emotionally devastating testing was for her students. As a result, she was fighting with the administration about her changes.

[I give] more little quizzes, letting [students] take [time during] recess in terms of writing a test. I’m a little easier going when it comes to writing a test. You know it used to be it took a whole period, and it was very tense, and you’re all uptight. I’m a little bit easier going in terms of that now a days.

Not all teachers experienced negative influences towards their use of new assessment however. Helen and Tom stated that their administration was supportive of teachers’ efforts to use new assessment, by providing teachers with time for team meetings and in-service opportunities.

I think the administration has been really good. They allow time to go and do some workshopping.

Primarily the [administration] are very supportive of what I do...[They are] generally very supportive of what I’m trying to do and what I do.

Both Helen and Tom shared their experiences with the human side of their administrators as they assisted teachers in their efforts to implement the Common Curriculum. Helen, in particular, noted how helpful her principal had been in her implementation of the Common Curriculum.

[My principal is] a good friend...Yes, he certainly has calmed me down on many occasions and says, “O.K. you have to look at [it] this way and this way and this way. Once we look at it all these ways, and now we’ll discuss it.” But he’s been very good with that.

Tom indicated that his principal asked him about his assessment expertise in his department: “They come and ask me where I think I have expertise.” When Tom and Helen were asked if they could speak openly with the administration their responses were
affirmative: "Most of the time I can be very open with them, but not because they're administrators but because they're people"; "Oh yes, absolutely."

Not only were teachers influenced by parents and administration to change their practice, but they were also influenced by their own students. Teachers expressed the desire to implement new assessments into their classroom routines. However, in some cases, it was either the dynamics of the class itself or the level of achievement students were working at that influenced the type of assessment used. Teachers were more apt to implement new assessment when the students were equally enthusiastic about experimenting. For example, Jane stated that her students' limitations, which included gaps in their learning as well as a class-wide lethargic attitude, influenced the assessments she used. For Jane, the students' lethargy exacerbated her difficulties in generating enthusiasm for new assessment. Instead, she found that taking time to understand the dynamics of her class was exhausting and frustrating, reducing her opportunities to employ new assessment. Jane described how her students' achievement levels also influenced her instruction and assessment:

The kids to whom I'm teaching determine the implementation [of my assessment]. I have a group right now in grade eight, as I did in grade seven, who are all quite low functioning. I have an instructional aid in there, and how I approach things with them is very, very different from how I do it with the French immersion students...because even your whole level of language changes with those kids.

Jane continued by noting that students have good and bad days and consequently, may not be listening properly. Both Jane and Jack were cognisant of individual learning styles and their influence on their instruction and assessment.

The kid [might have] a totally stuffed up head, and is, you know, not really hearing me today. All of those things. Plus, trying to get assessment that suits a lot of learning styles.

There are so many variables that slowly creep in, and I've got more than that somewhere in my head, but I do have to look at learning styles. Like whenever I do a mini-theme, there's always something that will appeal to different learning styles, somewhere.

In summary, what we see in this perspective are competing beliefs vying for justification. For example, teachers' efforts to introduce new assessment procedures
seemed to be constrained by parents, administrators and students. Teachers noted that increasingly informed parents with a heightened awareness of accountability influenced teachers to provide evidence for their judgements. Teachers felt they needed to be prepared to defend their judgements and their practice if challenged. When parents expressed discomfort with teachers’ use of rubrics, for example, teachers, who were themselves unsure or lacked confidence in using them, modified them to comply with the parents’ wishes. Without sufficient knowledge and a basic comfort level in how to use these new assessment tools, teachers were unable to successfully advocate for them.

The majority of the teachers also felt isolated when administrators did not take the time or show interest to support their efforts. Not only were teachers influenced by parents and administration to change their practice, but they were also influenced by their own students. Although teachers were motivated to implement new assessments into their classroom routines in some cases, it was either the dynamics of the class or the level of achievement students were working at that influenced the type of assessment used. Teachers were more apt to implement new assessment when the students were equally enthusiastic about trying the innovations.

**Emancipatory Interest Of Assessment**

While both the technical and practical perspectives complemented one another and viewed some of the same issues as a dialectic, the importance of the emancipatory perspective lies more in its ability to transcend both of these perspectives and to synthesise some of these same issues. In this section, then, I have included illustrations of resolutions to some of the challenges identified by teachers. There are still, however, other assessment challenges that are unique to the emancipatory perspective. Areas of concern for the teachers in this section were realized in their attempts to acknowledge and promote student uniqueness; to share assessment with students; and to promote dialogue among teachers and students.

**Student Uniqueness**

While teachers teach classes, it is individual students that learn. Teachers in this study were aware of this difference. For example, Jane said she was working on implementing multiple intelligences in her classroom.
In the family studies program, one of the things I’ve really been working on is the whole concept of multiple intelligences and your style of learning and all of that sort of stuff to make sure that that was translated into how I instructed, what I did, what I prepared for the kids in the classroom. So I really needed to focus on making sure that they were going to be successful with whatever projects they were going to do.

Helen also said she was concerned about students’ learning styles: “I try to look at all the learning styles.” The teachers in this study, therefore, struggled with reconciling class-wide expectations prescribed by the curriculum with those meeting the needs of the individual students who populated their classes.

Three teachers had difficulty reconciling rubrics with individual student needs and curriculum expectations. They began to see some of the inherent tensions when attempting to align rubrics that are primarily subjective, with curriculum expectations. The impetus for rubrics to be aligned with curriculum expectations-outcomes was acknowledged as a sound practice, yet teachers believed them to be devoid of any latitude that allowed for student individuality:

And if one kid doesn’t fit a rubric, I have to make him fit—I don’t like that. I would much rather look at my kids’ writing and say, “This is Chris. O.K. Chris I know. He has huge, long sentences, and he tends to embellish way too much.” Well, that’s not in the rubric — individuality. And I understand this bit about having to set standards. I understand all of that and I agree with it to a certain extent...I’m sure I’m not the only person that is having a hard time slotting kids into boxes.

As this scenario illustrated, efforts to implement new assessment strategies were often constrained by the mandated curriculum, the rigours of standard-based instruction and the requirements for the report card. Helen described how her special-needs students required more time to complete an assignment.

I have that ESL group and the heavy weight loaded special needs group. ESL [students] tended to need more time in terms of learning the language. Special ed, that group, it’s not a total Special ed class, but they needed more time to do activities because they really do love those, and, you know, I didn’t mind. I’m structured but I’m fairly flexible in terms of “O.K. so you know what? We have to continue this lab the next day, no problem.” We did manage to cover most things except for really detailed...types of things.
Just over half the teachers commented on the discrepancy between the expectations requiring that all students meet the prescribed outcomes and expectations while in reality their modified students did not even come close. Jane explained that some of her learning-disabled students were unable to read. Three teachers were left with questions like, “How can they complete the assessment package if they can’t read?” and “How can you build a program if they can’t read?”

When asked, “What percentage of students achieved the outcomes in the last unit of study?”, teachers expressed having difficulty assessing their students against a standard. Jack had difficulty answering the above question because he viewed student learning as “organic.”

I can’t answer that. I’ll tell you why I can’t answer it. That might be good for statistics, but if you present an outcome to a group, and you move to meeting it, considering where the child is starting from, I can’t give you percentages. It’s going to fluctuate. It’s going to be in complete flux all the time. Some will make it right off the bat, first couple of tries. Others are going to need more time to get there. And I can’t predict that. Some people might say [the student has] been identified as having particular learning difficulties and things can’t work. Sometimes they’ll reach [the outcome] right away because they made the jump and they’ve learned to compensate for all that little swampy area between it that they’re not good at. They’ll find a way to jump, and I think that’s part of human nature. If you really want it, you’ll get it, some way or another. Kids do that frequently—they’ll make the jump, and you’ll suddenly see a child, and say, “Gee, he can’t spell.” And they can put a sentence together, but look what they’re saying. They make the jump. They have that need. And I can’t give you a number. Ideally, I could say 100%, because that’s theoretically true. I could say 90%. I think the thing with an outcome too is that you have to break it down. Some of these outcomes are very big, and you have to take part of it and work towards that and then build towards the whole part of it. I can’t give you a number. It’s too organic to do that.

Jane believed that there was something fundamentally wrong with attempting to evaluate students against a standard altogether: “There are always so many exceptions, and we’re not talking about widgets and gadgets and so on.” Rachel also stated that she viewed all her students as individuals and commented on how much more difficult it was to view students and their individual efforts as unique.
Everyone's an individual. There are 20 or 30 some odd little faces looking at me, and they all come with different backgrounds and different strengths and weaknesses, and that's a tough haul!

What became clear from the data was that co-ordinating expectations from curriculum documents or mandated policy to teacher practice was a formidable task. The teachers in this study struggled with reconciling class-wide expectations prescribed by the curriculum with those meeting the needs of the individual students who populated their classes. Efforts to implement new assessment strategies were often constrained by the mandated curriculum, the rigours of standard-based instruction and the requirements of the report card. Official curricular requirements were also seen to impede efforts to adapt the program for individuals who required remediation or for those who required more of a challenge in their learning.

**Shared Assessment With Students**

Many teachers in the study wanted more of a shared understanding of evaluation with their students; emphasising student self-assessment; joint reviews of progress between students and their teachers; sharing of assessment targets with students; and active partnerships between teachers, students and their parents in discussions about student progress. In the area of self-assessment, for example, teachers valued student assessments of their own individual progress or the progress of their group. Some teachers encouraged students to be involved in devising and applying the evaluation criteria themselves as an integral part of the learning experience and as a responsibility they would take upon themselves together with their teacher.

In the technical perspective we saw how Tom was concerned about the lack of evaluation tools in the *Common Curriculum*. When asked, "How have you tried to overcome this obstacle?" he said that he presented the dilemma to his students and got them involved in resolving the problem.

Asking the students how they would like to see it given that we've got these barriers like the final thing has to be a mark, "Do you want me to just give you the questions or do you want a path telling me what you have to do and how you can achieve that?"
Having made the assessment criteria explicit, some teachers devised strategies for students to reflect on the criteria and then use them as a basis for their own learning. In that way, assessment and learning could begin to be integrated. When Reva wanted her students to interview people for a project, the students had to come up with the interview questions and discuss why they were appropriate questions or why they were not.

When I do collect their interview questions, [instead of marking] if they’re done or not done... we read them out loud in class [and we discuss them]. “That’s a good question.” “Why is that a good question?” “Why isn’t that a good question?” “How would you change that question?” So, there’s a lot of that going on as well.

Reva continued by saying that her students were involved on a regular basis in the marking of their own as well as each others’ work: “We did three periods of presentations a day just to get them done. But it was good because the best part was that the kids were actually doing the marking.” Jack also felt strongly that the student-teacher interaction was integral to quality learning.

There’s a need for every kid to be engaged with their teacher, otherwise we might as well just give them the pages as they go home—’you’ve been here your half hour today.’ No, they need to be engaged with a teacher, and that, in a way, is kind of an act for learning the interaction with each other, interaction with adults in a school and outside of school.

Helen said that when students did not do well on a test she involved her students in solving their mistakes and had them write a new test.

They didn’t do so hot on [the end of unit tests]... They didn’t do so hot on it... and I said to them, “You know, what I’ll [do is] make up one more [test]... Let’s look at this again.” [So] we reviewed [the material]... and we wrote a new test.

Rachel said that she regularly used her students as “guinea pigs” when wanting to try a new unit or new assessment approaches, asking for their opinions.

The set of activities that I’m using right now, this week, come from a book that the Board has recommended that we try. So I’m doing the grade eight set of activities. There are four in total, to help the kids discover volume and surface area of a can. I agreed to try it because I use my kids as guinea pigs all the time, and I’m always open for something a little different. I have mixed views on it and I ask the kids, you know, “What do you think?” “How do you like learning this way?” and so on. Even my
brighter kids are kind of wondering. It's very hands-on, this particular assignment. And they have to measure soup cans and they have to count squares, and my brighter kids are going, "Can't we just use the formula? We already know it. Why do we have to count?" "Why do we have to do all of this?"

Despite these successful illustrations of teacher-student interaction, not all teachers had such success. For example, both Tom and Jane said that while they encouraged their students to take responsibility for their own learning and to be knowledgeable about the criteria for assessment, they discovered that some students were uncomfortable with this responsibility or preferred the teachers' final judgement as an indicator of their learning.

I have a very open relationship with some of my students.... I try to foster the coach-mentor student-teacher relationship because I find that that works better for me, and students find that very, very hard. They are very used to, "This is how you're going to do it," and I found that I've become a better learner when I've taken responsibility for that, so I try to encourage that, so I come down really hard on kids who come to me with problems after the fact that could have been very quickly solved up front if they would have thought about it. Some kids really dislike me a lot because I come down hard. All it would have taken was to say ahead of time, "I can't do it. I need your help." And I come down hard only if I know they do that. If I didn't know they were going to run into trouble...so some students don't like me because I put so much emphasis on taking responsibility for their learning--take the responsibility for making mistakes...So it's taken me about three months to get the kids to the point of saying I struggle with that. I know I'm not going to be able to do that, but some kids are not moving to that and they don't like it. They see me as the controller.

Jane found it difficult to get all students to accept the notion of student empowerment.

My assessment evaluation strategies [have] changed....where it's more of a partnership that actually takes some of the load off you in the final analysis. Because again you're kind of working together. Although the kids still want you to do it and give them a mark.

Tom was continually attempting to persuade his students to trust him and take more responsibility for their own learning by letting them know that he made mistakes too.

I make mistakes too. I realize after [having given students an assignment that] it's a piece of garbage. I shouldn't have [given it] out. It's not worth while doing. [He'll say to the students], "I'm very sorry I gave it to you. I shouldn't have done that."
To level the playing field among students in terms of their abilities, a popular approach employed by the teachers was to have students help each other. Classes were often a mixture of abilities ranging from students requiring remediation to those who could benefit from more challenging tasks. While having classes of such a diverse population is often formidable for many teachers, what became a healthy compromise for a number of teachers in this study was the practice of students assisting other students experiencing problems, which was beneficial for students from both ends of the spectrum. Tom encouraged his students to read each others’ stories, forcing them to be honest with each others’ work.

The story has been completed but needs to be refined in terms of grammar and mechanics. Well, in terms of mechanics, writing mechanics, really. And that... always is just a struggle because kids feel “my story’s here. It’s here. I can see it in my own head. I can see most of it here.” Or “I see it all there” And then, when they read each other’s stories, that’s when they have to be very honest with each other, and they’re still struggling with that. So, that became difficult at that point.

Reva said that it was the responsibility of her ESL students to have their work proof-read by a peer and to use their spell check on the computer.

Well, I asked a few people what they do for ESL students and they basically said if they’re in a normal class then it’s up to them to go and get it proof read by another peer and use their computer checking.

Teachers in the study wanted more of a shared understanding of evaluation with their students; emphasizing student self-assessment; joint reviews of progress between students and their teachers; sharing of assessment targets with students; and active partnerships between teachers, students and their parents in discussions about student progress. Some teachers encouraged students to be involved in devising and applying the evaluation criteria themselves as an integral part of the learning experience and as a responsibility they would take upon themselves together with their teacher. Having made assessment criteria explicit, some teachers devised strategies for students to reflect on and then use them as a basis for their own learning. In that way, assessment and learning could begin to be integrated. Despite a number of successful illustrations of teacher-student interaction, this section nevertheless illustrates that not all teachers had such
success. Some teachers discovered that students were uncomfortable with this responsibility or preferred the teachers' final judgement as an indicator of their learning.

**Dialogue**

Over half of the teachers engaged in dialogue with colleagues and students. Consequently, their assessment roles changed dramatically. They became collaborators in their students' learning. The quest for insight was a shared one. For example, teachers often found themselves in the student role, learning from their own students. From an emancipatory perspective, it is expected that power structures and boundaries will shift and relationships become more fluid. Teachers entered a new world of knowledge acquisition that moved away from the conventional paradigm of teacher-directed learning to one where the teachers were the students, learning from their own students and other teachers. For example, Tom said he learned from his students how to be reflective.

I do that when I read kids' lab reports—[they write down their thoughts and] when they're reflecting they're role modeling for me. Reflection: “What did I read or learn from this activity? Are there any further questions and thoughts I would like to find an answer to?” So when they are reflecting, sometimes it's really funny to see that a kid wrote down instead of “I learned how to write chemical equations, or I learned that there are two sides to a chemical equation as much the same as a mathematical equation.” They’ll put down [the following]: “Whenever I’m working with...she’s wearing glasses.” That was not an intended learning [outcome] but that's what they are telling me they learned. So I think, “Wow that’s good”—good in a different kind of way. So that wasn’t what my intention was. [The students help me reflect]. They put it forth for me. I always circle things like that, and I put on a thank you for a reminder. It goes both ways.

Teachers did not only interact intensely with the students, but they also collaborated with one another. Teachers worked together (to varying degrees) in order to learn from others, and shared their thoughts about teaching and learning as a way of supporting their own reflection and understanding. Helen described how she turned to colleagues at other schools with her questions by saying, “My friends at my other school...are able to look at a problem and sort of help me through it.” Teachers had to be willing to trust the expertise of other teachers. For example, Jack said he was looking forward to working with a teaching partner.
I'm looking forward to next year because I'll have a teaching partner in grade seven, and we can sit down together, and we can work out what we think would be very strong. We're very similar in our way of dealing with kids.

Professional dialogue, however, was at times constrained by teachers' unwillingness to trust others. For example, Tom indicated that his trust level only extended to teachers he considered friends: "[Name] and I do an awful lot of work together, but not formally. That's because we like each other, and we understand each other. And it is curriculum related." Tom continued by saying that there was not enough dialogue occurring among the staff. He dialogued only with very close colleagues. By doing so, he found that even among friends beliefs differed and individuals generally interpreted the curriculum differently: "...there's not a lot of dialogue going on...[I talk] with my close colleagues. Yeah, we go through it and try to interpret it, but even there we have our differences. But those are all interpretive." Tom provided an illustration for the difficulties inherent in operationalizing a belief system that was significantly different from others, yet equally legitimate.

Some of my colleagues don't like what I do because it's not their style. My style is very heavy on the student responsibility for making sure they know...not making sure they know their needs but making sure they're honest about how they approach what they're doing here at the school, and if they screw up, or if they make a mistake, [I say,] "It's O.K. Let's just make sure it doesn't happen again"...[I] don't want the same mistake happening over and over again, which should be solvable.

Jack, on the other hand, said that his staff's beliefs were not significantly different in terms of their outlook of the Common Curriculum and that many teachers were in fact attempting to incorporate new assessment strategies into their classroom routines. Some teachers, however, were having more difficulty doing so than others. The difficulties teachers had usually revolved around their concerns about whether their impressions of students, when using new assessment, were legitimate. What helped was the verbal exchange with others that allowed them to gain another person's perspective on that subject, which put their own interpretation in a new light.

I wouldn't say [perspectives are] significantly different. A lot of people are coming on board in terms of having students assess themselves and each other, and using the
portfolio as an assessment tool, as opposed to straight quizzes. I just think some people are having more difficulty coping with that than others.

Jack indicated that he would like to see more dialogue with other teachers. He recognized the benefits of discussing reports and attaining common ground. He also recognized that having different viewpoints could be positive.

I would like to be able to have more interaction with people. We do sit down for our reporting comments and come up with common ground, which is good. We all have different ways to get to that outcome, and I’m comfortable with that, the way it’s been done. We can interact with someone, and work very collaboratively, or we can pull back and work our own way, if we think that’s what works best at the time.

Jack emphasized that sometimes he just needed to be acknowledged by his colleagues.

I need time to voice my disagreement--positive or negative. I need someone to listen, not necessarily agree. I don’t need someone to agree. I need someone to play off with, and then reflect on what’s going on.

On the other hand, less than half the teachers chose to dialogue with other teachers. For example, Natalie did not usually engage in dialogue with other teachers.

I think [teachers] more or less work together, after all is said. I’m probably the only one who works alone. I think so. I’m the one who works the most independently. I think the rest of them pull together.

Helen commented on how isolating it was when there was no verbal interaction with others.

It’s very isolated--very, very isolated here, as I said earlier. It’s, “This is my section and don’t come in it.” We have a new teacher in design and technology this year, and he and I are working on a unit right now together, which will come into play in March so we won’t be in complete isolation, but I’ll tell you where I am in science, it’s pretty lonely some days. There are at least eight people on staff here who have never been in that room. They won’t come in and I don’t think it’s me, I think it’s just they won’t leave their area. They live and they like to work in their particular [area]. You should take a walk around later, and you’ll see; it’s very much that way.

Jane attributed the lack of dialogue to a pervasive sense of weariness.

People don’t seem to personally have the energy, I think I said this before. We seem to be caught in a kind of …because we don’t have young teachers in the system…on the whole we don’t have that influx of constant new ideas or go-getters who have more
energy than the rest of us. We have people in my age group...And then we have the teachers in their 30s who put off having families, who are having families, who have little kids, who are balancing jobs, kids, and outside activities, and family life and all the demands of a school, and some of us are tired and they’re tired. So there’s a lot of energy missing in schools right now.

A few teachers said that they did not have time to dialogue with other colleagues or to attend in-service sessions.

There’s not a whole lot offered during the day, and because I am the way I am, my spare time after school is totally not available. They’d love for me to go to workshops after school but I just won’t anymore.

Time was also an issue for Tom, as he admitted that he did not understand certain aspects of the Common Curriculum or that some parts were not clear to him, yet he did not have the time to talk with colleagues about these issues.

Maybe I don’t have the inside on the Common Curriculum or for whatever reason I don’t see the linkages all that clearly. And to get assessment instruments for Common Curriculum statements I don’t really know if there is a good linkage or not. I just don’t have the time to dialogue with colleagues.

In summary, over half of the teachers engaged in professional dialogue with colleagues and students. Consequently, their assessment roles changed dramatically. They became collaborators in their students’ learning. In this section I have used the data to indicate a different conception of instruction and assessment than that of the traditional teaching paradigm as the delivery-of-instruction. Instead of working in isolation, teachers worked together to varying degrees in order to learn from others and shared their thoughts about teaching and learning as a way of supporting their own reflection and understanding. What helped them was the talking they did with others to gain the other person’s perspective, which put their own interpretation in a new light. To do this, teachers had to be willing to trust the expertise of other teachers. Dialogue among teachers, however, was at times constrained by teachers’ willingness to trust others. Verbal engagement was often difficult to achieve when there were two camps at variance over the value of the Common Curriculum. A few teachers said that they did not have adequate time to talk with other colleagues or to attend in-service sessions.
Discussion

Assessment, as seen in this chapter, was not entirely a new experience for the majority of the teachers. Even though most of the teachers, while having little formal assessment training, were already independently experimenting with modes of new assessment in their classrooms, they did, however, often lack essential assessment knowledge and generally felt uncomfortable about the quality of their assessments. In the technical sections we saw how unsure they were of what assessment strategies were available or how to use these strategies and when to use them effectively. Tensions generally seemed to stem from the intended conflicting purposes of assessment and from the struggle to conform to policy initiatives that were often in conflict with new assessment approaches. Teachers used the assessment process as a tool for accountability as well as a support for pedagogy and instruction. These frequently incompatible purposes usually posed difficulties when developing valid and reliable forms of measurement; when using a variety of assessment procedures; and when attempting to reconcile assessment and reporting practices. Compounding the teachers’ struggles to implement new assessment, many institutional constraints made adopting new assessment strategies difficult. This chapter, therefore, brought to the forefront issues of time and systemic school organizational structures that hindered the implementation of new assessment practices into classroom routines. What we have seen in the technical perspective are a “proliferation of descriptions of problems” (Karabel and Halsey, 1977). What is needed now is to move beyond “the consensual elements of functionalism...[that] inhibit the raising of...crucial questions [and move towards a lens that] more easily treat[s] other approaches which focus on conflict” (Karabel and Halsey, 1977). The next section, therefore, looks more closely at the explanation of these problems.

Practical interests bring to the fore the incompatible understandings that exist among teachers, students and parents about the purposes of assessment and reporting that were already emerging and described in the technical perspective. In the practical perspective, the conflicts between the varied understanding of assessment are explained. The most prevalent misunderstandings among those groups in this sub-section, were the teachers’ assessment philosophy which measured students against achievement levels or
a standard while parents wanted students to be measured against each other. A second conflict also existed because teachers stressed the importance of the learning process while parents' prime concern was the learning product. What also became evident, from the teachers' perspective, was that students also viewed assessment as a ranking tool. The mutual understanding, therefore, that is such an integral aspect of a practical interest of assessment was difficult to attain in many parent-teacher/teacher-student interactions.

The task of communicating convincingly to parents about their own beliefs and practices was thwarted by teachers' own misunderstandings of certain assessment concepts; teachers' own questions about the feasibility of the inconsistencies between reporting expectations and new assessment; and teachers' discomfort with the possibility of misinterpretation when exposing their work to the scrutiny of parents. What also became evident in this perspective were the instances of teacher empathy, when sometimes, as parents themselves, they understood parents' concerns about new assessment formats.

From the third perspective, the emancipatory perspective, teachers wanted more engagement of their students in evaluation and assessment and there was evidence of various attempts at dialogue by teachers. Teachers encouraged students to be involved in devising and applying assessment criteria themselves as an integral part of the learning experience and as a responsibility they would take upon themselves together with their teachers. All students, however, were not completely comfortable with this responsibility and preferred the teachers' final judgement as an indicator of their learning.

Teachers also discovered that their own roles were changing dramatically when dialoguing with their students. The most profound role change was when teachers became students themselves. Teachers who showed a willingness to learn more about assessment often found themselves in unfamiliar roles that compromised traditional power relationships. From this perspective, we can see a disruption of the traditional notions of power and assessment.

While the practical perspective introduced conflict between teachers', students' and parents' understandings surrounding the purposes of assessment, this conflict, through an emancipatory lens, escalated into contradictions that seemed to represent an apparent unjust or moral wrong. Teachers commented on the discrepancy between the
expectations that all students be able to meet the prescribed outcomes, and the reality that many students did not even approach meeting these expectations and probably never would. Teachers remained with questions: "How can students complete the assessment package if they can’t read?" and "How can I build a program if my students can’t read?" Teachers also believed there was something fundamentally wrong with attempting to evaluate students against a standard. Teachers were concerned about a curriculum that left little room for student individuality and aggravated the natural conflict between individual student needs and general curriculum expectations.

The problems that emerge in the emancipatory section appear to overlap somewhat with those identified in the technical perspective, yet how they are viewed in the emancipatory perspective reveal deeper implications as to how these problems relate to a social justice agenda. For example, once again we encounter teachers’ dilemma of insufficient time to cover the curriculum. While in the technical paradigm this dilemma was reduced to a time issue, in the emancipatory perspective it reflected a political problem. This seemed so because teachers may well be persuaded to comply with a particular ideology that was not always in the best interest of all students and which teachers might be asked to implement in ways that ignore individual students and which are not relevant to students’ experiences.

What became clear from the data was that coordinating expectations from curriculum documents or mandated policy to teacher practice was a formidable task. Many of the conflicts between mandated policy and teacher practice manifested themselves as contradictions that were embedded in assessment policy itself. They represented divergent points of view about assessment held by teachers on the one hand, and educational policymakers, on the other. Earl and LeMaheiu (1997) maintain that these contradictory tenets have made assessment reform a dialectical activity with no easy synthesis. It is hard to expect teachers to harmonize their assessment practices when policymakers and the general public do not or will not agree. Identifying this lack of agreement therefore is imperative because “...the extent to which proposals for change are defined according to only one person’s or one group’s reality (for example, the policy-maker’s or administrator’s) is the extent to which they will encounter problems in implementation” (Fullan, 1991, p. 36). The dilemmas and contradictions teachers
encountered as a result of the collision between mandated reform and their own assessment practice will be explored in more detail in the next chapter.
CHAPTER SEVEN: HOW DO TEACHERS’ REPORTED ASSESSMENT PRACTICES RELATE TO EPISTEMOLOGICAL PARADIGMS?

Most studies that focus on teachers’ knowledge and beliefs about instruction place only a small emphasis (if at all) on student evaluation, taking even less note of new assessment methods. Studies do exist that examine teachers’ general perceptions of students (for example, Brophy and Evertson, 1981) and the validity of teachers’ judgements (for example, Lorsbach et al., 1990). What is unique about the current study, is its focus on teachers’ approaches to establishing epistemological evidence of student assessment, more specifically, new assessment, and how these approaches relate to their reported practice. The chapter, therefore, begins with the assumption that student assessment is an important aspect of teacher activity in the classroom. In fact, Stiggins (1995) maintains that teachers spend two-thirds of their time in the classroom making assessment decisions. Bromme (1987) concurs that a focus on what students understand is the core of the teacher’s real task.

This chapter begins to examine the second research question by presenting evidence of teachers’ reported assessment practice. The findings begin to address the missing paradigm in the research on teacher thinking, that is, that neglected domain comprising questions such as: “Where do teacher explanations come from?” and “How do teachers decide what to teach and assess?” (Shulman, 1986b). Clark and Peterson (1986) suggest that understanding teachers’ thoughts and actions should give us a better understanding of how these two components interact to increase or inhibit students’ academic performance. Further, Carlgren (1987) finds that a better understanding of this interaction can contribute to more efficacy in the implementation of innovations. Specific to this study is an in-depth examination of teachers’ reported practice which lays the groundwork for further examination of how teachers inquire into assessment which will be explored in the next chapter.

In order to examine teachers’ reported assessment practice, I have once again relied on Habermas’ three categories of knowledge interests: technical, practical and
emancipatory. This study, therefore, makes an initial attempt at illuminating teachers’ practice and at drawing relationships between teachers’ practice and their epistemologies.

**Technical Interest**

The teachers whose reported practice reflected this epistemological category, made comments about their practice that were consistent with Habermas’ notions of technical interests where teachers attempt to control their environment by using means-ends assessment strategies. This assessment approach acknowledges that knowledge is transmitted from an external authority (for example, Ministry, text, curriculum). For example, what students were expected to know, and how this knowledge should be assessed was determined by an external authority and assessed through external reinforcement. The areas that emerged in this section to characterize technical approaches to assessment that are relevant to this study and these teachers’ reported practice, are the following: objectives from an external authority: the curriculum; outcomes are made clear to students by an external authority: the teacher; transmission of knowledge; assessment and learning is organized in objective chunks; external reinforcement; immediate feedback; external control over individual students; and practice.

**Objectives From An External Authority: The Curriculum**

Four teachers felt compelled to meet their course objectives effectively and efficiently as defined by an external authority (for example, curriculum document). In this way, teachers relied on measurable outcomes that were mandated by the curriculum. The course objectives, then, were intended to tell the students what the teacher hoped they would learn in the course, and the evaluative devices, such as tests or examinations, would allow both the teacher and the student to determine to what extent the objectives had been met. For Helen, Jane, Rachel and Jack, the objectives, expectations and outcomes of their teaching came directly from the curriculum documents, although not exclusively.

When I asked Helen what she was looking for as evidence of student learning, she said she “hoped that the [students] would be able to make prepared slides, [that is,] prepare them properly, be able to do them with accuracy [and], also know what the certain parts of the cell [were].” Jane explained that her expectations were that the
students would gain a fundamental grasp of probability. She wanted her students to understand

...why people on Wheel of Fortune only came up with two hundred and fifty dollars and why you didn’t land on the ten thousand dollar space. So we kept relating it to games that they see on television, and lotteries and dice rolling, and all of those things to get them to sort of understand the practical application of probability, statistics and all of that sort of stuff.

Rachel said that the goals of the lesson came from the curriculum. She had introduced a set of four activities from a text the Board recommended, designed to help the students discover volume and surface area of a can. Rachel talked explicitly in terms of what students should know. For example, in one of the activities, the students were given a sheet of aluminium alloy along with the area in square centimetres. The students were told that when the press is used to form the pop can, it uses up a certain amount of the aluminium. The question the students were left with was: “What is the percentage of aluminium alloy wasted around the corners?” Finally, Jack described the goal of the lesson as being the expectation of using multiple sources, a goal which came directly from “the new Ministry expectations in history.”

**Outcomes are Made Clear to Students by an External Authority: The Teacher**

Four teachers (Helen, Tom, Monica, Jack) acknowledged the importance of conveying the outcomes to their students and did so in a traditional one-way transmission of knowledge. In these instances, then, there was no evidence that students negotiated for meaning or for the type of outcomes being used. For example, students in Helen’s class generally knew what to do during a lab because the procedures were explained to them at the beginning of the year. Helen stated that she would “write it down for them and go through the motions for them.” By the end of the year, they would “be able to follow my oral directions, and I sort of act out what I’m going to do, and then that way, hopefully, they’re cluing in. And I’m there for [them], if they can’t remember what it is they’re supposed to do.” Similarly, Tom showed the students the rubric beforehand and explained to them what a level three looked like. Tom’s use of rubrics helped him fulfil an important priority of letting students know explicitly what the expectations were: “I’m sort of proud of the fact that I set the students up so they know what’s expected of
them...; it's effective and kids seem to learn a lot more when you're clear and up front.” Monica created her own rubrics and also presented the criteria to the students ahead of time. She said, “We talked about it. It’s all very laid out. This is what you must do to complete the assignment. Now, if you do these things, that’s going beyond [and] that’s expanding on what the base expectations are.” Jack provided his students with an outline: “The kids would have...an outline. They would have their sheet [that] would tell them exactly where we were going, and what I expected of them.” He also made sure his students were told regularly and in advance what was expected of them: “The kids [are] aware of what the outcomes are going to be. They knew what was required ahead of time, and the evaluation was given to them.”

Transmission of Knowledge

A technical interest in teaching and assessing follows a model of transmission of knowledge where the students receive the knowledge that they must learn and for which they would be assessed. The role of the student is to receive the knowledge, and the role of the teacher is to ensure that this transmission takes place. Therefore, once the objectives had been stated clearly, these measurable course objectives establish the situation in which students may meet those objectives in a variety of ways (for example, traditional lectures; independent reading; writing a research paper; interviewing individuals). The evidence of learning that teachers sought generally focused on skills and memorization. Rachel began her teaching and assessment following a traditional approach to the translation of information. She used teacher-directed instruction comprised primarily of drills, memorization, phonics, spelling and grammar:

We need to know if they know the terms. In grade 8 I expect you to know your 12 times tables...cold. So we’ll do a lot of drills. I don’t like calculators [but] I use them, for some units. I probably should be using them more, but I just don’t think that at grade 8 I should be [doing that];”...there’s no doubt about it, but I still think...phonics I guess, that’s the kind of thing that works. [Drill books are] submitted every day. When they come in at 8:45 a.m., math is [done] first thing in the morning. The expectation is that they pick up what is called the drill book. It’s just an exercise. My spelling is either still right or wrong. I give them a mark out of 20. I tend to mark creative writing out of 10 or 20, depending on what I’m focusing on.
Tom's special-needs students had "behavioural expectations rather than academic expectations, [which] were explicit." When these students were "assessed informally, [the expectations] were put up front." For example, Tom explicitly told the students his specific expectations:

Today these are the things that I'll be looking for from you. I want to see you helping each other out. I want to see you actively getting out there and collecting your materials. I want you to be part of the process of sorting materials on the desk, part of clean up. Everybody does their share, but what that part of the share is may be different for different people.

Monica's students' reading was tape-recorded and she "look[ed] for specific things [like] word recognition, pronunciation, [and valid] expression." She video-taped students collectively where "we watched ourselves, and we looked at things we did really well [and we looked at]...things we can improve on for another time.

Assessment and Learning Is Organized In Objective Chunks

A technical interest in assessment might typically be evidenced by dividing the learning into manageable units where learning proceeds from the simple to the complex, usually in steps, phases or some form of program. Three teachers (Helen, Natalie, Monica) used prescriptive steps or units and assessed students at the end of these. Helen tended to be more directive with her special needs students and would sit beside individual students, assisting them step by step. For example, she recalled problems one student had: [This student had] "a really difficult time reading and comprehending what he's reading. But if it's read with him, he can get it, but he can't regurgitate it. So with him, we went through [it] step by step, and we talked about what it would look like."

Natalie's practice relied heavily on teacher direction. She said that, "the units are highly prescriptive" and "we've sort of given them a top down [where she tells the students], 'you're doing it this way this year.'" Finally, Monica's approach had students building "on skills through the course of the year." For example, Monica consistently began her units with conversational French where students began learning French vocabulary by discussing the word meanings. This stage included teacher directed activities: "We do a practice dictation with the phonics and...we do some game activities first to kind of review and get ourselves into that frame of reference. And it's just to heighten their.
awareness. I mean, they get a checkmark and so on for that." She described this stage as a "teacher-directed games response with the objective being whole-class participation."

**External Reinforcement**

Teachers' technical interest included assessment as an external reinforcer. Reinforcers, for example, included verbal praise, positive facial expressions, gold stars, feeling successful, good grades. Tests and examinations, therefore, were very important since they provided students and teachers feedback concerning the learning processes. Four teachers relied on external reinforcement (Rachel, Reva, Natalie, Monica). For example, when Rachel was asked about her reporting practice, she said she marked everything her students did so that there were no secrets. Rachel said, "I still mark tests and give [students] back the scores."

They always get everything back. I mark almost everything they do in one way or another. It can be verbally...it can just be a pat on the back saying, "You're doing a great job" and some of the kids need that. If it's a rubric, it would come back stapled to their work so they would know. And they know that my score book, my marking book, is their book. There are no secrets—verbally or in written form.

Rachel gathered numerous marks for each activity in the form of grades that were then averaged to obtain a percentage for each student. She acknowledged that this approach was still an old school approach to assessment, yet it was the approach she was most familiar with and, which she planned to continue.

There will be the marks. There are four activities in total, and I'm marking it in segments. So each one is marked. Some have two marks, depending on what the activities are. And I'm almost at activity three right now, so I've got about three or four marks. It's an overall sort of thing. You don't just look at a four and say, "Oh she's a four." You look to see. "Is it a four? a three? three, three, four?" and then it's a judgement call I think to a certain extent when you have to average them together.

Reva summatively evaluated students' finished products. She recorded everything she marked. Reva explained that she tested students on their knowledge of the topic: "We'll do a bit of textbook work...and then they'll have a test as well." Reva took up the homework everyday: "[The students] mark each others' book; I put [the] answers on the board; they mark each others' book, and they call out their marks to me. So I have a homework mark everyday."
Natalie’s assessment was influenced by the student dynamic in her classroom. Since her students were identified as special needs students, with behaviour or academic problems, they required more structure, immediate feedback and tangible evidence of their achievement. Natalie followed a school framework of evaluation, which featured formal testing, where students were given an exam six times throughout the year.

So instead of two exams a year, they will get six exams a year. And for the modified basic student who is in this school, that’s about all they can handle. So what we’re trying to do is increase their learning rates by giving them short bursts of information and reinforce, reinforce, reinforce. And then take them into another unit, give them short bursts of information [and] tie it in with the previous units.

The students also wrote tests throughout the year: “There is testing once a week, where you give them a written test, and they give it back to you.” These tests were in addition to the formal evaluation at the end of 6 weeks, which were designed to see how much students had retained. Despite all of these approaches, she said,

...some of the kids don’t get it, because that’s the nature of the special ed kid. And no matter how many times they review it and talk about it, they don’t get it. For various reasons, one could be they’re just not interested in that particular thing, so they’ll tune it out. They’re not interested in learning about it.

One of Monica’s personal expectations for her students was to ensure that they were engaged in their own learning, which she did by rewarding them: “You know, they love the very immediate motivators like the stickers and candy kind of stuff. Plus, they know when they’ve done good work.” Other motivators included giving prominence to students’ work:

They display it, and talk about what’s good about this particular piece of work, what’s really well done, [and] what could be worked on another time. So, those are laid out ahead before they actually do anything. [They’ll be doing] an oral presentation for instance [where] they’re going to be doing little skits... We discuss ahead of time what would make for a good presentation, what you need to work at, and then we do a lot of talking about the process of how you’re going to get there, and what will make it good.
Immediate Feedback

Five teachers provided immediate feedback for their students (Helen, Rachel, Natalie, Tom, Jack). Helen's students demanded marks: In "math...they want an exact mark." The students want "a mark out of ten, or something like that." Consequently, Helen relied heavily on traditional testing. Helen provided immediate feedback to her students and encouraged them to try again if they could not get it the first time:

I usually give very direct feedback as to what's going on, right then and there. If it's a particular hand-in assignment or if a kid's really bombed it, I'll sit down with them and we go through where they've made the mistakes, and I'll say, "Let's try it again. Let's do it one more time."

In one instance, Helen said, "The [students] didn't do so hot on [a test]...It [was testing] a fairly large task, and I said to them, 'You know what? I'll make up one more [test]. Let's look at this again.' We reviewed. We've done a few other things, and we wrote a new test."

Rachel introduced the use of rubrics in combination with a traditional test format which allowed her to mark for conceptual learning, as well as for correct and incorrect answers:

The [assessment] that they're going to do today they do in a notebook...I have a rubric. So half of the page will be check-marked, the traditional kind of yes-no sort of thing. (They're more direct like "What was the measure of the soup can?" It's just a number, and that sort of thing where it's kind of either right or wrong) And then another one will be marked on a rubric. And the kids are used to that and...there are certain elements that they have to have in this chart and so on. So they have a combination of a couple of marks. So they'll have an eight out of ten on this or whatever, but then they'll have a level three or four. It's usually just the rubric one I put in my book...the chart part is hard, so I want to reward all the pre-work that they've done. But I also want to look at their chart. And so for that activity, I'll be using the rubric mixed with just the yes and no answers.

When I asked Natalie about her reporting approach, she said that she attempted to provide immediate feedback to the students. She said, "If it's a test, they get the test back the next day, or the day after, depending on how quick I am. And we go through them and they see their marks." When students wrote an exam, she was not able to provide immediate feedback because the students would have already started the next task: "If it's
an exam, I tell them their mark. The feedback is not as instant because they’ve gone on to the next session. But they’ll say, ‘Did I pass? Did I fail? What was my mark on the oral?’” According to Natalie, students received a “written assessment, which is on the report [and], which is an accumulation of all the tests and exams.” This way they know what the standard is against which they’re being assessed “and they also know how well they’re doing.” She explained that she used either grades, marks or percentages on the report card depending on the format of the report card: “They see exactly where they are, where the median mark is in the class, [and] what their average is. Same as any high school. It’s a standard report card soon to be replaced by the standard Ministry report card.” For the report card marks she said, “I average[d their marks]...because I figured [that that would give me a more] balance[d] picture.”

Tom described a situation where, in his efforts to provide immediate feedback to his students, he discovered that he would have to reteach a lesson in order to correct his students’ misunderstanding of the task. To illustrate, when his students finished writing short stories, Tom said that what he ended up with were “four different classes of stories, three of them with the appropriate perspectives, and one that was so off task it was ridiculous!” Some of the students were unclear about what [should be] in a good narrative story, [that is,] what do you have to have?” As a result, Tom taught a mini lesson to those students by explaining that “you’ve got to have a problem; you’ve got to have some characters; you’ve got to have movement, a plot, and we have to have a resolution to the story.”

In one lesson, Jack described how he had discussed the definitions of types of resources (for example, natural resources vs. renewable resources, and so forth) with the students. Students were asked to apply the different types of resources in a particular assignment; however, many of them realized they did not have a clear understanding of the distinctions between those terms. So Jack gathered his students together to re-teach the terms: “So, we worked on standardized terms when they came back.”

**External Control Over Individual Students**

Teachers with a technical interest in assessment would often take a teacher-directed approach which helped them maintain discipline and control in the classroom to prevent disturbances in the learning process. Four teachers emphasized disciplinary
methods to control students’ behaviours (Helen, Rachel, Tom, Natalie). At times Helen became stricter and more of a disciplinarian when her students’ misbehaviour warranted it. She said, “Two weeks ago I walked into that room and it was just out of control, [so I] set some very strict rules. There was no talking allowed, and now I’ve loosened that since then.” She made a point of discussing these problems with the students so that they understood what was going on. In this situation, she said, “They agree with me. It was just a terrible situation. It was not a good learning environment for them…. It’s just a frustrating group to deal with because there are so many needs, and I’m just not meeting all of them.”

Rachel spent most of her teacher-directed time with “the slower students for the most part, forever modifying [the lesson] in some way, shape, or form.” Rachel provided teacher directed instruction for these students while the other students were encouraged to work independently.

They’re getting more teaching. The one [student] has just come out of a behavioural class, and you can’t leave him. He won’t do anything. So that’s really one on one there. If you give them an activity they will try to work on their own, but very often, they don’t get too far without making a whole slew of errors…. There isn’t a lot of independence.

The role that Tom took with his special needs students was that of a policeman:

With [them] it’s more of a policeman kind of role. Often it’s a policeman role, [to] control, to let [them] know when [they’re] being too loud…. So yeah, my main job with [them] is [to be a] cop [to maintain] control, and [to provide] as much positive feedback as we can muster from time to time

Natalie’s practice was quite structured, relying heavily on teacher direction. She said that, “the units are highly prescriptive” and “we’ve sort of given them top down [instructions where she tells the students:] ‘You’re doing it this way this year.’” One of her teaching approaches was direct teaching: “Standing up there is called direct teaching, and that’s one teaching method.” She explained that she used direct teaching particularly “because I work with machines a lot, [therefore] a lot of [the lesson] has to be direct teaching at the beginning. Sometimes it’s a given scenario. For example, I’m teaching them safety.” Because of safety issues, Natalie took on a very strong disciplinarian role.
Laughingly she said, "[she] would be an armed police guard, [maintaining real] discipline...in the wood shop."

**Practice**

Practice proved to be important in that it demonstrated the desired learning outcome. Three teachers (Helen, Jane, Jack) placed a great deal of emphasis on presenting opportunities for students to practice putting their knowledge to use. Helen frequently interrupted her own instruction by pre-testing her students to prepare them for benchmarks: "We’re getting ready for benchmarks in grade eight, so we’re doing a lot of pre-tests. We did a pre-test for integers, period one and period two." Jane said,

I force them into a lot of situations where they have to apply anything that they’ve learned. I’ve tried to create a lot of situations which are applications. I try to create a lot of situations where there’s this problem. How do you figure out what knowledge you have in sorting all of this out?

After each unit, Jane had her students write end-of-unit tests. To prepare for this, students wrote a pre-test that was

...similar to what the benchmarks look like. It’s a multiple choice type test, and they have to choose the right answer. And what we’re trying to do is get them ready for a test, the benchmark on Friday. And we’re just, you know, showing them, remember this, remember how we did this, and doing a little teaching, but getting them...into the mood that we’re going to be writing a big test on Friday.

Jack gave the students lots of opportunity to practice their new-found knowledge and spent large portions of class time preparing the students for their tests.

**Practical Interest**

Knowledge in the practical interest domain is uncertain, always developing, open to challenge and in addition, it varies from person to person as individuals interpret the world around them. Assessment becomes a tool for building and adjusting learning for both students and teachers. Assessment further provides an opportunity for students and teachers to reflect, question, plan, teach, study and learn (Earl and LeMahieu, 1997). In particular, it allows students to self-assess, regulate and take responsibility for their own learning. In this framework, then, assessment begins to promote dialogue and conversation (Earl, 1995). Specifically, practical interests are associated with
understanding the environment “so that one is able to interact with it;” “the practical interest is a fundamental interest in understanding the environment through interaction [that is, communication] based upon a consensual understanding of meaning” (Grundy, 1987, p. 14). Teachers’ practical interest in assessment was demonstrated in the following areas: outcomes originate from the classroom or school; outcomes are made clear to students with the students; authentic assessment; continuous learning; learner-centered; performance-based learning; problem solving; motivation; learning environment; facilitation.

Outcomes Originate From the Classroom or School

For five teachers (Reva, Tom, Natalie, Jack, Monica) the outcomes of a particular lesson or unit did not solely originate from the curriculum document, that is, an external authority. Rather, these teachers involved their students in either developing the criteria they were expected to achieve or in discussing the outcomes that the teacher presented to them for clarification. The teachers would either modify mandated outcomes or introduce entirely new outcomes. For example, Reva explained that outcomes were decided upon by a team of teachers.

There are five teachers and a convenor, and we work our units out together, and we decide what outcomes we’re going [to] teach for that unit. And all the grade eights do the project I’ve just described. Some do it a little bit differently, but, basically, those are the outcomes we’ve decided on. And we go back, and we teach them.

Reva said outcomes “are drawn from the other resources we have like for history there’s a history binder, and you look at the beginning and these are the objectives. So these are the things that we have to meet in order for the students to learn what they’re supposed to.” She also adapted units she was familiar with from years of use.

When I asked Tom where the objectives for a particular lesson originated from, he said the assignment paralleled a task in the EQAO test that he had recently received. The objective, however, initially was “in terms of the teaching and learning…to clean up the school yard…. And it just evolved. It was like one of those teachable moments, and you say, ‘To hell with the curriculum. Let’s go for it, ‘cause this is fun!’” He admitted that this particular assessment was “actually so close to what they wanted on the EQAO for their assigned writing task within the EQAO, that I’ll probably get heck because it’s too
close.” Nevertheless, he felt that “it was a good [assessment task],” and he was glad he did it with his students.

In Natalie’s case, while outcomes were generally formulated by the school, Natalie usually developed any extended outcomes herself. The goals of most units were aligned with the focus of her school to capture numeracy, literacy and life skills. She described her overall objective:

We have to get the [students] to be functionally literate. We’re not talking about reading and writing novels. We’re talking about functional literacy and functional numeracy. Can they go to the store and get change? Can they read a map? Can they fill out a work application form? Can they write a letter to get a job? Functional literacy is an upward battle here. So everything we do is geared to getting them to be productive members of society one day. Because with no skills and no literacy, they will have no future. And we need to get them into the work force well prepared for what the normal person would do.

In woodworking, for example, Natalie explained that the course was not intended to teach construction technology, rather

…it’s more like home handyman because what do most people need to know? They need to know how to put a nail in the wall. They need to know basic repairs around the house. They need to know the names of the basic tools and how to work with an elementary tool box. So the normal person in this world doesn’t go out and buy wood shop tools like sanders and power sanders, they go out and get themselves an elementary tool box. And these kids are not higher-income kids, so what they’re going to do is buy the cheapest thing to get them through it. But they’re all for sale in Canadian Tire. And you’d walk back rows and rows of tools and say “Should I buy this one, this one, or this saw?” How do you know the right saw to buy when they have 500 on the wall? So this is what we do. We’re trying to teach them what to buy; what to get for their ordinary home repair. So the objective is to take them through that and to increase literacy and numeracy at the same time while focusing on life skills.

She laughingly explained, “It’s sort of a parallel universe [that] I’ve created. We’re in a sort of fantasyland everyday. It’s bizarre. It’s exciting. There’s no program like it, and there’s no program for the special ed student, and so we write it as we go.”

Jack did not believe students achieved the required, specified outcomes in any given grade level. For that reason, he concerned himself less than other teachers about the
curriculum outcomes and believed in giving students the most positive experience possible. He described a math lesson:

Right now I'm working in math on changing numbers to percent. So we're using lots of samples and concrete materials around. I can see on a daily basis what they're doing, if they're moving that way--some are already there. So we're looking at word problems for those, and for the others, we're looking at 'O.K., we still need to do this.' And perhaps, at the end of this year, I've got them so they are moving towards that outcome, and I'd like them to have it. But in reality, they might not be able to [achieve that outcome]. And they know that this time. So next year in grade eight, that's one of [the] things they'll have to work towards.

Monica expressed discomfort in not having explicit outcomes to convey to her students. Monica spent time over the summer carefully examining The Common Curriculum, creating units that would align with certain learning outcomes. Monica said, “I'm...[using] learning outcomes in the French language, arts, social science area, as well as math, and English language arts.” She explained that, “the students received a folder at the beginning of the unit with all of the activities and expectations for this unit entitled, Un Petit Monde, “complete with songs and all the rest of it.” She continued by saying, “So what we started with in French...was to increase the students' use of French in the classroom, enhance fluency and cultural knowledge by instilling an awareness of where French is spoken in the world.” More specifically, students were expected to be able to show some proficiency in their communication and an understanding of the ideas that they were communicating. Monica admitted that “this was kind of a tough one at the beginning of the year” because often she didn't know “how much time...[students] needed to [accomplish this], and she really didn’t know “what was a realistic expectation.” These doubts were primarily due to inexperience because she had never taught grade two, and there were no curriculum documents available for that grade level. She said, “I'm getting better at that”, but “I still play around with [timing] a lot.” She also had to decide how the students would demonstrate their learning. French immersion did not “fit in any particular curriculum document”:

I always have a missing link right there because doing French immersion, I don’t quite fit into any block. We have the language and we have the math [curriculums] that are out, but we don't have anything for second language and French immersion at this
level. So, it's like, what exactly am I assessing? What's realistic as a grade two French immersion expectation for French language arts?

"In the end," Monica stated, I made up the plan. You end up doing that on your own." She ended up looking at the early literacy model and all the indicators as well as looking at the language document from the Ministry. From that, she pulled [out the learning outcomes that she] thought would be appropriate for grade two immersion.” She commented however, that she still felt like she was “kind of doing that blindly.”

Outcomes are Made Clear to Students With the Students

Four teachers (Helen, Jane, Rachel, Tom) negotiated with students for clarification and relevancy and encouraged their feedback. Helen spent time looking at the outcomes with her students:

The [students] also looked at the outcomes—what they needed to know by the end of each particular lesson or each chapter—and we talked a lot in and around those [areas]:

"Were you able to do that, and if you're not, what should we do?"

What seemed to work well for Helen this past year was her use of rubrics with the students. In this way, she was able to let students know in advance what her expectations were. She said,

What I started to do was to share with my students the rubrics given to us by the Ministry. In terms of what [they] have to learn by the end of this unit, we keep coming back to that throughout the unit, [I'll say,] “O.K. here's where we are.” And they really seem to like that because they knew where they had to go, what we're going to be doing next, and nothing was a surprise to them, and at the end, it gave us time for self-assessment, [that is, to examine] “How well did we learn all these things that were required?” It was also time for them to say, “Well, it would have helped if you taught it this way.” So that kind of thing really worked nicely.

Jane attempted to make the expectations for evaluation very clear to the students and involved the students in developing these criteria:

I made a real point this year of making sure that every single, solitary thing they did had a really solid basis for assessment and that they could see what a one looked like, a two looked like, a three looked like, in each of the categories. And to focus a lot on the process and not necessarily on the product. The finished product was only a small part of it. It used to be, I would say, traditionally, and I am speaking just sort of from
[when] kids got 8.5 out of 10, or 15 out of 20, and didn’t really understand where those marks came from. So that has been my focus this year to develop all of my units that way so that the kids understood initially what was going to be expected and how it would be broken down, and how they would be assessed, and how they would self-assess.

Rachel also placed a great deal of emphasis on making the criteria clear for the student assignments and involved the students in developing these criteria: “[We] evaluate—we have different categories that we look for, and we tell the kids. In fact, the kids usually come up with the marking scheme. They come up with the categories, and how important [each one] is [for when they ask,] ‘So what’s the weighting going to be?’"

**Authentic Assessment**

Teachers’ practical interest in assessment seemed to emphasize that the best learning takes place in the context of real-world situations. Typically when there is one answer and one approach to solving a problem, such an approach is incongruent with some real-life learning situations (Lave and Wenger, 1991). Therefore, in order to make student learning relevant to real life experiences, some learning environments became more authentic which increased student engagement and motivation (Newman and Wehlage, 1995; Resnick, 1987; Wiggins, 1993). This conception of assessment occurs when students relate what they are experiencing in the classroom to real issues and situations. In these situations, lessons have recognizable goals and make connections to the outside world.

Jane emphasized the importance of making her instruction relevant and current to her students.

It’s important to me that what we’re talking about and what the kids are hearing is very current stuff. I don’t want them having old news. I want sort of the latest trends, the latest look. Especially if you’re talking about career and planning for your future, and developing your portfolio. The kids use portfolios, based on employability skills... How do you broaden your scope? I want things to be as current as possible so I bring in everything—magazine articles, newspapers. We [also] use the Internet information.

I just hope to always update or make more current or change something so it’s more relevant all the time. I get stale—it’s meaningless for the kids if I don’t [stay current].
So I probably never do the same thing twice.... When I worked with the other family studies teacher we changed a lot [of things] over the last couple of years, but one of the things I really want to do this year is to...do a lot more Internet-based stuff to bring that whole technology thing in and get more kids doing presentations on a HyperCard stack for example.

Finally, as students examined pictures (mostly graphics as opposed to photographs) in Jack’s class, the pictures were selected specifically to relate to students’ lives: “So we made a personal contact as well, you know, if you were camping, what would this seem like?” Jack noted in his instruction that “one area I find the kids are very weak on is picture analysis.” He decided to incorporate picture analysis into his history component so that their examination would be within a context and thereby more meaningful to the students. He observed that to his students, a picture was often just a picture and nothing more. And yet, according to Jack, “the pictures contain so much information, with their headings and explanations.”

**Student-Centered**

Three teachers (Jane, Rachel, Helen) designed their teaching and assessing to build on the strengths, experiences and interests of their students. In this way, students were able to take responsibility for their own learning. Educational experiences therefore were planned around the student’s existing knowledge-base. It became apparent to these teachers however, that not all students had the same ability or readiness to learn the same things. With this knowledge for each individual student, they introduced a variety of learning strategies that catered to different learning styles. Jane believed that students learned best if they were interested in the topic:

I think if students hate what they’re doing, they’re really not going to get too much out of it. If they’re coming, and they’re running down to science because they want to be there, and they want to try something, and if you listen to them talking within their groups, and they’re talking science—to me, I feel that I’ve been successful in getting the ideas [across].

Jane’s success was rooted in her emphasis on maintaining a dialogue with her students and parents. By doing so, she was able to sustain a partnership with them in terms of instruction and assessment. She said, “I really want kids to feel comfortable in expressing stuff. It’s also really important to me that...a lot of kids get a say in terms of expressing
ideas. It's important to me that I get around the room to see lots of kids [and] deal with lots of kids." By having an ongoing dialogue with her students, she was able to address problems as they arose. For example, Jane described a situation that wasn't quite working, and to solve the problem, she sat down with her students to find out what went wrong:

I only had one group that broke down and could not finish the task. It was interesting because I brought them back..., and we sat, and we dissected what went on. And that was wonderful actually because they were really able to work their way through and say what had gone wrong. Then we'll see where do we need to go? Then I can go around to those of you who aren't on the same wavelength yet. Or "Wait a minute, we've all got a problem here because..., so let's go back to the [drawing] board. Let's talk about this." "Let's come up with some ideas"... I do a lot of talking with the students.

By promoting a partnership with her students and emphasizing the importance of teamwork, Jane felt that she and her students gained a mutual respect as well as keeping in touch with her students' learning needs. Jane maintained that once students "start[ed] constructing their own things, or their own games, or creating their own situations, or being able to do it without having the manipulatives in front of them, then you can begin to see if they're transferring what happened hands-on or onto sort of more paper and pencil tasks." While there was often a paper-and-pencil component to her units, Jane's ultimate goal was to have students engaged in performance assessments that were relevant to students' lives and which made room for different learners to shine. The performance assessment approach also capitalized on the whole notion of 'talking about' math:

Math journals are becoming pretty common, and they are built right into the textbooks. So [even though] the kids [say], "Don't make me write about how I got the answer," the new mode of math thinking is that kind of thing.... This is a good exercise because it makes you define it. And actually, I think maybe this new curriculum makes you define things better too. So you are not just saying, "Well I just do it." You actually say, "This is how I do it." I'll use anything that works, even if it isn't necessarily traditional. Particularly...math had traditionally been [the following]: "Do the exercise. What is your grade? How many did you get wrong? Let's do the test." Now when you look at understanding probability theory, [it's], "Create for me a spinner that would make your parents happy and that would allow you to choose the
chores you want to do for the next month.” So the kids come up with these chores like taking out the garbage once a week and walking the dog every day. So it is different each time.

Jane also found simply listening in on students’ discussions helpful in determining what they had learned: “I could tell whether they understood what the...Canada’s Food Guide...was about and what categories food fit into, and how you got a balanced meal. So a lot [of my assessing] was just by listening to them.”

Observation was Rachel’s most predominant form of assessment, and she kept an anecdotal report for each student. By keeping a running record for students, Rachel was able to observe their growth and their readiness to move on in their learning:

[I] write down, let’s say, “Tara was able to calculate the area of a square after one lesson.” “Ben required two or three teachings of it or maybe three or four examples before he was independent.” ...That [way] I know how long it took them.... They’re not working with the numbers per se. They’re working with the concept. So I find out how long it takes them. I find out how successful they are and hopefully they get it. And do they remember it the next day? [There are] a lot of these kids that are very weak; it just kind of falls out the ears, and you’ve got to start all over again, or at least review again. [I ask myself] “What’s their retention like, and, then, can they apply it?”

Despite the challenges of having to monitor her students very closely, Helen said her lessons were generally very active and practical. She placed great emphasis on students’ potential for self discovery.

I guess because it’s very active and there’s a lot of hands on, very little teacher talk, a lot of trying to move them along in their learning, rather then just me spouting information because as I said, I’m very boring as you can tell. I guess I would never ever do a lesson where I did the talking. I hated that in school. It was terrible. I want them to figure it out on their own. I tell them they’re my little scientists. They have to do it on their own and they’ll ask me questions, “Tell me what this is?” [I’ll say] “No way. You tell me.” I’m trying to teach them to be inquirers and problem-solvers [when] doing math.

**Performance-Based Learning**

Three teachers (Jane, Reva, Tom) incorporated some sort of performance-based learning in their classes. Jane made sure students had “a visual demonstration, an opportunity to muck with stuff, an opportunity to have things written out, and [the use of]
diagrams. So the combination would make for the most effective teaching of kids, many of whom...have great difficulty with reading, following directions and so on.” Not only did Jane provide visual modeling, but she also emphasized discovery learning and the application of what students learned in a practical way by “giving the kids a hands-on program, where it isn’t all research or it isn’t all kind of lecture.” While Jane used the odd paper-and-pencil tests, she relied primarily on performance assessment to assess her students:

I use some tests, some practical tests...where kids have to do stuff visually, arranging...rather than just paper tests. I mean the tests might be on paper, but they might actually have to perform tasks. Like, for example, sewing or cooking...that’s the practical aspect of it. In order to do something, you demonstrate rather than just write answers. The subject [family studies] is easy to set up practical things in. If you’re asking kids to do your place setting or something, have them do it, rather than paper [or] pencil kinds of things.

She attributed her use of performance assessment to the receptiveness of the group of students she taught:

I did have a class a few years ago where I taught them both language arts and family studies as well, and they were very new, and they were kind of slightly off the wall in the way they did things. [In] this class, when I came up with kind of an unusual way of culminating something that we have learned or something that I have wanted them to do, they didn’t kind of look at me and go, “O.K., it is not very test like but it is fine. I’ll do it.” Some classes would [ask], “Is that the test?” [With] these kids, you could see all the little light bulbs go on because they could see how they could demonstrate their knowledge through this different way. I gave very few tests this year [because] I had other windows to try to get the knowledge across.

Students in Reva’s class were sewing gym bags. First, Reva modelled the correct way to use a sewing machine:

I’ll sit down at a sewing machine, and I’ll describe how they have to set it up, and what they have to do, and then I’ll ask if they understand, and then they go and they do it, and then they bring back what they’ve done, and I can see if they understood before they can move on to the next set. They’ll show me, and I’ll give the O.K. to move on to the next part, and then they’ll get somebody that’ll teach them, or I’ll teach them.

Then students received examples to work from:
They're things that have been made, and also half-done...projects. When I explain the bag, I've got a bag that's done the first two stages, and then they look at that and they see what I've done, and I explain it. And then they come back, and I show them another bag that's got the third stage in it, so I might have examples for that.

Reva's instruction and assessment revolved around a performance project. In another class, she taught students about the Canadian Confederation and wanted to prepare them to present a dramatization. Reva explained that students were given time to work on their projects at school, and they would often go to the library on their own. She said, however, that "putting it together, the practicing of their oral speech was done at home. I made them do the poster at school." The students were also expected to create costumes for their dramatization which Reva marked. Near the end of the performance task, Reva turned things over to the students. She said, "I've set it all up, and then I have one student become John A. MacDonald, [and] he runs the conference." Reva "noticed that the really low level students have sort of blossomed in [the informal debates]. And [surprisingly] some of the high students don't want to speak in public."

Tom particularly liked using a modeling approach for his students and enjoyed it when they advertently or inadvertently reciprocated this modeling for the benefit of his own learning. Students were given a brief demonstration of what it was they were trying to accomplish in their activities. It was "basically a five minute demonstration in which students learned about what materials they needed."

**Problem Solving**

In this paradigm, teachers encouraged small group discussions so that students had the opportunity individually or as part of a group to test their ideas. The teachers became consultants, assisting students in clarifying and then confirming students' ideas. Classrooms were characterized by give-and-take relationships between students and teachers. The teacher helps students see relationships and organize their experiences into meaningful patterns.

For example, Rachel found that many of her students were becoming bogged down with formulae. They were not thinking through the problem-solving aspects of the task and were not gaining the ability to understand practically, which she had hoped for. She concluded that she had to change her approach. She started by asking herself what it
was that she wanted the students to leave this unit with? The students’ task was to find
the volume of a pyramid and a cone. Rachel told her students that the assessment for the
assignment would be for them to pretend she was five years old and to teach her what the
relationships between a pyramid and a cube, and a cylinder and a cone were.

I didn’t want any math. I didn’t want any numbers and formulae and stuff. [I wanted
to know] what is the relationship? Most of them didn’t get it because they had to revert
back to the formula to justify. It was really neat. So what I did was, I brought down
two kindergarten kids, and I sat them on my big stool in my science room. And I had a
cone, and I had a cylinder, and I had some sand. And I said to the kindergarten kids,
“What’s the relationship between the two? How can you find out how many of these
fill up a cylinder?” So they dug with the sand and they said, “three.” And my grade 8’s
just sat there and I went, “That’s all I wanted.” They had pages of formulae and
numbers, but all I wanted was three. And it was so cool! And the kindergarten kids
were just as pleased as punch. But that was how I evaluated that “teach me as if I’m
five [years old task].”

Both Tom and Rachel encouraged their students to turn to others for help or to
help facilitate problem-solving activities (for example, parents):

We do problem solving on Friday. We let parents help. So they take it home on a
Friday, and it has to be in my bucket by 9:00 a.m. Monday morning. Actually I have a
bucket in my doorway, so you have to step over my bucket to get into the classroom,
and as you step over it, the problem solving gets thrown in. And if parents sign it, I
know that parents have helped, but I don’t deduct marks, because they’re working
through it. It’s a family venture. I just like the whole idea of them working together on
it. I get notes from parents asking what the heck is the solution? They don’t know
what it is. They couldn’t figure it out. And I’ll send something home, or I’ll explain it
to the kids. Sometimes we don’t have that parental support, and that’s evident too. So
we do problem solving not as a drill.

Tom continued by saying, “I would say maybe a third...would have parental
involvement.”

When Jack began a lesson or a unit, his students were encouraged to engage in
problem solving. For example, in a grade one-two art class, Jack’s students brainstormed
and played with ideas as well as “work[ing] simply with colours and shapes and use[ing]
the resist media.” He said,
Basidy we just looked at a flashlight, how it encircles something and traps it in light. And then we went into well, “If you were looking outside at night, what might you find in the garden?” I got one or two aliens, a lot of cats and strange little house creatures, you know, in the grass. And, then we put leaves in front and behind to give the idea of depth.

Jack concluded that:

Throughout all of this, they were problem-solving all the way through and making decisions about how hard should they press. Should they press harder with the crayons? How much detail should they put in ‘cause it’s going to be covered anyway. Basically, the whole time is spent busily engaged, and you spend a lot of time moving back and forth across the kids. And, of course, as soon as they say they’ve finished, you say, “Well [what] did you think?” [He’s making a checklist sound] number of things, and they go back and say, “No I didn’t. I’d better address that.” And they do. And the little ones are very free. We’ve done a lot of stuff all year. We’ve had a lot of fun, and they’ve learned a reasonable bit about art. So it’s good.

Helen said she promoted higher-order thinking by encouraging the students to do it on their own as well as to ask questions.

I would never ever do a lesson where I did the talking. I hated that in school. It was terrible. I want them to figure it out on their own. I tell them they’re my little scientists. They have to do it on their own, and they’ll ask me questions–tell me what this is. [I say to them], “No way. You tell me.” I’m trying to teach them to be enquiring and problem-solving [oriented while] doing math.

**Motivation**

Two teachers had a practical interest of placing emphasis on students’ intrinsic motivation for learning. For example, as Jane’s class was finishing a unit on data management and probability, concepts Jane thought were too abstract for grade five students, she said, “winning the lottery and with odds of 250 million to one means absolutely nothing to them.” The challenge in her mind then, was to make the concepts concrete, to motivate the students to be receptive to these concepts. Knowing that she had many kinesthetic and visual learners in her class, she incorporated as much “involved activity as possible, to hook them into the whole thing.” Jane was animated in her explanation of the goals of the unit: “A lot of this comes out of the new math… the Quest 2000 series, where you’re really getting kids to think math.” Jane admitted that she was
not a math thinker herself but favoured this approach because it “gives a lot of opportunity for dialogue about the whole thing, and from sort of muddling through and then putting it together, rather than having to sort of learn the rules and regulations.” The process, therefore, “was to get the kids, through a whole lot of different activities…to see that there is a pattern to the whole process and that mathematically you can…make predictions.” Jane’s practical approach of introducing the concept of probability followed her initial failure of teacher-directed attempts to teach the concepts. “The kids didn’t understand at all.” They were soon frustrated and lost interest. Jane realized that motivation was the key to “hooking students in.” Consequently, Jane began creating elaborate activities that involved movement and colour. She had students making spinners “that were divided up in bright colours. [Students] colour them [in] weird [shades as well as] polka-dots, all of that sort of stuff.” She said that this activity worked well to “hook the [students].” She wanted to capitalize on the “whole idea of playing”, so “we got everybody out on the floor doing the spinners. I knew that would engage my class immediately, and I knew it would engage [my special needs] kids in the class.” It became important for Jane to see that her students were motivated and interested before actually talking about the concepts. “Once we did that, it became really easy, and the kids caught on right away because I felt that initially I had tapped into what they really liked to do.” She discovered that even those students

...who are reasonably mathophobic [were motivated]. Right away [the lesson] took on a whole new level of gamesmanship. To add to that, I made sure that every activity was with dice and counters and colours...[and that to address] multiple intelligences, the kinesthetic and the visual-spatial [learning] along with getting that mathematical-logical stuff, and getting them to talk about it. So, it was very effective. The kids found the whole concept extremely easy...even ones who were kind of, you know, if you say fractions or decimals, they’re on another plane. They just hooked right into this immediately.

Once Jane felt that the students’ interest and motivation had been captured, she proceeded to introduce mathematical concepts. She explained that

...the instruction most of the time was to present the activities and then pause the activities once we’d gotten into the process of playing them, and begin to ask good questions that lead to mathematics. And so it was more a sort of probing, guiding, as I
said, making sure the right questions were asked so that they would begin to see that there was some logic, that there was some predictability about what they were doing.

In the foregoing illustration, it became evident that Jane was very involved in her students’ learning and was deeply concerned about whether they were interested in what was being taught. Jane’s teaching and assessment was often driven by the group of students she had. For example, one of her classes was very responsive and Jane spent more time implementing motivating activities:

I do a lot of [different] stuff, because this is a really easy class. They’re very good listeners. They’re very responsive to learning. I very rarely have kids who don’t do their homework. It’s a very nice environment. A lot of the activities lent themselves very well to getting the understanding.

The students experienced very little teacher-directed instruction and were encouraged to talk with each other and Jane directly. Activities were primarily student-focused and designed to engage and motivate students as well as relate to their lives. Jane saw her role in the classroom as that of primarily a facilitator and guide. She generally introduced her units with motivational activities to capture students’ imagination. Since Jane placed a great deal of emphasis on students feeling successful, she tried to be cognizant of students’ different learning styles, coming up with demonstrations that were visual and activities that were primarily kinetic.

In the family studies program, one of the things I’ve really been working on is...the whole concept of multiple intelligences and style of learning...to make sure that that was translated into how I instructed, what I did, what I prepared for the kids, in the classroom.

Jane relied on the rapport she established with her students to encourage them to feel successful:

I lose all track of time a lot of times. I mean sometimes we are working on something and an hour will go by and I’ll look up and the bell will ring or something and the kids will say [disappointedly], “It’s not recess yet?”, and I’ll say, “Yes I can’t believe it’s recess.” I think the whole process of teaching is that if you are really engaged, if the kids are engaged and you’re engaged, the clock becomes kind of a constraint [because] you’ve got to get to your next topic or whatever because we are running out of [time].
Through all of this, Jane wanted her students to feel successful: “I really needed to focus on making sure that they were going to be successful with whatever projects they were going to do.”

I think I’m really encouraging to kids who are not so skilled academically… I work really hard in making sure that everybody has a positive experience—that they create something that they’re proud of in family studies. I do the same in any subject that I teach. I’ve been teaching them all the past few years. I’m really focusing on [creating an environment] so that every kid is as absolutely positively as successful as they possibly, possibly, possibly can be. Because I know that for many kids, they just see this as their last haven. Art, family studies, music, design and tech, [are subjects] where they can at last have that feeling of competency. So, I’m really aware of that. I have one ‘D’ on the report cards. I just finished my marks. I have one ‘D’. The kid didn’t finish the stuff. He had an attitude all the way through. Most of the kids, I can quite honestly say, gave it their all. I have very high expectations. I expect them to do the best job they possibly can. And I expect them to function with me as part of the team.

Tom also concentrated on encouraging a desire to learn among his students and frequently he told them that he was learning along with them.

Learning Environment

Teachers’ practical interest had them establishing stimulating learning environments. This included using a variety of manipulatives, bulletin board displays, posters, and so forth. The teachers seemed to convey that the physical characteristics of the learning environment was very important for their teaching and assessing. For example, sometimes, after taking stock of how things were going, Helen changed the environment for students to enhance her teaching:

I have done seating plan after seating plan. We were all together in the science area. Now the science area has round tables. So I was teaching math in there and science, and it’s a double period. And it was brutal. So what I did was I moved them to another room where it’s more like an amphitheater, for math, where they’re separate. Well they’re together but they can listen and it’s a lot easier to learn, I think. It was just changing the environment. That worked a little better.
She also paired her weaker students with stronger students: "I hooked up kids that speak somewhat of the same language, Mandarin or Cantonese." Reva also preferred to have her students working in groups and said,

...my classroom is quite large and there are only eight tables and there are four people at a table. I didn’t have a choice because those were the only tables I have. I would probably prefer to have single desks that I could put together and move apart depending on if we want to do group work or not. Here they’re stuck as a group of four.

Similarly, students in Tom’s class worked primarily in groups.

**Facilitation**

Teachers’ practical interest in assessment focused on facilitating their students’ learning. For example, Helen described her teaching style as “a lot of facilitating,” which was primarily dictated by her special needs students and also by her own concerns about talking too much:

I tend to not like to talk very much. I think I’m pretty boring and so therefore what I do is I will [facilitate]. With the high degree of special needs children in that particular grade 9 class, they can’t handle lectures. I mean I can’t stand there for 40 minutes and give them a huge big old lecture so normally it’s a 10 minute introduction. We might discuss how the lab is going to go, what we’re going to be doing, what we’re looking for and then come back together at the end and do some clean up and figure out what kind of difficulties there were.

Helen described the direct teaching she did as a method of “explaining something.” She said that many of her students “like to talk a lot. They like to be in on what is going on. It’s not a situation where I can have them sit silently for twenty minutes. When I talk about teaching, I’m saying maybe five minutes, and they’re interjecting.”

The students in Jane’s class experienced very little teacher-directed instruction and were encouraged to dialogue with Jane directly. Jane saw her role in the classroom primarily as that of a facilitator and guide. Similarly, Tom explained that his teaching was “not pre-planned” and he often facilitated teaching moments:

[While] we have a fairly rigorous prescribed [curriculum] that we’re supposed to cover by such and such a time, I’ve always felt that I’m capable as a math teacher,
[and] yeah, sure let's do it, and I'll keep track [even] if we run across a neat thing; I don't feel bad moving aside or moving away.

**Emancipatory Interest**

Knowledge, according to Habermas, is socially constructed, culturally mediated and historically situated. Dominant discourses function to determine true and relevant knowledge. To change this, individuals must engage in dialogue that focuses on the interests and assumptions that inform the generation of knowledge. Respecting and recognizing different discourses and adopting a practice of assessment committed to the plurality of voices will require both political and social transformation. Habermas offers a standard for judging existing discourses that suggests that a system of communication can only be free from both internal and external constraints when all participants possess equal opportunity for discourse. There is no reason to assume that dialogue across difference involves either eliminating those differences or imposing one group’s views on others. Emancipatory interests then, are concerned with empowerment, that is, the ability of individuals and groups to take control of their own voices and their own learning in autonomous and responsible ways. Emancipatory interests are defined as “a fundamental interest in emancipation and empowerment to engage in autonomous action arising, out of authentic, critical insights into the social construction of human society” (Grundy, 1987, p. 19).

Teachers in their efforts to create positive learning environments for students of all backgrounds might perceive academic achievement as predominantly a technical issue. Accordingly, teachers might assume that the solutions they require are also of a technical nature, (for example, specific teaching methods, traditional assessment, curricula and materials and so forth). At the same time, they adopt certain concomitant, basic assumptions:

They, as teachers, are fine and do not need to identify, interrogate, and change their biased beliefs and fragmented views about...students. [They may continue to believe that] schools, as institutions, are basically fair and democratic sites where all students are provided with similar, if not equal, treatment and learning conditions; and children who experience academic difficulties (especially those from culturally and linguistically low-status groups) require some form of ‘special’ instruction since they obviously have
not been able to succeed under 'regular' or 'normal' instructional [and assessment] conditions. (Bartolome, 1994, p. 174)

In this section teachers' reported practice was categorized under the following headings: inclusive assessment; ethnicity and gender equity; empowered learning; self-assessment; humanizing assessment.

**Inclusive Assessment**

What needs to be addressed here then is the idea that assessment has to be designed or individualized to some extent for differing student populations. The one size fits all assessment assumption requires some critical reflection. Reyes (1992) explains that the assumption is

Similar to the 'one size fits all' marketing concept that would have buyers believe that there is an average or ideal size among men and women....Those who market 'one size fits all' products suggest that if the article of clothing is not a good fit, the fault is not with the design of the garment, but those who are too fat, too skinny, too tall, too short, or too high-waisted. (p. 435)

Emancipatory approaches to assessment focus on giving students accessibility to learning opportunities. In this way, the classroom environment and the learning opportunities are structured to involve the expertise of students who may not be as vocal or perceived of as smart. One important focus of teaching from this perspective is giving all students equal access to achieve at high levels through a variety of learning opportunities. This means acknowledging diverse learning styles as well as the different interests, experiences and cultures of children. Gardner's (1985) theory of multiple intelligences challenges teachers to present information in a variety of ways in order to meet the myriad "intelligences" present in the classroom. By providing greater accessibility for a range of learning styles and intelligences, teachers can also accommodate the differences in linguistics and-or culture that might exist in the classroom. Five teachers (Jane, Rachel, Monica, Tom, Jack) focused on addressing a range of learning abilities and experience. For example, Jane was bothered by the subjective nature of rubrics. She worried about how fair rubrics were and the possibility that students may not be having a good day when they were being assessed. She came to the realization that rubrics could not be used indiscriminately: "I mean there are some things for which the rubrics don't work."
There’s always this bit of subjectivity in it that you want to make sure that you’re being as fair as possible, and...if I’m talking to you and I’m basing some assessment on what your answers are, have I asked good [enough questions?] Have I asked the right questions? And has the kid got a totally stuffed up head? And is, you know, [so and so] not really hearing me today. All of those things.

Both Jane and Rachel were concerned with matching the appropriate assessment with congruent learning styles, that is, “trying to get assessment that suits a lot of learning styles.” Consequently, Rachel said,

I tried with everything...to make sure the kids had a visual demonstration, an opportunity to muck with stuff, an opportunity to have things written out and diagrams. So the combination would make for the most effective teaching of kids, many of whom...have great difficulty with reading, following directions and so on.

Monica explained that some students routinely achieved the outcomes while others did not.

I know we will have a group of students who are able to take that beautiful dacta box and put it together with all the zillion little pieces...I mean that grouping will go off, and sure, go ahead. The others may only be at the [stage where they can] make [their] little car out of a styrofoam cup and these [other] things, very basic [stuff], with a lot more teacher direction. The others may be able to explore that and create more independently.

Tom widened his repertoire of assessment to give all students an opportunity for success. He credited this new approach to the professional development sessions he attended on multiple intelligences where he admitted that these sessions “threw me...it gave me...you know like, ‘Look Tom, don’t be stupid. There are other ways to do it. I mean you can get better out of your kids if you give them the opportunity to show their strength.’” He said emphatically, “I thought that was a bit of an awakening at that point. I just didn’t know about it before-hand.” Tom’s teaching frequently changed to suit the needs of his students: “If I see a bunch of kids with weaknesses in a particular area I’ve got to go back and work to remediate them...I’ve [also] got to make sure that I do a better job at that particular situation for the next group that comes along.”

Jack also discovered that students had different time requirements when learning.
Five years ago, I began to really have it hammered home to me on a daily basis, what I set out to do and what this person could do weren’t necessarily going to fit within the span of what I thought was reasonable and so on. So, I learned that a lot of kids in a sense, take a little longer on a task.

Ethnicity and Gender Equity

While some of the teachers’ classes consisted primarily of a homogenous makeup of students, others’ were comprised of students from varied ethnic backgrounds. In the latter cases, however, there was little if any discussion about assessment for students who have historically been marginalized. At first glance, it may seem that teachers were not marginalizing these students by treating them like the other students; however, this very approach discriminates by robbing students of their culture, language, history and values.

To fulfill the possibility of giving these minority students a voice, a shift in perspective is required, “a shift from a narrow and mechanistic view of teaching to one that is broader in scope and takes into consideration the socio-historical and political dimensions of education” (Bartolome, 1994, p. 176). In other words, teachers need to understand the socio-historical place of assessment within society; they need to understand the political nature of education; they need to acknowledge the reproductive nature of schools; and finally, they need to be cognizant of the schools’ continued deficit views of certain students. The informed way in which teachers implement assessment strategies can serve to offset potentially unequal relations and discriminatory structures and practices in the classroom and in doing so, improve the quality of the assessment process for both the student and the teacher (Bartolome, 1994; Freire, 1987; Habermas, 1971).

Monica recognized ethnicity in her classroom as a way to help her understand where some of her students’ difficulties were rooted.

Well I am thinking of sort of addressing issues with a diverse student population in terms of background, ethnicity, all of those things.... I have a couple of ESL [students] and when I look at their writing, for example, sometimes when they are reading, the whole colloquialism, the whole understanding of language, you know, has to be at a different level.
Yet another emancipatory approach to assessment is to engage in anti-methods of pedagogy. In other words, teachers are encouraged to reflect critically on the directives they are given:

Simply put, it is important that educators not blindly reject teaching methods across the board, but that they reject uncritical appropriation of methods, materials, curricula, etc. Educators need to reject the present methods fetish so as to create learning environments informed by both action and reflection. In freeing themselves from the blind adoption of so-called effective (and sometimes "teacher-proof") strategies, teachers can begin the reflective process, which allows them to recreate and reinvent teaching methods and materials by always taking into consideration the socio-cultural realities that can either limit or expand the possibilities to humanize education. It is important that teachers keep in mind that methods are social constructions that grow out of and reflect ideologies that often prevent teachers from understanding the pedagogical implications of asymmetrical power relations among different cultural groups. (Bartolome, 1994, p. 177)

Monica for example, said that while it was not encouraged in the curriculum documents, she had ethnic students share their experiences with the class.

[Even though] it is not in the government curriculum, what I try to [do], if we are discussing health topics...[for example,] healthy eating, I try and bring in some [ethnic eating patterns]. [For example]...I went to students who have come from other countries and [asked them] what were their experiences? ...So [I did] that kind of thing to bring it into just general stuff rather than specifically dealing with multiculturalism.

In another instance, Monica decided to have her students learn about how various cultures celebrate seasonal events and made this the focus of "class discussions, lessons, and journal writings."

We celebrated everything we could: St. Lucia, St. Nicholas Day, all those kinds of things. We learned several songs, rhymes, and greetings for the season. We had an assembly—a concert performance for all the primary grades, and they performed their little bits as well. Then we wanted to understand and appreciate various celebrations from different parts of the world. We also saw various film strips, activities and so on.

In her attempts to make her instruction relevant to students, Jane was very conscious of equity. She purposefully discussed the influence of the media on girls' perceptions of themselves:
We were talking in family studies about body image and about media body image, and I had *Seventeen* magazine and *YM* and all sorts of fashion magazines.... So, it was kind of good fun talking to the kids about this whole idea of image, how they perceived themselves, [about] healthy weight and ideal weight. And I also really enjoyed hearing the kids talk a lot about manipulation of media and the plasticiness of it all because I hope they see themselves as real people and not as model wannabees.

Studies note that teachers of affluent students are more likely than teachers of working-class students to utilize and incorporate student life experiences and knowledge into the curriculum. One teacher in this study, Rachel, who introduced probability to the students using the popular TV show, Wheel of Fortune, as her example, was really tapping those students' knowledge base who had TV's and games at home. In fact, Rachel's classes during this study were made up mainly of Caucasian students and she described the school as "a bubble...in the middle of nowhere." The question remains, what would Rachel have done if her class had been more diverse? Anyon (1988) reports that teachers of working-class students generally view these students as lacking the necessary cultural capital and therefore, impose content and behavioural standards with little consideration and respect for student input.

Other practical strategies that teachers used in their classrooms to reduce any deficit approaches to assessment, involved heterogeneous learning groups; engaging in explicit discussions with students about their experiences; creating environments where students were treated as competent and able individuals; promoting meaningful interactions between teachers and students; establishing positive and trusting working relations; and sharing knowledge.

**Empowered Learning**

Empowered learning included interactive opportunities where students collaborated with others in the learning process and worked together towards a common purpose. Students, therefore, had an opportunity to explain what they had learned to others. Learning, from this perspective, became largely social, in that it occurred within a specific social context and ultimately required communication (Habermas, 1971). The prime interaction that was evident in this study occurred between teachers and students where both students and teachers learned from each other. For example, the students in
Monica's classes were routinely asked for their opinions about the progress of a lesson evaluation: "What do you think [of this lesson-assessment]?” and “How do you like learning this way?” Helen said one of the reasons she liked teaching grade nine students was because “they do take responsibility for their learning.” She observed that “they realize, ‘Oh oh, I haven’t met this outcome.’” She said they would know when they could not “write a formal test...So we would go back, and we would do some relearning...working towards some mastery of the area.”

Rachel and her students developed an understanding that the students would try anything she presented to them. For example, although Rachel provided some pre-teaching for those students who were having difficulty, she preferred to “just give [the activity] to them and see how it goes.” She said, “I agreed to try [this unit] because I use my kids as guinea pigs all the time, and I’m always open for something a little different.”

It was not always the students who discovered new things but also the teachers. For example, Reva described a lesson where she allowed the students to define the parameters. The students brainstormed the concept of ‘point of view.’ The lesson went in a direction that Reva had not anticipated, however, when the students included inanimate objects. She remained receptive to this shift in thinking and incorporated the new discovery into the lesson.

We have some students brainstorm different things that were point of view, and I was thinking more people and they were thinking more inanimate objects which is fine, too. [For example, they came up with,] “I want to be an eraser.” So you can be an eraser.

Reva further explained that her teaching involved minimal teacher direction since she encouraged her students to teach each other: “I'll teach a few of them, and then they’ll go off and teach other ones who’ll teach other ones. And then I go back and I check because somewhere in the broken telephone line, somebody gets the wrong messages. So I’ll go look and find those people.”

Tom frequently turned to his students to inform him about how things were going. He commented that when things did not go quite as he planned them, he consulted with the students. For example, he liked the new math approach where the assessment asked students to explain math questions: “Just pretend that you are writing to a person who
doesn’t know diddily squat about math, and they need to see every single step.” Tom was in favour of this new approach and said, “You know, it makes a difference because all of a sudden the [students have] got a slightly different view on [the math problem].” While the objectives of what he expected his students to learn were well planned out, Tom led his students towards those objectives so that they felt empowered and full of discovery. “[I know they succeeded because...] part of it is the enthusiasm at the end of the task.”

**Self-Assessment**

Seven teachers (Helen, Jane, Rachel, Reva, Monica, Tom, Jack) used self or peer assessment in their programs. The teachers observed that when students created their own standards, the learning experience was often reinforcing. When there was a discrepancy between the actions of students and their own standards, the experience became punitive.

Helen used a variety of assessment approaches, which included self-assessment, although she admitted that this approach was difficult when there were so many students in the class:

> Often we do an awful lot of group work, and that’s based merely on the fact that there are 37 in there and...they learn more with groups. They’ll evaluate how well their group did the particular piece, and they often do self-reflection in terms of journal writing, and I write back to them.

Jane encouraged students to self-assess and provide feedback to her verbally:

> I think it’s interesting because I think the kids are also getting better at being able to articulate to you where they are in the whole scheme of actual marking assessment, evaluation, that kind of thing. They can talk more about their ability to do something, than I think maybe we’ve done in the past.... I assume over time their skills will increase as our skills increase, and that we can have a really good dialogue about it. I notice more and more that kids are saying, ‘I found this part really difficult.’ They can break it down [by] not just [saying], “I’m terrible at fractions” or “I’m terrible at this,” but actually compartmentalizing a bit more. You know, “I had difficulty with this, but I did well with this;” “I understand this.” So it’s more of a dialogue. In this particular case, it was more of a dialogue than anything else.

Jane found new benefits in her partnership with students as well as a reduction in her assessment load:
My assessment strategies have changed...where...it’s more of a partnership [with the students]. That actually takes some of the load off you in the final analysis. Because again you’re kind of working together. So I have a lot of self-assessment on the kids’ parts [and] peer assessment. I sometimes have them take it to somebody else entirely [like] another adult or another non-involved adult.

Jane encouraged her students to assess themselves using rubrics:

When I design a rubric, the [students]...go through it first and...grade themselves on what they think is reasonable. Some of them are terribly hard on themselves. Interestingly most of them, since I’ve been designing the rubrics, most of their assessment is...almost exactly the same as mine.... It rarely ever deviates if...you set it up so that it’s pretty clear to them.... They see it as a realistic kind of description and a realistic look at their capabilities.

Rachel has been using more peer- and self-assessment than she did in the past:

I like them to do a little bit more assessing of themselves than what I used to let them do years ago. I can see the validity in that more than I would have a number of years ago. [I want] for them to take responsibility and to help their peers judge them. I always like comments with anecdotals attached [and] not just to slap down an eight out of ten or a rubric, whatever the vehicle is. But I’d like also to read their comments, and they have to be constructive. So they usually put down two positives and one thing that they can improve on. I don’t call it a negative. I just put, you know, some sort of a suggestion. So the kids have to practice judging not only their work, but others, and comparing [their work:] “How do I know it’s working?” If they’re close [in their judgement]...if what I see...and I read your report and it’s basically what I saw, then I know that we’re sort of on common ground.

When Reva was asked if students engaged in self-assessment, she replied, “I guess internally, like nothing that is [formally arranged].... But I guess when they’re actually sewing, they know that if they did it wrong they’re not going to come up and show me. That they’ll redo it again. I’ve seen students who said, ‘Oh, this is wrong!’ and they’ll do it again.” Basically, she said, “In the end, if they’re able to master all the different stitches, then the bag [they are making is] going to turn out really well by the time they’re done. “As a way to motivate students, Reva involved her students in peer evaluation:

To keep the students’ interest and to let them see what their peers are doing...every time a student will go up and present, they’d write the name of the student; they would
listen and they would have the same criteria: “Did they point to the poster board? Was it clear and concise?” And as a group they would mark them and give the total. And then on the oral presentation, I take their mark and my mark and I’d average them together. And we went over what I looked for. Just because he’s your friend you can’t give him a ten out of ten on the different areas. They did pretty well actually. Sometimes they even marked harder than I did.

Tom’s predominant form of assessment was self- and peer assessment: “I use peer evaluations [and] self reflections, [which are] probably for me one of the more powerful tools. [He often asked students]: ‘Can you tell me what you learned?’” He said he liked to find out what his students think about, what both he, as an instructor, and they, as students, were doing. Therefore, self and peer assessment “makes it fun to mark because now I’m getting individual perspective on the activity, [that is], overall summary reflections on you as well as the test. Well, it’s all those pieces together that make up the assessment for me anyway.” The students in Tom’s class were also encouraged to have a peer edit their work

...when they exchanged papers. They read silently each other’s papers, and they read their paper. The partner reads their paper aloud to the author because I find that you get some really neat stuff happening [when] the kids [are] reading it. [They might say,] “Sorry, this doesn’t make sense.” The other person is hearing their own voice coming through hopefully, and then suggestions [are made] back and forth. Then, at that point, they took suggestions from each other, and they went off and made their final copy. Some kids needed a lot more guidance with that than others did, so that’s where my assistance came into it.

Monica said while there was no opportunity for students to engage in planned or formal self- or peer-assessment, students shared with one another: “[There was] the sheer enjoyment of sharing and participating together; it was very much that spirit of collegiality and all of that kind of stuff.” Monica’s primary assessment strategy was to have students keep a log of their learning:

They kept a book of learnings...[in which] they identified the origin of specific holiday traditions. They read and responded to short articles on traditions, created Christmas cards and so on. They worked with identifying words and components, and combined them to make new words, all built on this Christmas theme. And simple conventions of writing consistently [were reinforced] in whatever they were doing.
For example in] that little letter to Santa [they had to] use...capitals, periods, whatever. So, as they were making their way through their unit, the evaluation comment [focused on whether] the activity was completed [and] how well it was completed [and it was] all anecdotal.

Finally, Jack introduced the buddy system in his classes, which gave students who required remediation an opportunity to articulate their problems to other students. In this way, a dialogue was initiated among students to enhance each others' learning.

I have a student who is in grade seven, who has language...[and] written language difficulties...[I would] say, "O.K., if you're unsure, you know, talk it over with your buddy, your learning buddy beside you, or the one over there, you know." And that would help.

Humanizing Assessment

While the teachers attempted to negotiate with their students about assessment, some teachers conceded that they were not always successful in convincing students to partake. Yet there was no indication that the teachers prepared their students in a formal pedagogical way to engage in teacher-student interaction and negotiation (Jones, Palinscar, Ogle and Carr, 1987) where students consciously learn to monitor their own learning. Finally, when teachers used a variety of closed-ended instruments, as many of the teachers did in this study, this assessment provided little specific information as to why the student answered a question either correctly or incorrectly, other than confirming perceived student academic, linguistic and cognitive weaknesses. Bartolome (1994) suggests that

This fragmented discrete skills approach to instruction restricts the teacher's access to existing student knowledge and experiences not specifically elicited by the academic tasks. Needless to say, [teachers know] know very little about [their] students other than [their] deficit descriptions of them. (p. 189)

The alternative is to develop a humanized assessment plan where students are observed in a variety of formal and informal contexts and they are engaged in a number of open-ended tasks. These exercises are intended to not only enable the teacher to gain a clearer picture of students' learning, but also to become educated about their life experiences, world views and their meaning-making strategies. For example, Rachel expressed her disappointment in not being able to include effort in her evaluation of students' work.
I can’t use anecdotal stuff anymore. In previous years, I might have if they’ve put a lot of really good effort into it, I might have had a mark for that. But according to the new assessment guides, there is no room for that. It’s just what they achieve whether it be on a test or a project or seminar, whatever. And that’s all that I can use, so I take those marks, and I get the grade that way.

In getting to know her students better as individuals, she found it useful to have them complete a survey which asked them questions like the following: “How did they feel the courses went? Did they feel the marks were fair?” She explained that “there’s a whole list of a two page survey where they gave us feedback on how they thought it was working for them. It’s important to see how they felt about it.”

Jane’s primary assessment strategy was the use of interactive dialogue and observation. She explained that having the opportunity to talk with the students on a continual basis ensured that they understood the task at hand, and that she knew where they were in their learning: “So you can just do a lot of dialoguing. You can be working with a group and the others are all engaged. I mean, it’s not difficult. So you can spend a lot of time actually talking to the kids.” Feeling too confined with traditional forms of testing she liked to dig deeper into her students’ learning by scrutinizing what students were really saying on these tests. She did this to let her know if what she was doing as a teacher was working: “Basically, in a formal and summative and those sorts of evaluations certainly that’s in areas that I want to explore a little bit further. I look at what they write...I look at what they’re saying.” Rachel used journals with her students so she could keep in touch with them as people:

I keep a journal with each and every one of them. I don’t mark it. I don’t grade it. It’s our dialogue time. A lot of the kids tell me lots of things that I’m sure would embarrass their parents or embarrass themselves if other kids knew.

Helen made a point of not removing students from the classroom to re-explain something. Rather she sat with them quietly, individually, to help them: “I don’t take them out to re-explain something. I want them to feel like they are a part of this large group, but they are always going to get individual instruction from me later on.” In fact, Helen was very concerned about how her students felt. She attempted to reduce their embarrassment. The following is a good example of that approach applied to one, specific student:
There are a lot of things he doesn’t like to show to the other kids because he’s very, very, very embarrassed about what he can produce. He’s extremely bright. His learning disability is such that it’s embarrassing for him. And he hasn’t yet found that key, that way that he can get by. [He] hasn’t been able to make any accommodations for himself which is surprising by grade eight. He just hasn’t found it yet. So it’s very quietly done. We talk, we discuss it. [I'll say to him:] “This is why you got an eight out of ten, or a three out of ten.” And they pretty much know, like it’s fairly clear in their mind. They’re not surprised.

Summary

This section has focused on issues relating to teachers’ reported assessment practices. Teachers displayed assessment practices that were not only technical but also reflective of practical and emancipatory interests. These multiple interests are perhaps consistent with some of the curriculum documents they were using (for example, Common Curriculum) which reflected a tension between the use of outcome-based assessment and the use of new assessment. The patterns that emerged for each of the assessment approaches are found in Tables 6, 7 and 8.
### Teachers' Classroom Assessment Practice Tables

#### Table 6

**Technical Interest**

<table>
<thead>
<tr>
<th>Practice</th>
<th>Helen</th>
<th>Jane</th>
<th>Rachel</th>
<th>Reva</th>
<th>Natalie</th>
<th>Monica</th>
<th>Tom</th>
<th>Jack</th>
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<tr>
<td>Technical Interest</td>
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Table 7

Practical Interest

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<th>Natalie</th>
<th>Monica</th>
<th>Tom</th>
<th>Jack</th>
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<tr>
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</table>

Table 8

Emancipatory Interest

<table>
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<th>Practice</th>
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<th>Rachel</th>
<th>Reva</th>
<th>Natalie</th>
<th>Monica</th>
<th>Tom</th>
<th>Jack</th>
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Table 9 provides a comparison between the teachers by indicating numerically how many technical, practical or emancipatory approaches the teachers employed.
Table 9
Summary of Assessment Approaches

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Technical Interest (out of 8)</th>
<th>Practical Interest (out of 9)</th>
<th>Emancipatory Interest (out of 5)</th>
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<td>Natalie</td>
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<td>Tom</td>
<td>4</td>
<td>7</td>
<td>3</td>
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<tr>
<td>Jack</td>
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</table>

All of the teachers applied either technical and practical approaches to their assessment practice. Seven teachers incorporated both of these approaches as well as emancipatory approaches in their classrooms. More specifically, Jack and Helen presented relatively equal practices motivated by technical and practical interests in assessment and some emancipatory approaches; Rachel and Monica displayed predominantly technical and emancipatory interests; Jane and Tom’s assessment reflected primarily both a practical and emancipatory perspective; Reva’s practice displayed primarily practical interests; and Natalie’s assessment practice reflected predominantly technical approaches to assessment. On the whole, the teachers’ reported assessment practice was never reflective of only one interest, but rather a range of orientations for each teacher. The chapter therefore, identifies approaches to assessment and pedagogy that teachers incorporated into their classroom that reflect technical, practical and emancipatory orientations.

In summary, these results lead us to ask such questions as: “When do teachers use technical approaches and when do they use practical and emancipatory approaches?”; “What are the implications for those that use a blend?; “Are these approaches reflective of their beliefs or are there other factors influencing the approach(es) they employ?”
Discussion

Teachers used technical assessment strategies primarily when attempting to assess outcomes that were mandated by an external source (that is, curriculum); when making these external expectations clear to their students (that is, one-way transmission of information); and when using external reinforcement (that is, traditional tests-examinations; rewards). In addition, they seemed to display technical interests in direct response to the types of students they had at that moment in time. When using practical approaches, they were doing so in an effort to involve students in assessment; when promoting interdisciplinary learning; when assessing for learning (for example, problem-solving, consolidation of skills) rather than performing; and to promote intrinsic motivation. Finally, teachers incorporated emancipatory approaches in their assessment practice in order to establish equitable and fair conditions for learning; to empower their students; as well as to create a humanizing environment.

In cases where practical approaches were used or given greater emphasis, teachers appeared to be comfortable with the use of new assessment techniques. Although difficulties were encountered in scoring new assessment tasks, teachers with a practical orientation believed that the tasks were appropriate for assessing student understanding. This was not the case for teachers with mostly technical approaches to assessment. These teachers on the other hand, believed that the traditional methods of assessing students was more accurate, efficient and objective. The one teacher who primarily valued and made sense of what she did solely from a technical perspective sought to obtain products and to assign grades. In contrast, teachers who emphasized a practical perspective had difficulty quantifying their assessment of student learning. These teachers generally shared the responsibility for determining how students should be assessed by giving their students autonomy with respect to demonstrating to the teacher what they had learned and by involving them in deciding how they were to be assessed. The teachers who displayed mixed approaches to assessment seemed to do so with ease moving from one paradigm to the next depending on the purpose of their assessment.

Attempts to measure what students knew often assumed technical perspectives in this study in the use of marks and grades. Grades, however, were based not only on what was known, but on whether students completed the required products and participated
actively in tasks. In addition, a significant proportion of students' grades were attributable to factors other than what was known. The teachers' concern was not so much to ascertain what students knew but, rather, to determine whether specific facts were known. Although opportunities for students to demonstrate what they knew were available, paper-and-pencil tests tended to be incorporated into measures that represented a frequent method used to assess students' knowledge. In these situations, teachers determined students' grades on the completion of tasks instead of what students had learned. If the completion of an assignment produced a particular mark, it is likely that students could have received passing grades even though they had limited knowledge of concepts. Conversely, students may have more extensive knowledge of the subject matter than what is evident in the grades. This technical practice placed primacy on marks as external motivators to encourage students to stay on task or to complete their work. Some teachers marked all the work that students did in the belief that students would be motivated by the prospect of receiving external reinforcement. Students may also be bored and the mark may not yield a satisfactory performance from the student. Some teachers in this study documented students' work by checking off daily assignments and homework. Upon close examination of this practice, students are not being assessed for learning, rather, the teacher is simply checking to make sure the work was completed but doing so under the guise of assessing learning.

Another implication that arises from teachers' use of technical assessment approaches is the possibility of students misunderstanding or misinterpreting the paper-and-pencil tests and written examinations administered to them, since specific answers are sought for the questions. Students, in an effort to construct meaning that aligns with the teacher's meaning may eventually fail to respond or will guess at an answer. The student's failure to respond or choosing to guess at the answer does not necessarily reflect a lack of knowledge or understanding of the concept; rather, the student may not understand the assessment tool being used.

The practical paradigm works at limiting the misunderstandings that arise in the assessment of students, giving students opportunities to clarify or check their understanding of the assessment and having an opportunity to explain how they understood the assessment, clarify any doubts they might have or obtain further
information relating to the task. In this paradigm, teachers frequently consulted with students to clarify the intended meanings of responses. Some of the new assessments used in this study, therefore, were interactive and provided opportunities for teachers and students to clarify, elaborate, justify and explain.

In contrast to assessment from the technical paradigm, practical approaches to assessment provided students with opportunities to represent what they knew about certain aspects of the subject areas they were learning about. While the teachers in this study were strongly encouraged by the curriculum to use a variety of assessment methods that went beyond the traditional paper-and-pencil tests (for example, performance assessment, self-assessment, rubrics, portfolio), all the teachers used summative tests at the end of a lesson or unit. This discovery, however, does not necessarily mean that a teacher's use of technical strategies reflected their beliefs. Their use of these techniques may have been premised on external mandates such as addressing the outcomes-based mandate of the Common Curriculum.

Teachers who displayed primarily practical approaches of assessment, generally did not mark everything the student did. There are a number of implications that arise from this. Non-graded work may encourage students to take risks. In contrast, without external reinforcements, students may be careless in their work or may not be motivated to demonstrate their learning without the validation of extrinsic motivators. They may even be lethargic in their efforts. Tasks, on the other hand, in the technical paradigm promoted playing games and using manipulatives. Teachers with more practical leanings employed demonstrations and performance tasks to assess students' understandings of the subject matter. The advantage of presentations is that the teacher and student can negotiate meaning and arrive at consensus. To circumvent communication problems, one teacher in the study audiotaped and videotaped her students. Other teachers conducted personal interviews with students. When teachers assessed students using performance assessment, there was a better chance that this type of assessment measured what students knew rather than what they had memorized.

When teachers displayed emancipatory approaches to assessment, they were not only concerned with how students were learning but more importantly, they were concerned with ensuring that all students had equal opportunities to learn and achieve the
outcomes or expectations. By being aware of issues such as equity and fairness teachers were placing primacy on a social justice agenda in their assessment practice. These teachers were receptive to a shift in power structures where they encouraged students to be empowered in their learning. They did not exert 'power over' their students rather they employed 'power with' stratagems. In other words, teachers listened and learned from their students. They were engaging in conversations that resulted in better understandings for both teachers and students about what individual student learning needs were; these conversations also involved exchanges where both teachers and students were experts in assessment. Most importantly, teachers who used emancipatory approaches emphasized a humanizing environment where they were genuinely interested in their students as human beings.

As we have seen then, in this study, some conclusions can be made from teachers' reports about their practice that speak to their epistemologies regarding assessing and learning. For example, while some teachers viewed performance-based tasks as appropriate assessment strategies to promote learning, others placed more emphasis on performance by administering tests that provided tangible rewards in the form of grades. These teachers valued different approaches to assessment. In the first view (that is, practical view), students had maximum opportunity to voice their own learning without the fear of being penalized. In the second view (that is, technical view), students may perform well and attain rewards in the form of grades, however, there is little evidence of learning.

What we see from this study, and more specifically this chapter, is the emergence of a framework that bridges the paradigms of teachers' practice using Habermas' theory as a guide. We have seen how teachers have been pulled between differing sets of tensions, for example, a concern for the transmission of knowledge to achieve externally mandated expectations and having to reconcile assessment with reporting. While the teachers aggressively question how to go about synthesizing these tensions, they rarely dispute the value of each. Teachers do not automatically assume that the elimination of one side of the tension would resolve the problem. For example, while teachers grapple with combining new assessment with the use of levels of achievement in their classrooms, they understand the importance of levels of achievement and standards and
their many purposes. It is not unexpected to discover that teachers' assessment practice was at times contradictory in the current climate of education and educational change, a context fraught with uncertainty and ambiguity (Ashton and Webb, 1986; Berlak and Berlak, 1981; Doyle, 1986; Kagan, 1992; Schön, 1983).

What we have seen in this chapter is that each of the perspectives of assessment (for example, technical, practical and emancipatory) seem to have value for the teachers. From Habermas' framework then, we see his hypothesis of these three epistemological perspectives working together to serve different purposes and blurring the conceptual lines of knowledge. This leads us to ask the question, "Is a new epistemology of assessing emerging?" While the teachers experienced first hand these perspectives working side by side (a few teachers moved between perspectives in a single moment of assessment) what is missing in this chapter, is evidence of teachers explicitly recognizing that the three perspectives actually exist together. What is needed is a recognition by teachers as to what purposes each paradigm of knowledge serves. This requires further inquiry. In this way, the three epistemological perspectives have value and are valid. The next chapter explores the tensions that have been highlighted thus far by providing a deeper and richer understanding of, in general, teachers' epistemologies, and specifically, their inquiry into assessment issues.
CHAPTER EIGHT: HOW DO TEACHERS INQUIRE INTO ASSESSMENT?

This chapter is concerned with knowledge in the broad sense and the assessment knowledge or epistemologies of middle-school teachers in particular as it responds to the third research question: How do teachers inquire into assessment? The chapter contributes to the knowledge of teachers' understanding of, and inquiry into assessment, as the teachers pursued particular instances of inquiry into assessment in their classrooms. Here Habermas' framework of knowledge interests is used as a paradigmatic organizer to situate the modes of inquiry according to paradigms of knowledge. The organizer also includes Habermas' notion of communicative rationality where it becomes one of the modes of inquiry (see Figure 1). The chapter's primary focus, then, is to describe the modes of inquiry teachers use when investigating classroom assessment.

As we have seen in the previous chapters, teachers in this study encountered assessment situations that were paradoxical and even (sometimes) mutually exclusive. These situations often became exceedingly difficult as a result of constraints that existed within the context of the teachers' professional environment (for example, student behaviour, lack of support, limited organizational structures and so forth). Chapter Seven revealed how teachers often relied on different knowledge interests in their assessment approaches to manage these tensions. It was not clear whether these differences were due to the aforementioned constraints or because teachers were in transition between developing new beliefs due to new learning or past influences (for example, teachers as students) and were melding these with contemporary influences (for example, professional development). Whether implicit or explicit, conscious or unconscious, some teachers were more aware than others of the challenges and actually expanding their inquiry into apparent contradictions in their assessment practice. In sum, teachers were manoeuvring among numerous inconsistencies in their daily assessment practice. Day (1999) characterizes teachers who investigate these incompatibilities within their practice as inquirers.
To discount the contribution of dilemmatic choices to lifelong learning is to become urban ostriches. Instead, acknowledgement that dilemmas pervade our lives, and in doing so promote development, can produce people who are actively inquiring, flexible, creative, tolerant...who can face uncertainty and ambiguity without disorientation. (Woods, 1979, p. 17)

Often the most difficult incompatibilities for teachers to resolve are those found between teachers' stated beliefs and their practice. Without a more participatory component as a research method in this study, however (that is, involving the researcher in a facilitation role) both the researcher and the teachers will remain naive to the cause(s) of such inconsistencies and to the extent these discrepancies result from the mundane, human vicissitudes of life or from factors external to the accepted situation. At the very least, this chapter will highlight teachers' inquiry into assessment that echo some of the articulated challenges teachers encountered in Chapters Six and Seven. Such an examination may also lead to patterns that indicate new skills and knowledge being adapted, assimilated or actually being incorporated into their already existing knowledge of assessment.

**Modes of Inquiry into Assessment**

The nature of inquiry teachers engaged in encompasses a variety of approaches, some of which have been outlined in Table 1. The modes of inquiry teachers engaged in were identified broadly using the principles described in the conceptual framework that characterized each mode of inquiry. This chapter does not, however, address all of the modes of inquiry found in the original table of modes of inquiry (Table 1), since the teachers did not access all of these modes of inquiry. In addition, new modes of inquiry emerged in this chapter, which are found in Table 10. The data in this chapter have been arranged under headings that reflect pertinent questions that teachers asked and that resonate with the broad characteristics which defined the particular modes of inquiry as outlined in Chapter Three.
Technical Interest

Technical Inquiry

In this chapter, a variety of assessment issues emerge for which teachers sought clarification. Seven teachers viewed assessment in a technical manner with questions that revolved around the ‘how to’ of assessment as well as attempting to see the utility of certain assessment approaches. Teachers inquired into several confusing problems: how to resolve the conflicting purposes of assessment; what terminology to use; how to assess; what assessment strategies were appropriate for each situation; and how to ensure students achieve the expectations for their grade level.

How Do I Reconcile Conflicting Purposes of Assessment?

Rachel struggled with conflicting purposes of assessment. She found that she needed to align her teaching and assessing with a report card format that required grades.

[I find it difficult] to match...my teaching and what the format is of the report card that I have to work with right now, which I don’t have a choice of. Yeah, so it’s out there. We know it’s there....Well we’re between two worlds—it’s kind of like a twilight zone.

One way to deal with the incompatibility of her assessments and the report card requirements was to combine both in one assessment tool. For example, she developed a checklist with a rubric where she could gain tangible marks for students while simultaneously gaining evidence of their learning: “I like the combination of things. Like I said before, the rubric wasn’t perfect but it was provided to me so I thought, ‘Yeah, I just wanted to do a couple of different evaluations.’” Rachel also expressed a concern that she was not assessing the outcomes from the Common Curriculum as she was directed, rather she continued an old practice of assessing students according to subject area:

I’m probably not doing it as related to the Common Curriculum...I know I’m covering the outcomes, but whether I’m calling it what it should be called...I don’t know. I’m probably not. I’m probably still thinking math, science, health, physical education [and so forth] because that’s the way I have to report back.
What Does This Assessment Term Mean?

Helen's current understanding of assessment led her to recognize that although her practice had not significantly changed from the past, the terminology she used for certain aspects of her assessing had. For example, in the past, her students met objectives whereas currently, they worked towards outcomes.

I think that [my assessment practice is] similar, but I do focus more on [what] I used [to] call objectives...[I'd] say, "O.K., where do I want them to be? What do I want them to know so when they come back tomorrow I can move ahead and go on to this?" Now I concentrate on outcomes.

Helen seemed to have a satisfactory grasp of assessment terminology. For example, she made a distinction between assessment and evaluation: "Evaluation to me is more formalized more traditional, testing things like that. Assessment can be like observation; it can be a check list; it can be rubrics." The most significant change in her practice was that she did not rely on tests as her sole method of assessment: "I think when I first started I was so afraid. A lot of my assessment was based on tests. I would say probably half of it was calculated on tests. But now it's a lot of other things."

Reva stated that she was very selective about what she used in the curriculum because she did not understand all of the directives.

I have to understand it first. There are so many documents that are coming out now where the wording is so bizarre...I don't even know what they mean...like an outcome that the children will be able to philosophize about the literary element.. and I don't even know what it means so how can I teach it? And there's no place that ever explains that. So I pick and choose. And maybe that's not right to do but [what else can I do] until I can understand what they're trying to get us to do?

It seemed that Reva's assessment approach was limited because she could not understand what the external authority wanted her to do.

How Do I Assess?

When I asked Jane what she felt she still needed to know or learn about assessment, she explained that she needed "to do a lot more about assessing creative writing or writing work." She said, "The concrete, the mechanics of the language, the vocabulary, that's not hard to do." However, she found "assessing ideas" more difficult. Jane stressed how important it was for teachers not only to learn different assessment
strategies, but also said that “We all have to learn that we can’t do it all, all at once. That it’s O.K. that you leave something out, and you let it in where it fits as you go.” She continued by saying that assessment was intended to provide marks on the report cards since “there has to be proof.” She commented on the tensions inherent within her assessment practice when she had to “pick and choose...what it is I need to assess. Do I need to assess every single solitary thing? Do I need a rubric for every single solitary thing?” She continued by saying, “I think we’re going to have to become better at [assessment; for example, knowing] what is important...in order to come up with these end results.”

Reva’s technical concern revolved around the use of rubrics. She expressed wanting to use rubrics in her classes and stated: “I’ve never used rubrics before, so I think that it’s a good idea to put it out and let the students see [them].” She believed that by using rubrics they would “probably make marking easier too [and] students will know exactly where they are going.” It became evident that Reva was not convinced that rubrics were a good thing nor was she sure how to use them, or what their utility was in her classroom. Reva’s concerns about rubrics revolved around questions like: “What happens if a student fails in certain areas?” Another question Reva asked was, “How does one determine what level a student is if their work falls within the range of many levels?”; “What do they get [as a mark]?”

You know how there’s like, you’re level three? Well, what if you’re a level three, and a level one, and a level four and a level two? What are you? You can’t really average them together in the same way you would numbers, right? I don’t know how rubrics work when that happens. So, that will be interesting to look into.

Natalie initially joked about what she still needed to learn about assessment by saying that she could probably write a book about all the things she did not know: “I’m working out of my field, so I could write a book on the things that I don’t know rather than what I need to know.” She attributed her lack of knowledge about assessment to the fact that she was unfamiliar with most of the subjects she was asked to teach.

While Tom admitted to using portfolios in the past and agreeing with the underlying philosophy behind them, he did not use them during this study, primarily because he was not able to resolve the logistical problems involved with implementing
them. His understanding of portfolios was limited to a belief that students could only include paper and pencil items. He was also concerned about how to store portfolios and the time it would take to model how to use them.

The thing with portfolios is that I have a lot of administrative details about it that bother me and they’re basically logistical things because I don’t deal exclusively in paper and pencil.... Where do we keep all this stuff and how do we keep a collection of things? That becomes a storage issue. Now it’s just I see too many roadblocks right now while I’m trying to implement the new curriculum in a very meaningful way, and so it’s not high on my agenda. It’s a sort of back burner issue for me right now because I see how we can use it and showing how kids have grown over the years or over a course of months or a school year, but it’s a logistical nightmare that’s associated with it, and that’s been a point of discussion in a lot of places for me and for colleagues.

Tom admittedly seemed to concern himself more with the ‘how to’ of assessment than the ‘why.’

I’d spend a lot more time “Why am I doing this?” than “How do I do this?” and am I sort of [doing things] assbackwards? [The] “How do I do this?” is part of the difficulty in assessment because you want to be fair, and you want to recognize kids’ abilities and disabilities.

**Did Students Achieve the Expectations?**

Monica explained that assessment assisted her in determining whether or not her students had achieved the expectations:

...to see if indeed you achieved those learning expectations as each child, [that is] to what degree, at what level. To ensure that they’ve all by the end of grade two, they’re able to do and understand the things that they know.

Assessment was also helpful in differentiating between students and their skills. Monica put on paper what she did in assessment to provide a clear direction for both herself and the students as well as for the purpose of documenting what she was doing. Helen also asked: “How do I know that the students are achieving the outcomes?”

How do I know is a good question? It’s the one I do struggle with...I don’t know. It’s a hard one, it really is. How do I know that they’re being successful, in terms of my assessment?
She rationalized that if the students did well on a test than she did her job well; however, if students did not do well, then she needed to revisit how she created the test or how she presented the information.

I'd written some really good tests and some really, really crummy tests. I consider if they can do well on a test then I've done my job. If they don't do well, there is something wrong with the way either I created the test or the way I presented this piece of information.

Similarly, Helen believed that if students acquired poor marks that it was a direct reflection on her teaching and assessing: “In order to be successful they need to have at least 80% if you want to base it on marks…. If they got less then that, I haven’t done my job.”

**Teacher as Researcher**

Six teachers engaged in their own research about a variety of assessment issues that included observing other teachers, reading professional material or attending in-service sessions. More specifically, teachers expressed wanting: to observe how other teachers implemented assessment; to take in-service courses; and to read professional materials.

**How Do Others Implement New Assessment?**

Rachel expressed wanting to learn more about portfolios. When I asked Rachel what her first steps would be in becoming more acquainted with portfolios, she replied that she would like to observe the use of portfolios in other teachers’ classrooms: “I would probably want to see how other teachers have used it. And we have all sorts of reference books, [but even so,] I’d rather see it. I’d rather see something in motion.” In some cases, teachers would attend professional workshops but remain unconvinced of the benefits of any particular pedagogical or assessment approach until observing its utility.

Jane also felt that the ideal to learning more about assessment would be to see other teachers’ practice and have opportunities to reach a consensus about the conceptual framework of assessment: “I think as I said before, [teachers need] more time to come to a sort of common ground about assessments. Also more time to see practices from other people, if you could.”
When I asked Helen what condition had to be in place in her classroom or in the school before she could assess her students more innovatively, she responded by saying that it would be helpful to have an expert attached to her classroom as a resource.

What [would] really help is if there is somebody attached to a classroom where kids are learning a little bit differently. I know in certain classes, like science for instance, if there’s nobody there to tell the person you know this is how you need to modify your assessment techniques this is how you need to pass, then they’re just going to do it the regular way [that is, traditional assessment] and some of these students aren’t going to do very well, and historically they just don’t on regular types of things.

Jack provided a good example of putting research into action as he explained how important it was to apply what he learned after talking with teachers, observing their classes, taking time to reflect on that, then taking what he thought might work and adapting that to his own class.

I found myself, this year, going more and more to people who do it and read what they say or talk to them about what they do, rather than take courses.... [I don’t learn well ] necessarily through courses where you’re going for three hours at the end of the day and you’re wiped out. We’ve all done that in the past. I did my university through extension. There’s a time to talk to others and exchange on a free basis and then take away and work with what you’ve got. And I’m finding now [that] I’m doing that more in the classroom.

Reva felt that she had received a good introduction to assessment at the Faculty of Education and said, “I think they give you a pretty good base of that in Teachers’ College [where you learn that] you just can’t do [assessment] one way. You have to assess on different, [even] numerous levels.” Reva noted positively the school board’s workshops and support documents for teachers:

I went to a workshop yesterday morning on one of the history units on Louis Riel. Basically, the [board had] given the [teachers the] unit they wanted [them to] try out, and then [the teachers were to] send the written work [back] to the board. [The board would then]...assess it and make up a rubric from it. [They would] find the four different levels and do that. So I don’t know, [this] might make it clearer, ‘cause right now there isn’t [anything like it] in the high schools. [They tell you,] “These are all the lessons you do,” and in elementary it’s basically, “Here’s the course of study.” There isn’t a lot [of support, and] you have to hunt and find your own things. I think they’re trying to make it a little simpler.
Reva was open minded and often took what she learned from others and adapted the information to suit her context:

I think I’m open minded, and I’m sort of a peacemaker. Sometimes you get caught in our meetings and say, “I understand what you’re saying but…” and I listen to what people have to say, and I take their ideas, and of course, I put them the way that I can teach them or work with them. But I think I’m open to new ideas.

She continued to learn about assessment because she did not feel she was at the level of learning she would like to be: “I don’t think I’m at the level that I could be. So there are always things that I want to change and improve on.” When I asked Reva how she would go about learning more about rubrics, she said that she would “try and use the ones they have in the [curriculum] books. And then if I don’t like them, to modify them. But right now, I’m not very familiar with [rubrics]. I’d have to do some research on it.” I then asked Reva to explain how she would go about researching rubrics. She replied by saying she would consult a colleague:

I don’t know if there are many teachers in this school that use them. I have a friend in____ [where] their school mandates for every unit they do [that]. They have to have a rubric. So I might speak with her, and see what she’s done, and look at some of the units that she’s come up with, and what she thinks about when she does them. It’s not mandated that we need to use rubrics, but I guess the [school board] is strongly advising it...because, in all of the new guidelines, even the high school ones, [teachers] are [required to] create rubrics in all subject areas.

**What Are the Benefits of Professional Coursework and In-Servicing?**

Helen said: “I do a lot of reading and I love researching. I guess I’m just a bit of a strange person.” Helen placed much emphasis on taking professional coursework:

I’m very much a hands-on, visuals-type learner. I like to be going to school. I like it so much [that] I used to teach summer school. I love the classes. If I had the money, I would get a masters...I don’t think that I will ever stop learning or stop trying or stop changing.

She noted that more and more support material was being published or disseminated to teachers that included assessment techniques.
The [support materials are] not bad. They’re O.K. I think what’s going to be beneficial is that the companies that are coming out with these support materials are including assessment techniques in them, and that is worth its weight in gold.

Helen described favourably the in-service and training she received a couple of years ago that taught her how to grade writing very quickly:

[Marking writing] has to be decided on very quickly. [You have to know] how you’re going to assess when you have a stack of papers....If I’m actually...assigning them a mark, it’s got to come quick. I’m thinking in terms of writing. So I’m looking at the piece of writing. I need to know right away what kind of mark I’m going to give it. What helped me a lot was when I went to the Marking of the Assigned Writing Task [in-service] a couple of years ago. You’re so thoroughly trained that by the end of it you’ve marked over four hundred papers, and you know what levels they’re going to be at almost in a minute and a half.

Helen also noted how increasingly information about assessment was being produced both by the Ministry and by textbook companies. She found the professional courses she had taken to be helpful in deciphering these.

As more information becomes available, and more things come from the Ministry and different textbook companies, definitely, my strategies are much different. I was really floundering for the first four years of teaching. I thought assessing was giving tests and doing observation, and that was about it. I went on some course and they showed me rubrics. I thought, ‘Oh, these make perfect sense.’

Helen attributed much of younger teachers’ new assessment practice to what they learned in the Faculty of Education and to their exposure to a wide variety of assessment literature:

I think a lot of the younger teachers are moving away [from traditional assessment], and I don’t mean to put down the older teachers because it’s certainly not that way. A lot of them are moving towards [contemporary] ways of looking at assessment, whereas we still have a lot of very traditional [teachers who say,] “I’m going to give a test, and this is what the mark is based on.” It could be because [there’s a pre-service program], and it could also [be because] there is more and more literature out [there], and there are more tools to work with.

Helen said that the university courses she had taken also gave her further insight into assessment.
What has also helped me is finishing off my special ed down at U of T...and I have a few more courses to finish. U of T has been amazing. First of all we did that book you know *What's Worth Fighting For* by Michael Fullan. Fabulous. I mean they use outcomes in their program but they’re teaching [it] to us. It’s excellent modeling. I loved it. I can’t wait to get there on Tuesday nights, really. It’s great.

Helen regretted that there were not more opportunities to have experts answer teachers’ questions.

I’d love for them to take my suggestions on how to get speakers and have them in here and get them in here and get people [to] get the staff knowing what’s out there and what’s going on in the big world....There are a lot of [assessment] problems around that it would be nice if we could get some more time to do work shopping and to talk with each other to get time to collaborate. There just isn’t.

Jane attempted to implement new assessment strategies into her practice while at the same time challenging the orthodox ways of implementing them. For example, she wanted to use portfolios, however, she was emphatic about implementing a whole-person portfolio rather than limiting portfolio use to a particular subject area:

I don’t want a math portfolio. I don’t want a language portfolio. I want a whole person portfolio. I am much more interested in portfolios that show the skills you have as a learner. The skills you have as a team player, the skills you have academically...that whole person kind of thing. I keep telling my students you can have an IQ that is off the scale, but if you don’t do things with it, if you don’t do what fits our world....

She explained that this conception of portfolio stemmed from the in-service training she received. She provided another example of how useful her in-servicing opportunities had been. For example, she remembered the moment when she learned how to structure a test:

I...[went]...[to an in-service and we learned]...about how to structure good tests so that you are testing to find out what kids know, not what they don’t know kind of thing. The test for evaluation of understanding or knowledge of something that you have covered. I remember it being quite fascinating because I thought a lot of teachers, tons of teachers, should have heard what [was] said, because there was kind of a light bulb that went off about how we do things.

Tom recently learned something significant about assessment when he received exemplars from the Ministry of Education. At the time, he was struggling with
distinguishing between level three and four writing proficiencies. This was a particularly poignant memory because he had never felt comfortable teaching English, a discomfort that was compounded by the lack of support material.

I think it was in my English class. I was unsure about how to recognize the difference between level three and level four writing. We got some of the exemplars from the Ministry just at the very end of the year. When I look back at it, [the exemplars became] the keys to unlocking that bit of a mystery for me. I'm not an expert at language teaching. I am a language teacher, but I'm not an expert at it. I asked others about it and had them show me examples, and when the exemplar book came out, I thought, “Hey, this is another piece of the puzzle to help me sort it out to a reasonable situation.”

Tom also described the process he went through to learn about criterion referencing. He explained that his first introduction to the concept was in university during his teacher training. Then he began to see the principle of working towards certain criteria or a standard after witnessing its use in programs outside of school such as in swimming programs, at the Royal Conservatory of music, and so forth.

I was exposed to criterion referencing by [name] at Queens University when I first did my B.Ed., and I saw so many nice examples of it in the world around me, like you look at Cubs, or you look at the Red Cross swimming programs, they're all criterion reference; they're all very successful. I mean look at the Royal Conservatory stuff— it's all criterion reference. Right on. I mean, what better way [is there to assess?]?

While Tom maintains his philosophy of assessment did not profoundly change after acquiring this new knowledge (he alluded to using this approach all along without realizing it), he began using more performance-oriented tasks as he became more comfortable with criterion-referencing.

I haven’t changed as far as my philosophy towards evaluation and assessment. So I’ve been pretty steady [on] course as far as it goes. What I have done [though] is [make] a lot of my assessments...more realistic, more useful. And, to a certain extent, I think I’ve gotten to be a better assessor of student performance over the years.

He knew he was more successful in his practice using criterion-referenced assessment because his students rarely asked him how he arrived at their mark: “First couple of years I had a lot of students say, ‘Why?’ or ‘Explain to me why you gave me this mark.’” That isn’t there anymore at all.
He said that what has changed more significantly over the years since he first learned about criterion referencing were the methods he used to implement this approach.

I use as much as possible, criterion referencing. But the only thing that’s changed is the methodologies. So, the criteria used to be a lot of paper and pencil, now it’s a lot more product presentation than it used to be. So I don’t depend on my lab reports and assignments as much for creating the overall assessment. Now it’s—do a presentation, or give me a presentation on your task. Make me or build me this, or do that. So I’ve evolved that way, but the basis is still criterion referencing.

In contrast to the general sense conveyed by most of the other teachers in this study that workshops and in-services were helpful, Jack expressed concern about the in-services he attended because he felt like a pawn since he was being given information that had been legitimized by another person’s agenda. He expressed feeling demoralized at workshops:

I hate it when people don’t treat me as an adult. In-services do that a lot of the time. You’re treated as a glorified student, which I guess in one way we are, but [we are] adult learners, and [our] needs [are different]. Very often, I would say, we could pick up [things on our own], myself included, information and things very quickly. But to sit through six meetings to get what you could pick up in an hour, is not very effective. I resent that I think, more now. I resent the way at times information is given to me.

Jack supported the benefits of in-serving with reservation. He said that unless teachers were able to implement what they learned at these sessions, “it’s useless.”

Our board certainly pushed [in-serving] when [The Common Curriculum] came out. They pushed it to the extent that there were a number of in-service [workshops], and as a chairperson I was required to go to a certain number of these. Materials they produced certainly helped, but all that’s useless unless you personally get engaged. And I would say that personal engagement with the knowledge they gave you and the attitudes and what-not coming out, worked very well. But unless the teacher commits, it doesn’t mean a thing.

*What Can I Read To Improve My Knowledge About Assessment?*

What has helped Helen arrive at some of her most recent new understandings of assessment was a conscious effort on her part to read professional material. For example, Helen was able to distinguish between the concepts ‘assessment’ and ‘evaluation’ only after she had done some reading and spoken to another colleague about this. So while she
had an intuitive understanding of this distinction in the past, she was now able to explicitly recognize their differences.

I remember struggling with assessment because I couldn’t figure out what the difference was like. [For example,] if you’re assessing, are you evaluating? I did some reading, talked to some other teachers, and I think it was a veteran teacher, somebody whose retiring next year, he went on a course and tried to explain it to me a little bit better. So that really helped.

Jane’s assessment had changed over the years, and she had moved away from an emphasis on end of unit evaluations and towards a focus on the process. She attributed her progression in her assessment practice to reading and learning more.

I think I do more informal assessment, more on-the-spot, more frequent small things rather than the big test, the whatever, the culminating activity. You know, keep it rolling all the way along, and not just emphasise the final product. I think that’s just been unfolding, for a lot of us, over the past few years. I don’t know if I could cite any one thing. I just think the more you read, the more you learn, the more you think about it.

The reading she had done was primarily of Ministry documents and recommended texts by the Ministry of Education.

The nice thing is a lot of the new manuals support [our assessment]. In the books they have certainly used some new assessment ideas.... The Trillium stuff [make up] the books the [Ministry] ha[s] recommended. A lot of the teacher’s manuals do come up with some different ways of doing this. And I think, personally, I always look for different ways of doing things.

She commented on the many tools and websites emerging from the board office: “I think we are getting better [resources], like the people are starting to gather assessment tools, websites. Different boards have some items that people are sharing.” Jane stressed how important it was for teachers to research their own curriculum and purposes of assessment. Her greatest fear was that teachers would become complacent and rely on routine:

The other thing that I see that is dangerous is...teaching exactly the same thing....I’ll change...all the time. There are people who won’t. And you get sort of rigid in terms of, (and again I am not saying it is bad to have this rigidity across the province), this standardization across the province. I don’t want people to become rigid in how they
deliver that every year. I want them to very much look at the students...you have to keep yourself fresh.

Tom explained that he was continually learning by reading professional material:

The day I stop learning is probably the day I die.... Learning is a life long thing for me.... I’m continually reading professional stuff [including material] that’s outside my field of study and area.... I get along with my colleagues professionally so learning is just part of life, and I try to do as much of it as possible.

Practical Interest

Tacit-Intuitive Inquiry

Six teachers said that they relied on their instincts or gut feelings to make assessment decisions. Both Jack and Jane commented on how difficult it was to talk about intuition or tacit knowledge. Jack said, “A lot of what you’re asking is hard to define, because you just do it. It’s just there inside you, you know? You don’t define it.”

It’s very hard for me to...say this is why I do this. There seems to be, at times, especially for the young adolescent I’m dealing with, an immense amount of things that aren’t clear cut. They turn on to different things at different levels, and, if you want them excited about learning, you sometimes don’t get too clinically inclined.

Jane also experienced difficulty articulating what she would refer to as instinct, intuition or gut feelings when assessing her students.

I don’t know that I know the process that I went through, you know? It just sort of [happens], having done it for a while and then this year I changed some of the things because I didn’t feel entirely comfortable with it. But I don’t know, it was sort of an intuitive kind of thing, having done it a number of times. I don’t know if there was a great deal of structure to it.

The teachers used intuition when they thought they knew how their students would respond or perform; in certain subjects (for example, English) over others; with special needs students when the standards were not so rigid; to accommodate midstream assessment changes; to triangulate objective evaluations; and to assist in discipline situations during assessment tasks.
**Do I Know My Students Well Enough To Anticipate What Will Happen and What I Need to Do?**

Five teachers used their tacit knowledge with students they were familiar with to help them anticipate their behaviour and achievement. For example, Rachel used her intuition frequently, particularly when she knew her students well. She commented however, that her intuition was not always accurate. For example, Rachel cited a situation when she misread a student’s capacity to work independently:

My gut feeling? [I use it] all the time....You live with these kids for so many months [that] I could give you a gut feeling now, but the one with the independence, I mean that floored me. I was off in left field with that one....But most of the kids I could tell you [I use] gut feelings.

Based on her experience with many types of students, Rachel maintained that she could easily determine if her students were enthusiastic and focused or conversely, bored: “I’ll know if it’s working if the kids are enthused and focused and want to be there. [It’s not working] if they’re listless or restless, and [saying], ‘This is boring’ and there’s no connection. They can’t see how this is going to be important to them.”

During one particular unit, Reva anticipated that some students would have trouble producing a speech. She expected to have to sit down individually with these students and help them.

I’ll have to wait and see when they hand their speech in, ‘cause they’ve all done their speeches. I think some of them will have problems actually handing one in, so we might have to sit down and find out where it is. They probably just lost it, you know, I think that’s what’s probably going to happen with some of these students.

Reva also commented on how her intuition would be incorrect at times. For example, she did not anticipate that some of her students who do not generally excel flourished during a drama production.

Well, it sort of surprised me that some of the really low students that are failing everything, dress up in a suit every day. They participate; they do their speeches; they’ve done a wonderful job, and that’s because it’s sort of an area that isn’t all just writing and tests. It’s really easy to wear a suit to school and get ten marks. So, that’s what they’re doing, ‘cause it’s easy. The really low kids participate every day. It’s quite easy if you put your mind to it. So that surprised me.
Jane also recognized patterns that emerged with her students at certain times of the year:

I think particularly at this time of year, I hate to say this, you’ve spent so much time with the kids that there’s a pattern sometimes to how they’re going to respond. But then you also have to be careful that you don’t fall into that trap and don’t prejudge how they’re going to respond. So the whole assessment challenge is a huge challenge.

Natalie used her intuition to determine her students’ levels of achievement.

If I had to go around and give a mark to each kid you know at the beginning of the term, by the end of the term it’s pretty well within a good percent of their mark. It’s a strange thing you know...you automatically know where they are in percentile...through observation...just getting to know who they are and does he do his homework, if he studies for exams, you know, or comes in without a pencil, you know, or he hasn’t handed in a project yet you know. I don’t need to sit down by the rubric. I know the kids. You know just because of the behaviour of the kid. I don’t have to go down and actually do some rubric marking. Just [from] the student observation of what’s been happening you know where they are.

Jack described how he relied on his intuition to anticipate problem areas when assessing his students. He attributed this knowledge to knowing the students well enough. He described this feature as a feeling:

You always anticipate there’ll be some students who don’t connect, [or] who don’t follow through with the effort. But usually, if you make the effort to move around, you know your personnel well [enough] by this time of year that you can clue in right away and give that person the boost they need...I would hate to try to explain it in a text for someone else to understand in a sense, because it’s a feeling. You get a feel for the kids. You get a feel for what you’re doing.

With his extensive experience, Jack explained that he had acquired the ability to gain an accurate sense of how students achieve in his classes: “You always anticipate there’ll be some students who don’t connect, who don’t follow through with the effort.” He further explained that although his experience enabled him to prejudge certain situations, he was not able to anticipate all situations.

By my fifth year [of teaching] I kinda knew what I was doing in teaching. I could do it over and over again and make it work, not just let it kind of happen. You plan, you set
things up, involve the kids, you have certain expectations, but there’s always a lot of
tings that happen you don’t expect.

He was however, able to say with confidence that he expected all of his students to be
successful in art class: “They should be, it’s art. You can’t be not successful.” Jack had
made observations of how students, usually in math class, experienced failure.

I would say that the biggest thing in math with the kids is still a multiplication table.
Somewhere in grade 4 or 5, something happens, either you get it or you don’t, and if
they don’t it plagues them all the way through high school. It’s unfortunate, it’s the
one thing.

Jack also commented on how many factors were out of teachers’ control such as students’
backgrounds and learning.

Children’s background [and] their learning styles [influence how I implement my
units]. A lot of the skills they may have are not helpful. The content’s given, in a
sense. We know we have to have the content. But there are so many variables that
slowly creep in, and I’ve got more than that somewhere in my head, but I do have to
look at learning styles. Like whenever I do a mini-theme, there’s always something
that will appeal to different learning styles, somewhere.

Jane explained that the purpose of her assessment often changed in midstream:
“Sometimes the purpose changes even in the middle of the assessment.” While Jane
insisted that her assessments did not really ever fail, she would, if it was warranted,
change her assessment in midstream, if she saw evidence that her students were not
achieving the objectives. She provided an illustration:

I had this thing with my grade sixes where I had decided that they would each become
experts in something, and then we would teach four people. They would become
experts, and it was on native studies.... They weren’t ready for it. They weren’t
prepared enough. They had never done it. They were a very weak class. No matter
how I set the groups up, it didn’t work. I salvaged it. I can’t remember what I did and
how we turned it around but it was O.K.

Sometimes she knew ahead of time how students would respond to the assessment: “I
have some assumption ahead of time [that] those kids are going to have difficulty with
that. Therefore, I keep that in the back of my head, and sometimes you have to adjust as
you go.”
Reva discovered that she treated students differently in her assessment. For example, she recognized that some students required more praise than others; she generally gave students who applied themselves a second chance: "There are students who need more praise or need a little bit more time."

It depends on who it is, and if it's a pattern. I think it just depends on who they are...I think that I would give him another chance, just because he's worked so hard with this. Whereas, another low student who hasn't...done anything else, [I won't]. So if they're putting the effort in, then I give 'em another chance. And if they're not putting the effort in, and I've spoken to them, and they haven't changed their method, [then] they shouldn't have any more chances.

Do I Use Intuition More for A Certain Subject Area or Type of Student?
Jane explained that she used intuition more with her special-needs students for whom the standards were not as rigid as they were for regular students.

That is so hard to describe. I think it happens sort of more around special ed kids for whom standards are not written so the gut feeling comes in.... When I don't have any standard to compare something to..., there is an instinct about whether the student really understands. So sometimes, it is really hard to describe.... So sometimes you just have to kind of look at, "What do you hear from them?; What do you hear them say?" and [then] ask them the questions that sort of verify your gut instinct.

Helen used her intuition, or gut feelings more when she was marking students' writing than when she was assessing math or science.

[I use my intuition] when I'm looking at students' writing.... Oh this is hard to explain, but you can look at the indicators [and] you can see if the [students] have got things there. But generally, it's almost an, I don't want to say, arbitrary mark, but when you're assessing writing you do have to give them a mark whether or not they're a level one, two, three or four, and you kind of just know. It's hard to explain. When I'm assessing math or science or something like that, it's much different. I think it's something that has to do with writing. I have to go with [my] gut feeling.

How Much Faith Do I Have in My Intuition?
Jane seemed to be so confident of her instinct that she relied on it to give her the faith to believe that she was on the right track in her assessment practice.

Because you just have to go ahead. [Assessment for me is only] problematic [in so far as] I don't spend hours worrying about it. I know I am not doing it right a lot of the
time, but I have to have some conviction that I believe I am on the right track, and so I am just one of those people.

When I asked Jane to describe the process she had gone through to learn about assessment, she attributed her knowledge to "just doing it." She alluded to making changes to her practice based on her feelings of comfort and experience.

Oh heavens, I don't know that I know the process that I went through, you know? It just sort of, having done it for a while, it just [evolved], and then this year, I changed some things because I didn't feel entirely comfortable with it. But, I don't know; it was sort of an intuitive kind of thing, having done it a number of times. I don't know if there was a great deal of structure to it.

**Is My Intuition as Accurate as Formal Assessments?**

Jane was aware of the inherent dangers of being too subjective in her assessment. When using gut instinct, however, she often found that her instinct reinforced her objective collection of information:

I'm sure because they are very hard to describe and as soon as you say gut instinct somebody is going to say subjectivity, subjectivity. You can't be that. You've got to be objective. Yes, but there are cases, and let's face it, some people work on their instinct much better then others or much more frequently than other people. Some people want cold, hard data. I'm not a cold, hard data person. I'm a much more make sense of the situation kind of person.

It was evident that Jane recognized that a tacit or intuitive knowledge-base was not always deemed legitimate.

In contrast to most of the teachers in this study, however, Tom did not rely on gut feelings in assessing his students. This belief was rooted in his experience as a researcher where gut feelings were usually not appropriate.

I never really have gut feelings. In assessments...I think you know what's going to happen before you get started rather then after it's all over. I was a researcher in orthopedics and my gut feeling was not appropriate or worth carrying out. I've never drawn on gut feelings about assessment.

Tom appeared to be struggling with the notion of gut feelings. At times, he was emphatic that it had no place in assessment. However, it seemed to have a place in his own studies as a viable approach to learning. He explained how he would support his instincts with
assessment instruments: "I picked up [my knowledge of] co-operative learning [and the idea of multiple intelligences using my gut feeling]. You get a gut instinct that it feels right; and you start to realize, "Hey, not everybody’s the same as me." And that was one of the big points. Interestingly, when I first asked Tom whether he used his gut feeling when assessing, he indicated that he did sometimes. However, two months later, when given the opportunity to reconsider or reflect upon this response, he changed his mind and indicated that he rarely used his gut feeling when assessing students. He explained:

Assessment needs to be well thought out beforehand, and, certainly when you see things go wrong you’ve got to change them, but I don’t think assessment should be a gut thing. It should be pretty clear-cut up front so that everybody is working towards the same target.

Emotional Inquiry

It seemed as if some teachers were hampered by emotions when attempting to implement assessment strategies while others were spurred on by them. Three teachers expressed feeling scared, frustrated as well as observing burnout and isolation among their colleagues. Three teachers, however, exhibited positive outlooks which allowed them to forge ahead into the murky world of assessment.

Fear, Frustration and Burnout

Helen expressed feeling scared about the new assessment she was required to implement in her classroom. She realized how important the new policy directives were, yet her fear was inhibiting her from successfully proceeding with her assessment. It seemed that Helen would have to further explore her feelings around assessment to dispel her fears before she could make constructive progress.

I’m very scared because I’m not sure that my plans will meet this person’s plans. As I say, it’s like walking on eggshells. You don’t know what you’re doing is right or wrong. I have some goals; I’m not sure where I want to go with it yet. I’m going to have to really get my mind around it.

It became evident that as her comfort level increased, she was able to use assessment more advantageously. She gave an example of her use of rubrics:

[I started feeling comfortable with rubrics] last year. I didn’t use them last year too, too much, but I think it was probably last year in science when I was in the science
department. I would share them with the [students and would say,] ‘O.K., here’s the things we need to do.’

Jack cited negative emotions such as isolation, and burnout as factors contributing to the failure of implementing new assessment in classrooms.

The philosophy behind a lot of these things that we are doing is not understood fully by my peers, and by myself. We grab what we can take and run with it. But what pulls it through, I think, in a lot of cases, is that there are students and teachers—when they realise they are on the journey together. Then you’ve got a chance. Whether it’s just the teacher feeling isolated, and I don’t just mean physically isolated—intellectually isolated, emotionally isolated, burned out, whatever. Then we’ve got a lot of problems. And I think my peers, that I see in this school, where it’s very supportive, go through stages of burnout during the year. But more and more [they] are becoming aware of it. And I don’t know what they’re doing about it, but they’re becoming more aware of it. Awareness is a big stage.

Reva explicitly expressed her frustration about the prevailing conditions for assessment. For example, her greatest frustrations were when she was expected to assess in subject areas with which she was not familiar.

Well, the first one was that I didn’t know how to sew. When they gave me this, [it was like], “You’re gonna do grade seven family studies.” Well, I don’t know how to sew. “Well, you’re gonna learn.” So I had to learn first. And I had the other family studies teacher help me. So that was about my first concern. The first group of students—their bags didn’t turn out quite as good as the last group.

Other frustrations included not knowing her students well enough.

But I don’t know who they are. I don’t even know who these kids are, by the time this goes through. So I know that I look down, “O.K. you did well on your project. You did O.K. on your bag.” I’ve no idea who you are. No I see them twice every week, sometimes three times a week.

**Faith, Maturity and Open to Learn**

Jane indicated that it was inevitable to encounter problems and difficulties, but she did not worry about these and simply went ahead in her assessment practice in the hope that what she was doing made sense.
You just have to go ahead. I don’t spend hours worrying about [assessment]. I know I am not doing it right a lot of the time, but I have to have some conviction that I believe I am on the right track, and so I am just one of those people.

In her experience, Jane maintained that she was able to find something beneficial in any assessment approach she used. She stated that often the purpose would change, yet the approach would remain constant: “It might have not been as successful according to the original purpose. Sometimes the purpose changes, even in the middle of the assessment.”

Monica maintained that her assessment practice had not fluctuated over time and attributed much of her success to her maturity as a teacher. She remarked that even though teachers were inundated with new curriculum documents, she felt that her experience allowed her to see familiar principles that she had been applying all along:

It doesn’t matter whatever document comes out. I think that’s where maturity, experience [and] wisdom [come into play]. And you kind of say, “Yeah, well, this really isn’t all that different,” but it’s just the refining of all of that, and I always simplify it down to [the following]: is it good for kids, and does it help them learn? And, is it worth doing? It’s worth doing if any new document that comes forward and all the rest of it, it’s all worth doing as long as it’s going to help kids learn, and it’s going to be a happy place to learn.

Tom was able to maintain a positive outlook regarding assessment by consciously trying to learn from every situation and to gain more experience not only with assessment but with all aspects of teaching methodology. Tom also used the term maturity to describe his ability to incorporate new learning into his practice:

You start to realize, “Hey, not everybody’s the same as me.” And that was one of the big points. I don’t know, maybe I was mature enough as a teacher at that point in time too, and I had enough background and foundation to say [multiple intelligences] makes a lot of sense because those kinds of kids have always had a hard time.

**Experiential Inquiry**

All teachers expressed learning more about assessment through actual experience, past and present, to resolve assessment challenges. Teachers used their experience to obtain certain technical and administrative advantages to determine what accommodations to make for their assessments; to rationalize that ‘effort’ was just as
viable as ‘achievement’; to ascertain why they were using a certain assessment; to decide if their assessment was working; and to identify purposes of assessment in their practice.

**What Kind of Accommodations Do I Need to Make?**

Rachel’s practice, further learning and inquiry about assessment, were dependent upon her experience as a teacher. She inquired about the appropriate actions she should be taking at any given moment during her assessment, and simultaneously drew from past experience to resolve these questions. For example, during one lesson, she ascertained that the students required the lesson to be re-taught before they could productively engage in the assessment activity: “Depends on the lesson. If I think it needs to be pre-taught, and I know my kids, then I will pre-teach the lesson and then give them the activity. Otherwise, the frustration that they feel is not worth it.” We can see that, based on her experience and as part of her assessment philosophy, she did not want to frustrate her students. She was experienced enough to determine which students could do which activities:

I mean, like [for] every kid, there are certain things like, one kid will be very good at fractions, so if I throw a fraction question on, it depends on the nature of the drill, because they’re different every single day. So, if I focus on fractions, the kid who’s good at fractions will do really well on that.

Helen’s experience also helped her determine when to create mixed ability groups when implementing group assessment strategies.

They are in very specific types of groups, yes. And we don’t do it so that there’s two strong ones and two weak ones. We do it in terms of personality, and who works really well together...I always feel for those kids that happen to be the brighter...it’s not that they’re not bright, it’s just they have so many learning problems.... So sometimes we do mix up the groups, and we might have a group of very enriched kids work together. It depends on what the activity is.

Helen also had enough experience to know what type of activities to assign the students at particular times of the day to ensure productive work.

They did well actually; they did pretty well, yeah. They seemed to enjoy it. It was a good thing to do because it was after lunch and things are getting a little crazy this time of year, and it’s good to have something hands-on for them to work on, and then bring them back together at the end.
**Is There Room for Effort as Well as for Achievement?**

What seemed to be important for Rachel was not only to get a sense of whether her students were achieving academic expectations but also personal ones, that is, "whether or not the kids are leaving with more than what they came in with." She explained that she was not always necessarily looking for academic achievement: "You know, there's a lot...more to school than just your curriculum." She was increasingly concerned about student attitudes, deportment and general civility. Natalie conceded to marking more for effort rather than achievement and rationalized this action due to the nature of the special education student she was assessing.

Like if I did it, I'd just stop marking as part of the territory. I would check occasionally rather than regularly because some of them would come in a bit differently; they end up failing anyway because they never did homework. So it's sort of redundant to do it. The kids who did their homework passed and the kids who didn't failed and that was it.

**Is There Room for More Than Mandates?**

Jack had a good sense of who he was as a teacher through his thirty-three years of experience and was comfortably able to say that he based much of his assessment decisions and practice on what he felt served his students best despite mandates: "This is my last year, so I made up my mind I would do what I like, in a sense, but still meet the curriculum expectations. And it's worked out really well."

I have to do what's right by me and with my kids. And that sounds really egotistical, but I think every teacher does that. There are certain things that we have to do, that we know let us be very effective with students, without being harmful. And hopefully, for the majority of the kids. So you just do that.

He explained that he had learned to sit back when teachers were asked to implement innovations. He recognized that iron-clad visions did not exist.

[I] just sit back and step back a long way. I don't take it as personal. A lot of people, on this staff even, have taken it as a personal issue--a personal dragon to slay. That's not the way. If I think the first thing that really worked well was to look at it and see what I shared with the idea. And then find how I would get there and still meet what was expected out there because I don't think anyone really has an iron-clad vision.
He exclaimed, “There is enough mist on the edges that you can find your own way.” Jack did acknowledge that as a teacher he recognized that he was accountable to mandated directives and to the public.

We’re expected to meet a certain expectation. I don’t know how realistic it is sometimes.... Unfortunately, well fortunately, kids don’t all learn the same way and at the same time. And I kind of play with the expectations; I will admit. It’s not going to cost me my job now, but eventually it would, if I didn’t say, “This is the expectation, you’ll all learn it, and this is how you do it.” I think the Ministry did a wise thing when they came out and said: “You know how to teach, you teach.” Because I think the fear that was cropping up in my mind was they’re going to tell us you have to do it a certain way or force us through the very structure to do it a certain way, which would make it very, very difficult to meet those expectations.

While Jack’s assessment approach involved moving beyond official mandates, he seemed to receive justification or validation from parents to continue on this way: “I think the nicest thing for a teacher to have, in a sense, is a parent that says, ‘I want my child in your room next year.’ And when the child says, ‘I want to be there.’” He alluded to the fact that newer teachers may be encouraged to teach and assess for learning by the Faculty of Education but he stated that it required courage to take a stance that actually went against what the curriculum mandated.

The new teachers coming up probably are being encouraged to do it, but it takes a lot of nerve when you’re dealing with an administrator in your school, and you’re being reviewed yourself, to say, “No, I see this with my experience....”

Jane disliked “being handed anything too definitive to teach because, then I think it’s not my knowledge.” Jane valued learning and felt she was a good role model for her students. She tried to be honest with her students about her own personal learning style, which included, at times just plunging in:

I’m much better at learning something if I just plunge into it, grab hold of it and say, “Let’s muddle through....” so that kind of hands on...but not in a technically hands on way. Just to begin, sometimes you can read, and you can think, and you can mull everything until you’re totally confused. Sometimes I find it easier to plunge in...well, most of the time I find it easier just to give it a go and see how it works.... The kids aren’t going to die for it, they’ll make out O.K.
In her professional practice, Jane also felt the need to go beyond the curriculum in order to stay current in education: "In this whole teaching and current education type stuff, I feel I have to keep finding out about things, keep finding out about the world of work and real life situations that kids are going to go into and all of that kind of stuff." She admitted to "having] a very low boredom threshold, so I have to keep finding something new and different." Jane's inquiry about assessment revolved around her belief that students' uniqueness and learning was a priority as was the necessity to achieve standards: "I don't know whether I would or I could. Because I think ultimately there has to be a standard; there has to be a standard of acceptance into universities and graduate schools and all of those things. That has to happen.”

For Tom, the Common Curriculum aligned with his own philosophy of assessment of a student driven assessment program.

In terms of having a philosophical outlook, I sort of see the Common Curriculum, instead of telling me as a teacher what I need to present, the other side, for me anyway, what the student should get or what the student should be able to do, to know. It becomes more student directed and that's my philosophy. People ask me, "You're a teacher?" I say, "No." I don't really like that term. I don't like being a teacher. I like being a facilitator. I want to be a coach.

Tom also believed however, that "the report card is going to drive how well the Common Curriculum [is implemented]. That's my opinion." He stated that while he experimented with new assessment strategies, he also relied on old approaches with which he was familiar.

[If] I see an assessment strategy that looks worthwhile I will give it a try or two or three times to make sure I can use it effectively. So, you know, yes, I do, but I also stick with what I know works and with students' positive feedback.

Helen had received assessment support material from her board which she was ambivalent about. For example, the rubrics were initially difficult for her students to understand, yet she chose not to modify them. Since Helen agreed with the rationality behind their methodology, she decided to take the extra instructional time to ensure that the students understood the rubrics. Her experience and comfort level as a teacher enabled her to make the decision to put the curriculum aside for a moment. "I didn't
[change the rubrics]...It's written in such a way that they cannot understand what it is they have to do, so we do a lot of work before we even go into the rubric.”

Monica also explained how she felt about the Common Curriculum. For example, she thought the document made sense to her and its format was logical. She explained that initially she found the outcomes extremely broad but that the curriculum had finally arrived at a point where the outcomes were manageable while still prescriptive. She used the curriculum as a guide and saw the value of its uniformity.

The difficulty at the outset was that these outcomes were just so broad; they’re just mother earth statements. They cover everything. And then with time, after draft after draft, they’ve become much more precise. I don’t like to drown in the educational garbage. The other thing that I always used as a gauge tool is as a parent. Is this going to be specific enough? Is this what your child needs to know at the end of this course of study? How well did they do with that? So, I don’t know that it’s perfect, but I don’t know if you can get perfection. But, going from the really broad to something that’s more precise is what the general public is asking for, and as a teacher I welcome that too. I mean, if it’s going to be laid out, that’s fine. That doesn’t preclude all the rest of the things that teachers do. It’s just a guideline to make sure that it’s uniform.

Monica provided an example of how she used the curriculum as a guide in her use of rubrics:

This is what I used to guide me...I look at the idea of the rubric: I say, [“Did they] follow instructions and respond to routine questions and directions?” Then on a rubric of a one to five, where do I place that student? How adept are they at following instructions? So I stick to that, as well as just general observations, but this is the basis of my assessment and evaluation, what we’ve laid out as the learning outcomes.

She expressed her concern for those teachers who chose to ignore the curriculum directives, stating that it is a job action and that if a teacher is not committed to a mandated directive their professional life will become extremely stressful.

Some people chose to ignore that completely, but I don’t think that anyone could ignore anything happening this year. You can’t ignore a job action. You can’t ignore it. This is the Ministry document....You can’t ignore the new report card for all of Ontario because you’re going to have to do it. You can’t ignore technology because you’re obviously going to have to be versed in the skills to use the new report card, so either you get on board and you go with it and you learn how or you’re going to be torpedoed....You have to deal with them immediately and work towards that because
when you get a new report card that you have to use as your assessment tool for next November, if as a staff or you personally aren't committed to doing something with it, you're going to be highly, highly, highly stressed.

Reva viewed assessment as being "driven by grades and report cards. Sometimes you can't do all the creative stuff because you have to cover the curriculum. So you've got to work through the textbooks and get everything covered, instead of doing this really great project." She continued by saying the following:

It would be nice if we didn't have [to mark everything]. Because, going back to the family studies, they're sewing, they're cooking, they're not getting marked on it. And if I told them you're not getting marked on this, they're still going to do it. But if I were to give them written work, they wouldn't hand it in knowing that it wasn't going to be graded.

Reva's allegiance to an external authority (for example, the curriculum) was more apparent than the other teachers. This became evident in her choice of wording to describe what she perceived as punishment if teachers did not adhere to mandates. For example, she explained that adhering to a modified program for special needs students was the law and if a teacher did not follow the directives accordingly they would get into trouble.

For students like that, you have to modify their program, because it's the law. If they're labelled, you have to modify their program because it's the law. And if you fail a student, and you hadn't modified their program, you get in trouble.

**Why Do I Assess When I Do?**

Monica placed great importance on knowing why she assessed the way she did and when. For example, she said, "It has to be logical and there has to be a reason for it. You just don't give a spelling test because we have spelling tests on Friday. I got away from that early on because it doesn't really give you a picture of a child's learning." She explained that her assessment was continuous:

I look at it as an ongoing thing. Right from the get-go, you know, and it's sort of a daily....I mean every day when we do this sort of on the fly chat and we're talking about you know, bow things went in the morning, that's assessment, you know. We make notes on that. We keep things that are worth noting and put stuff in a file. We
write stuff in their little books, and so even if they don't have a project mark per se that day, it's just an ongoing thing. Every minute.

**How Do I Know that My Assessment Is Working?**

Reva explained that she knew if her assessments were successful by examining the resulting grades.

I guess it's when I'm done to see if I do a project and everybody gets a 'C' I know that my marking scheme doesn't work, and that I've got to do some alterations and take parts out or put parts in. So, it's sort of a game of trial and error sort of.

Based on her experience, Natalie maintained that unless her students achieved at different levels she knew she did something wrong with her assessment.

Yeah I've done something wrong because you know every individual is different within the group and if I ended up with all the same marks then I think it's a little screwy here. You know I haven't really broken it down you know. It's just a personal thing. I don't think I've thought about it much. If I can't justify a mark then I know I've done a screwy job.

**What Is the Purpose of Assessment?**

Five teachers were able to express the purposes of assessment that they had arrived at during their professional experience. Helen had established a number of purposes of assessment over the years, which seemed to shape her inquiry and her assessment practice. She explained these in the following way: "I think [my assessment is] to let [students] and their parents know where it is they are, and where they need to go. And if they're already there, how can we push them a little bit further." In other words, Helen viewed assessment as "more of a way to convey information." In particular, she commented on the new report card, which was more user-friendly for parents:

One thing I do like about the new report is that math consists of five strands, and parents can automatically see which one their child is really doing poorly in, and O.K., that's something we need to really work on. And it's very quick for them to see. Whereas before it was all clumped together, and you didn't really know.

She explained that she did not view assessment merely "as a pass or a fail, or 'you really bombed this one;'' [rather], "assessment is ongoing; it's a continual [process of] look[ing] at where the [students] are and where they need to go."
Natalie presented three main purposes of assessment: First she viewed assessment as a tool to determine if students had achieved the outcomes: "Well the purpose of assessment is to see if they have achieved the outcomes. That is the primary one." Secondly, she believed assessment was meant "to determine if there's any growth or retention of information." The third purpose she indicated was to determine if students were ready to move on to the next phase of learning: "I would also assess for readiness for the next session." In addition, she looked to see if students "have...accumulated enough emotional [readiness] and knowledge of skills to take them [to the next phase] because these students are emotionally sometimes not ready to go on to the next session. So [besides] emotional and skills level, they would have to have readiness." When I asked Natalie if the purposes of assessment had changed over the years, she was emphatic: "Absolutely. I would never have assessed this way otherwise." She said that with different students she assessed for facts: "Facts, knowledge, regurgitation, upchucking of information. That was a different set of students." These past students who were in the academic stream she explained were

...part of a regular system...[where] first of all you assess for the upchucking of knowledge. I threw it at your throat back to me. Then I would assess for cognitive and creative skills. That would be the second thing which I wouldn't get here. Not very much, no. And then for creative development which is the art form. So this is all new assessment stuff here.

Natalie therefore, emphasized assessment "as a measurement of growth, [that is], how [students] got from 'a' to 'b.'" In other words, "Have they learned anything? Have they accomplished anything? Have they figured out anything? Have they shown some progress in some area?" She further explained that "what [she's] looking for is to define points where that happens." In her experience, she noted that "there are some kids who never go from 'a' to 'b.'" She stated the following as an explanation: "I mean that's what education is about you know: 'What is growth?' I mean education is not cramming [kids] with knowledge....it's [there] to be able to grow completely and you're in the thinking process."

For Jack, the purpose of assessment had evolved beyond numbers to being an element that helped both students and teachers plan what they were doing.
When I started out, everything had to be in numbers, and it was based on a percent, even in grade five and six, and you weren’t really a participant of what was going on *per se…* assessment has become more and more an element. And if you embrace it, rather than avoid it, it seems to be very helpful to the kids and to me, to plan out where I’m going, what I’m doing…. The assessment then becomes part of the teacher being assessed while they’re doing and figuring out what’s going on.

What emerged as Jack’s strongest feeling about assessment was the necessity to find a way to legitimize assessing as a tool for learning rather than for numbers.

Tom believed that the purpose of assessment was to “tell kids where they’re at [and] where they need to [be]; [that is to] give them a reflection, some sort of unbiased perspective.”

Assessment, usually, for me, is a form where I can give kids feedback on what they’ve just accomplished, what they’ve learned, what they’ve shown me they can do. That for me is assessment. I think to put it in my own definition, my own working definition anyway.

Secondly, assessment was “for the report card or reporting to parents.” Thirdly, he viewed assessment “also as a reflection on my teaching.” Finally, he relied on assessment to provide the students with clear objectives.

Jane explained that “assessment is a tool to give me and the student and their parents, obviously a clear understanding of what students know about the subject, and how they can expect us to mark them.” She stressed the importance of being able to provide evidence for her assessment decisions: “How do I prove it? Do I need to prove it?” She stated that “people warned me: ‘Oh, going into grade five there’ll be all these parents, and they’ll want to see every[thing].’” She remarked, however, that, “nobody’s asked me to prove anything.” Regardless, she felt that teachers should always be prepared to provide evidence of their evaluations of students.

There seems to be an overcompensation for all of us at this point in time to make sure that we’re gathering, gathering enough data so that we can say, “See. We were right. We were right.” It’s not that we’re guessing. We’re not being subjective. I’m telling you this is objective. So there’s that need to sort of prove that we know what we’re talking about a little bit just in case somebody asks.
Jane prided herself in the structure that she established for her students in her assessment practice. She viewed having a framework as an important starting point and something useful to build on.

I think I structure things well. I overstructure things in a way. You can build what you want within that framework—the kids can fly or the kids can cling to the framework—but I make sure there's a really, really solid framework so that the kids can be as successful as they possibly can. I really think out how a plan will go for the kids to take into account their styles—so that their styles can be developed but that there's a really solid framework. And I help them develop frameworks sometimes. I think that's really important, because once you've got that framework, that organizational unit, you can do almost anything. And once you have a repertoire of a number of organizational units then you can pretty well build what you want.

**Reflection**

Seven teachers described incidents of reflecting on their practice after the fact. One teacher (Tom) provided illustrations of reflecting during his practice. Teachers reflected on the relation between the standards and the curriculum with their assessment program; how they might have changed their assessment after a unit; the impact class composition had on assessment; and how reflection of their practice was useful.

**How Do I Relate Standards and Curriculum Requirements with My Assessment?**

Rachel struggled with the criteria for level four on the provincial standards in her attempts to align the levels with rubrics. She did not feel that her rubrics in the past year were particularly successful and planned to redo them for next year.

One of them was, say, for a level four. They had to have had five out of the five elements on the graph for that set of questions done. But there was no factoring for how well done. So, I think, I would probably redo the rubric if I do [it again] this next year.... I would change the rubric.... It was O.K., but I think it could be better. You can always make things better.

Helen described how, for her ESL students, after a particular unit, upon reflection, she would have liked to have had more time to focus on the science vocabulary since her ESL students had so much difficulty with it; yet the curriculum demanded that she move on. She explained that she specifically liked learning new ways of doing things and was
constantly reflecting on her practice. For example, she said, "I like to learn new ways to do things and better ways, new theories, new ideas. It fascinates me because I don’t think education is static, and I don’t think it can stay the same all the time. It’s interesting the way things come around again. I just love it. It’s fun." Helen explained that she spent a lot of time perusing the curriculum documents trying to figure out how she could assimilate their directives into her program: “I take them home, and I read them [through], not all at once. I’ll read a little bit at a time and do a lot of reflection as to how I’m going to fit this in and how this is going to happen.” For example, the new math in particular, was quite challenging for grade seven and eight students: “The math really became a challenge for them. A lot more skills and a lot more things than were expected.” She routinely got frustrated that the curriculum demanded that she keep moving ahead while she knew there were students lagging behind:

I would get very angry about it, but it had to be done, and we have a really good math [department] head. We had to keep surging ahead and keep moving and keep moving, and I always felt bad because there were always kids that were left behind. And to move on to another skill when you haven’t mastered the one that you need before it just drove me nuts.

Helen struggled with some of the directives in the documents and getting all her students to a point where she felt comfortable to advance to the next stage.

If I Could Do this Unit Over Again I Would…?

Jack indicated that after completing one of his units he realized how in the future he would have to anticipate and plan in advance for the impact that particular assessment strategy he was using would have on his time.

I’d have been a bit more disciplined myself about the evaluation process. It’s lingering on because of the nature of the project. It’s one of the considerations I tell any teacher—consider what it’s going to cost you, in your time. If I give an assignment, I have to now measure, because of the nature of what we try to do, what it’s going to do to me. Because if I haven’t got any idea of when I’m worn out, then a lot of the other stuff doesn’t work.

In hindsight, Reva described a unit she had presented to her students numerous times over the years and every year realized that changes were required for the next group of students.
I've done this so many times now that I've changed so many times. It started off as a project where it was a comparison between a developed country and a developing country. And it was so bad; it was too much information for them to handle and it wasn't personal and I've sort of got it to the point where it's working. I might put in a research component where they actually have to hand in something that is research oriented because some kids sort of are a bit weak on that part. So, maybe that's what I'm changing. I might put a little written component of research in that. See if they can handle it.

Reva also reflected on an assignment she would have her students do differently in the future.

Maybe [next time] when I collect their interview questions [I'll] see what they've [written], instead of [just giving them] a done or not done mark. [I'll have the students] read the [questions] out loud in class. [We'll decide if] th[ey're] good questions [and ask] “Why is that a good question? Why isn’t that a good question? How would you change that question?”

How Did My Students Influence My Assessment?

While Jack had many years of teaching experience, upon reflection, he attributed much of the difficulties with his assessment in 1999, to the group of students he had in his classroom.

I found this year that I don’t think I did as well as I have done in the past in evaluating [or] assessing my students. First of all, it’s the mix of kids I have. They do not have a love of learning. They’ve been this way since kindergarten…. But, the basic reason I had trouble with evaluation was their inability to focus, to stay on task, persevere. Everybody gives up on the first try. I can’t do it, you know. I’ve seen it in younger kids more, and I’ve usually seen it in schools where I taught higher grades, but never in this school and at that frequency.

After taking some time to reflect on the best approach to take with this particular class of students, he recognized that he had actually changed his assessment approach to suit the students. He explained that he felt like he was assessing as if he were a grade one or two teacher using observation and chunking strategies which he would not normally use for a grade seven class.

So my evaluation and assessments had to change a lot. Like I found I was adjusting to small amounts of information or skills, an area covered and then assessed. Sometimes
it wasn’t worth assessing in other ways. It came down to almost assessing as if I was a grade one, two or three teacher. A lot more observation than before. It became anecdotal comments rather than doing it hard and factual, as the government wants with numbers.

**How Does Reflecting on My Practice Help Me?**

Jack trusted his reflective capacity and relied on it to survive the frequent barrage of innovations.

Very often rather than jumping up and down and getting all involved at first, in different ways, which was my background, I realised that over the last ten years I’ve learned the value of time to just think, and things will come around, things will move. And I don’t mean just let things happen to you, good or bad. A lot of things do anyway. But, yeah, I think it’s the idea of the river; once it flows, it’s going to find a way to go where it has to go, and you can really screw things up badly if you try to mess with a river sometimes. And my decisions have been made by stepping back and just going I won’t say with the flow, but at times, moving the way without fighting it. My worst decisions have been when I think I want to do something that others have declared I should be doing in a certain way. It doesn’t work. I ended up frustrated, but if the other’s there then harmony’s there, and I’m O.K.

Jane stated that she reflected about work all the time:

Unfortunately, I think about work all the time. I was lying awake at 3:30 a.m. yesterday thinking about it. I mean it is bizarre. This job is just way too [consuming]…and partly because I don’t have a lot of other [things to think about]. I mean my kids are older. I don’t have to think about a lot of other things. I guess I think too much about the job and how I could do this better.

Jane also noted that when she was assessing her students there was not much time between activities. She wished that she kept notes of her ideas because she generally forgot what she might have done differently in a particular situation that could have potential use for the next year.

There just isn’t a lot of time when you are onto the next thing. My biggest problem is that I don’t keep a record of it. So when I come up with some great ideas, [by] the next year sometimes I forget. And then I think I wish I had written it down and then I could have done it again. I think I just always think about how can I make this a better reflection and how can I track it better too. Everybody is struggling.
Monica believed she was more reflective in her assessment and took the time to ask herself why she was assessing the way she was: "I'm really a lot more reflective about why I'm doing something a certain way."

So I'm adjusting and re-evaluating, and reassessing what I'm doing all the time, to kind of gauge what their learning potential is, and is what I'm doing in line with where they should be, and what they should be doing, and so on. It's a daily, daily, process of learning for me.

Tom saw the value in reflecting on his assessment while implementing it. This way he could be critical about what was happening: "While I'm assessing their work, [it is] a good time to be critical and yet really keep the kids in perspective [in my mind]."

I asked Tom if he would have done anything differently in a particular unit. Upon reflection, he said he would initially have given the students more direction about the expectations.

Give the kids more up front. There was a lot of discovery in this unit, and I think discovery is good but I might have...and that is one of the things I'm changing about it. I think I put too much emphasis on discovery. It's not all discovery not by a long shot, but I think I put a little too much emphasis on some of the discovery aspects...so less discovery and a little bit...the assessment side of it...the expectations or criteria.

Tom preferred assessment strategies that gave him an opportunity to reflect on students' learning: "I like to use a variety of assessments because it hits on the kids' strengths and gets them to show their stuff in the best light. Some of the [strategies] I like the best are the ones I can sit back with and look at after things are over and done with."

**Emancipatory Interest**

**Moral Inquiry**

Three teachers expressed very strong opinions about why they adopted or did not adopt certain actions in their assessment practice. These actions seem to be grounded in a moral stance that these teachers had taken. These strong feelings focused primarily on the following viabilities: implementing standards, new curriculum directives, and new assessment approaches.
**How Viable Are Standards?**

Natalie was vehement about standards, which was rooted in her experience as a teacher of special needs students. She questioned whether all students actually achieved the standards legitimately.

In grade three every child is supposed to have multiplied to the five times table, or whatever it is. But how many grade three children are kept back because they don’t? What does it really mean to set a standard? Nada, really, think about it. They’re saying, “They should be doing this but they’re not so they’re below standard.” But what happens afterwards has never been fully resolved.

Natalie went further by asking, “If the student does not meet the standard, what happens to the student and the teacher?

The real question is, “So what if they don’t, what are you going to do to me? What are you going to do them? What’s going to happen if they don’t?” The real question is, “So what? You know, these students do or these students don’t, what difference will it make? What’s going to happen? Is it a reasonable expectation to ask if they would be able to? All through Ontario?” Yeah, but my class is part of everywhere. It depends on what class, it really does. In my particular class right now, never. It would never happen because they’re educable. In a class down in _____, probably not. In a class over near _____, the _____ school, not a problem! You know, it depends where the kids come from, what their backgrounds are you know. Some kids are going to get more stroking than others. It depends on what levels you set I’d say possibly but not probably. “And what are you going to do to me if they’re not?” That’s the next question.

Rachel had developed similar feelings that influenced her practice. For example, she had difficulty agreeing with the notion that all students could reach the same standards:

Everyone’s an individual. There are 20 or 30 some odd little faces looking at me and they all come with different backgrounds and different strengths and weaknesses, and that’s a tough haul! There are kids that there’s just no way they’re going to be able to do some of the stuff in either math or language or whatever.

As a result, she felt strongly about honouring the uniqueness of her students and refused to create a rubric for every assignment. She felt that it was unrealistic to use rubrics every time she handed out a creative writing assignment. With her mind made up about this, her moral stance seemed to curtail any further inquiry into rubrics. That is, she no longer
asked questions such as: "When would I do it?", nor did she dialogue with others about rubrics. In short, she was not receptive to further inquiry about rubrics.

I'm not going to make a rubric every time I give a creative writing assignment! I wouldn't sleep! When would I do it? You know? So, that's why it's hard to make a rubric standard for creative writing. You know, that's just where I'm at with it. Maybe somebody else is different. So that's that!

Jane displayed a moral dilemma between having to grade students and also wanting to devote time to assessing the whole student. She relayed an incident with her principal when she was questioned about her assessment of students in her class. In this situation, the principal handed back her report card marks and said, "Your marks are a little bit high." Jane replied to the principal: "Do you think I'm a hard marker?" and then said, "I have a very good group of students." Fortunately for Jane, the principal was satisfied with this rationale; however, Jane was upset about "need[ing] to justify that you've been correct about what you're putting down for those kids." Jane elaborated further by saying, "There is another part of [this] dilemma because I think sometimes kids know things and understand things but don't always. It is hard to find the right tool for some students [to show what they know]." She described one student in her class whom she had difficulty assessing:

I have a student this year...[who is an elective mute]. Elective mutes will talk to certain people. They won't talk in school or usually in public places. I've watched her talk to her mother, and she is quite animated when she talks to her mother. But she stands about this far away from her mother and talks almost in a whisper 'cause you don't want anyone around to hear. That is very, very hard because she won't communicate. It is very hard to find out what she knows. I suspect she knows more then she can possibly share.

This situation was particularly disconcerting for Jane since her objective when assessing was to gain a better understanding of all aspects of her students, not just their achievement. She said, "There is even a whole thing about how to find that tool where even the sort of look on the child's face or the body language or the ease at which they get down to a task and all of those things indicate their comfort level or their understanding so it is such a big package. It is such a huge package to pull all of the little things together." She concluded by saying, "This is what assessment means to me."
elaborated further by saying, assessment "bring[s] all of the little pieces together from answers in a classroom to body language...to a test, to an assignment, to a project, to whatever, [by] pull[ing] it all together and giv[ing] a clear understanding [of what that child knows]." She reasoned that assessment was, "after all...a fairly significant thing you are doing to another human being. To slap a grade on kids no matter what. That grade translates into how smart he is....I have trouble with the smart thing too because there are lots of brilliant people who don't [get good grades]."

So what I really want out of assessments is for kids to understand what their style is as a learner; what they feel; that they have the confidence to tackle things that don't necessarily fit their style. That they have an understanding of why they need to learn all of this material; what they are interested in. But then, they still have to somehow be evaluated because otherwise, then, it just becomes too open a system, so there has to be some kind of a standard.

Jane's assessment philosophy was also rooted in a belief that "there has to be a standard of acceptance into universities and graduate schools and all of those things. That has to happen. I mean, and so you have got to have some kind of base line." Her concern was that "if you are preparing kids for university..., then you better be making sure that your assessment strategies or your marking system or whatever is on the same wave length [as the university]."

What we see here is Jane grappling explicitly with the dichotomies inherent in assessment, that is, having to meet certain standards while still attempting to honour students' uniqueness. While she was not opposed to a prescribed curriculum, she recognized that, in dealing with individuals, there had to be some leeway built into the directives. She provided an example of this situation: "There is a nice little book that will pre-plan you all the way through, but you soon find that kids ask different questions from what the book presupposes they're going to ask." She described her use of the curriculum guidelines by saying that "in some sense you figure out a way to make sure that that happens. I mean there are no strategies in it; there is no sort of structure to how you deliver the program. There is no order to it. It is not necessarily a build on." In describing the Common Curriculum, she admitted that initially it appeared to be more prescriptive than she had anticipated but was able to see the benefits of uniformity that resulted from using this curriculum.
It's a little more descriptive than I thought it was going to be. But in a way that makes our job easier. And I like the idea of consistency. And I like the idea that...you are sort of free to do it within your style. I mean nobody's suggesting instructional [and assessment] strateg[ies] or whatever else. Although a variety of instructional strategies are more or less implied in the whole process of The Common Curriculum and outcomes and all that sort of stuff...so you have to take that into account. But I think it's good to be consistent. I think the parents need to know the kids are covering certain things.

Regardless of its prescriptive nature, Jane taught and assessed the way she personally believed assessment would best serve her students and admitted that fulfilling her own mandate and the government's was a precarious balancing act.

I just barge ahead and do it and hope it shakes down all right and try to sort of walk that line of giving things that I know are going to be palatable to parents and also trying to create a new look to the whole thing. But it's a bit of a balancing act. Feedback on provincial report cards is parents want grades on them, parents want letter marks on them and they want to see A = 80 - 100.

*How Viable Are New Curriculum Directives and New Assessment Approaches?*

Rachel made a personal commitment to disregard certain directives, specifically those that demanded she discontinue rote learning. She felt strongly about the benefits of routine skills for her students and explained that she “tries to look at it from a parent’s point of view” since parents in her experience have expressed that their children need to spell and do math.

I still like my kids to have a spelling program. I still think it’s worthwhile for kids to do some rote work—I guess I’m old school. I’ve taught longer than a lot of teachers on staff, so I’ve seen things come and go. I don’t want to get myself in trouble...I try to look at it from a parent’s point of view, and I think that’s one aspect that I bring—which would I want my kids to know?...I want my kid to be able to spell.

Rachel also had some questions about the utility of some of the new assessment approaches. For example, she had been thinking about portfolios for a while. She admitted to being unsure about the benefits of portfolios, and although she had used them in the past, she was not using them currently.

I'm looking more at portfolios. I hadn't even considered portfolios two years ago. And I'm on the fence; I'll be honest. There are three grade eight teachers, and one of them
uses portfolios and just swears by them and conducts her interviews around the portfolios and so on. To my way of thinking, a lot of time is spent on portfolios in her room..., which is great..., but I’m sitting on the fence.

Some of her concerns centred around the potential loss of instruction time: “I don’t know if I want to give up instruction time, or whatever it is that it’s going to have to come out of for them to reflect on an assignment.”

In my mind, I don’t know whether or not I can give up valuable instruction time when I have a hard time getting through, say, a math unit. [Another teacher using portfolios] takes about an hour a cycle. To me that’s a lot of time. And I don’t know that it’s not worthwhile. It could be—and she’s very pleased with it, and...I’m just not sold yet, for that amount of time.

The time issue that concerned Rachel related specifically to that duration students would require to reflect about their entries. Rachel said that she would have to be convinced that implementing portfolios in her classroom would provide a clear advantage to the students.

You’d need to convince me that the time that I would take away from other things that I think need to be taught in order to prepare for high school can be sacrificed. You’d have to convince me of that.

Rachel’s opinions about rubrics also revealed her own intellectual ambivalence. Although she maintained that she understood the concept behind rubrics, she was unsure of whether or not it was an effective tool to use: “I want it clear that I understand why rubrics were made. I understand that. But, I don’t know if it’s a good tool for everything. Does that make sense? But I can see a rubric for math. I can see a rubric for problem solving.” In particular, she was unhappy with the fact that rubrics slotted students: “I’m sure I’m not the only person that is having a hard time slotting kids into boxes.” She elaborated by saying,

I’m not a fussy person on rubrics; I don’t like plotting kids into boxes. Kids are different, and I try to capitalize on their strengths and goals. And if one kid doesn’t fit a rubric, I have to make him fit. I don’t like that. And it’s hard sometimes to fit a kid into a box.... So how do I avoid trying to fit a kid into a box?

The problem for Rachel currently was that now that she had shifted her thinking to include other forms of assessment, she discovered, paradoxically that with the new
curriculum changes, the way we’re supposed to assess now, is becoming more and more test oriented. So, I’m sort of in the middle now.” Her natural inclination, however, regardless of curriculum directives, was to use a variety of assessment strategies: “I’ve moved very much away from tests, if possible, and look at the whole picture.”

Critical Inquiry

Five teachers engaged in critical questioning and thinking about assessment. This questioning revolved around the appropriateness of current standards; gender related issues; the viability of ability and growth among students; and the why of assessment.

Can All Students Achieve the Standards?

Helen asked herself some critical questions that reflected a proclivity towards outcomes-based instruction and certain assessment issues when assessing her students: “Where do I want the [students] to be?” “What do I want them to know, so when they come back tomorrow, I can move ahead and go on to this?” Helen was also grappling with the whole notion of having to pass students who have not successfully achieved the outcomes and worried about what kind of message this conveyed:

Some kids are just not ever going to be level threes. And the way it reads, if you don’t get level three, you really shouldn’t move on. Well, I asked that, you know. I keep asking that question, “Well what happens to the level ones and level twos, the sixty percenters?” Well, they pass. O.K., so really, what are we telling them? “O.K., you haven’t met the [expectations], but you’re passing.”

Jack expressed his concerns about the accuracy and appropriateness of the current standards and suggested that students could strive for greater excellence.

And if we read the Ministry right now, and if the Common Curriculum in some form or another stays in place, which I personally think it will, I don’t think what the Minister is suggesting is at all appropriate, because he is underplaying the kids’ reputation. They are able to do most of those things he published in the papers and other places already, and if they’re doing those, then we’re not really pushing for excellence any more, are we? We’re just treading water. And they’re capable of more, in a tempered way.

Jack more specifically spoke about the limitations of using level four.

And all this nonsense about level four’s and level three’s, and you can’t be a level four unless you get over eighty, but there should be only one percent of the student
population above eighty. That tells me I’m doing a rotten job as a teacher. If, you know, you were setting really good challenges, and you were working with kids who are able and if they get a ninety, they get a ninety, O.K.? And it’s the same with a kid who might be, what the government says, level three. They didn’t define it. They didn’t clarify it that well to make it clear cut. So back in September we go to get the new math curriculum: “Oh only one percent can get above eighty.” That’s what we’ve been told by our Board. And it’s the same in every Board. You cannot give out level fours, only one percent…. And we were told at one session that the only students who probably should get above that into a level four would be the students who attend the gifted program at _____ which is for the gifted children. And I’m thinking, “I don’t think so.” That’s handicapping the young people we have at our school.

Jack’s solution to this troubling aspect of the curriculum was to stop complying with the alleged (mis)information he was receiving from external authorities and proceed to interpret in his own way what a level four meant in his classroom: “So after a while I just stopped listening and just did what I know would work. And, my principal was very supportive.”

Jane asked herself a slightly different question: “Can they reach a common set of expectations?” Her concern was that there were students who would not be able to reach those standards. Despite this dilemma, however, she felt that the standards provided teachers, students and parents a clear picture of where students were heading in their achievement: “I think in some sense, to have those common set of expectations, so we know what we’re working towards, gives us all a clearer picture, parents and so on.”

Tom asked some critical questions such as, “If students meet expectations, how well do they meet the expectations?”

I mean, that’s not understood, I think, by a lot of people, teachers included. I didn’t understand that until I really started thinking about it, because if every kid is to know the difference between, for example, a solution and a mechanical mixture, how well do they understand that is where it’s at? Do they understand that a solution and a mechanical mixture is different? Yeah. O.K., level one. Or the air that I breath is, compared to the smoke that comes out of a smoke-stack. If, how well do I understand that one’s a solution and one’s a mixture? How well can I describe that, or what can I put out of place. There are different levels of understanding, you know. If a kid can identify that, can they take it one step further? For me a level three is, “O.K., so now you know the difference between a solution and a mechanical mixture, what is this? And why would we need to differentiate between those.” That’s a level three to me.
Some kids are capable of doing that, some kids are not. They still haven’t got the expectation. They know there is a difference, but is it a useful measure or not?

**How Important Is Gender Equity?**

Jane introduced what she called the ‘nice little girl’ syndrome in which she was concerned that teachers were documenting girls’ success as a matter of course because they were pretty and quiet.

[It’s what I] called the nice little girl syndrome. I know for a fact that three, four, five, six sweet pretty little girls got better marks then they should. They were quiet; they performed some of the school skills well but not necessarily understanding the material. And when they ran into a situation where they had to demonstrate understanding to the guidance counsellor, I saw a lot of unhappy faces. So it is a gender issue.

**Should We Assess Both Ability and Growth?**

Natalie relayed a situation at her school that had been troubling her. She noticed that there were two different philosophical camps emerging in her school where one side believed that students should be assessed on both ability and growth, while the other side believed students should only be assessed on growth. For example, Natalie described a situation where students who were considered hard-working students were to be awarded an English award. Yet, their English skills were poor. Natalie questioned why they were receiving this award:

They couldn’t speak a word of English, but they were real hard workers, so should we give them the English award? I said, “Not until they speak English [better].” Basically, I thought that was enough reason for some, but we had two English teachers, and one of them would be marking on ability and growth, and the other would be marking just on growth. So which is the right philosophy? Ability [that is,] skills and growth or just growth. Because it depends on what your philosophy is in the first place, so that caused some real hot and heavy discussions.

**Do You Think About How or Why When Assessing?**

When I asked teachers which they thought about more in their assessment practice ‘how they assess,’ that is, about the skills required, or ‘why they assess,’ Jane’s response was ambivalent:
Well, to me, that is kind of a balance. I don’t know that I separate those two necessarily. Sometimes the only thing is, “Why am I doing this?” Because I have to. Then on the other hand, maybe the combination question for me is, “What am I getting out of this?” And that is a little bit of both isn’t it? The how and the why, and what am I going to do with this? In the past, Tom indicated that he probably grounded his assessment practice more in why he was assessing, than with how to assess; while in 1999, he was more concerned with how to assess for fairness and finding out how to recognize students’ abilities. He found assessment problematic because he often felt there were no criteria to guide him: “I think assessment is problematic because again there don’t appear to be any solid sort of foundations for setting the criteria except for what I have myself.” He stated “Unfortunately you can’t dialogue with people about particular issues very much.” What Tom seemed to take issue with was the difficulty in achieving uniformity in the evaluation of students and also reporting in a fair way. For example, he said:

I think the problematic that comes in is the reliability. Is my 80% worth 80% at another school with another teacher on a similar task. That’s what I find problematic in a way. I... also think [a lot about how to translate] assessment into report card [marks]. Are my assessments valid enough to do an evaluation at the end of the year or at the end of the term? I think I feel I do a fairly decent job with it, but how does it compare to or you know how reliable is it because there are no foundations for assessment at least I don’t think there are any really great foundations? It’s pretty fluffy stuff.

Tom was also concerned about why he should pursue his investigations of the Common Curriculum, when he was being mandated to assess students using grades. Because we report subjects marks—you know, English 55%, English 90%, science 75% effort, poor and a comment. So where is the need to align this with the Common Curriculum? There’s no need for it. So if there’s no need for it, who’s going to make the jump and invest the hours in that? And I’ve invested in it because it’s an auxiliary... so as soon as you give me a need for it, I’ll deal with it, but I can’t see a need for it, no. Well, yeah, unless you’re really buying into it yourself.

Tom believed assessment was problematic, in general, because there were no clear exemplars available for setting the criteria.
I think assessment is problematic because again there don’t appear to be any solid sort of foundations for setting the criteria except for what I have myself, and unfortunately, you can’t dialogue with people about particular issues very much.

**Communicative Rationality**

Six teachers expressed some experiences or desire for resolving assessment challenges cooperatively. These cooperative opportunities were deemed useful when involving students in their own assessment; dialoguing with others to express feelings about assessment; and debating issues for confirmation, affirmation or refutation.

**Can I Share Assessment with Students?**

Jack expressed concern that assessment might be used punitively with students. Nevertheless, he appreciated the feedback component of assessment so that students themselves could determine if they were learning: “I guess one of the things I like about assessment is the feedback to the kids. What they get out of it. It’s not meant as a penalty. It’s ‘Am I learning? Am I learning the best way I can?’” Jack monitored his students’ progress and made instructional decisions based on what he observed and assessed. He said, “It’s the movement you look for; at least [it’s what] I look for. I look for the movement, and the progress they’re making.” He believed that rubrics were helpful in obtaining information about students’ learning: “Rubrics can tell you so much, and they help kids a lot.” Laughingly, Jack said that in his class there was a running joke about the assessment forms he distributed to students before the assignment which were called ‘idiot sheets’: “Sometimes we joke in the class ‘cause I’ll give the kids the evaluation form, and we call them the idiot sheets. You’ve got to be an idiot not to do well if you don’t follow the evaluation sheet. You know what I expect. And we all chuckle and laugh about it, and it’s fine.” He stated, however, that nevertheless, joking aside, his students still had trouble at times, and his rubrics would often be reduced to a checklist: “They still sometimes have trouble checking off what they’re doing. [And] a lot of times your evaluation sheet is [reduced to] a checklist, a guidance sheet, as well, and they work towards what they can do.”

Kids when they see that, they know where they’re moving. The numbers don’t do it. I’ve gone through the stages, and it’s worth the time and the effort to make up a simple rubric of four levels or five.
Jane relied on a repertoire of assessment strategies gained from experience and from having her students regularly reflect on their experience with the assessments.

I have the kids always, when they finish a project, reflect on the things they did well, what they found hard and all that kind of stuff. So, having done that for several years I have a bank of, sort of, sense about what the kids feel is difficult. So, I know how to kind of weigh things that I know are going to be a challenge for them. So obviously I’m not going to develop that one, two, three, four, as being quite so sophisticated perhaps as something else which I feel they’ve got a better handle on, based on their reflections they’ve given me over a couple of years. I listen to them a lot about, you know, what they find difficult, what’s a challenge, what’s easy for them. And there’s sort of a common thread of things that are difficult to challenging.

When I asked Monica if she knew if her assessments were successful, she replied that she did not always know: “I don’t always [know that my assessments are successful].” She explained the difficulty in knowing if her assessment was successful was in the fact that teaching a language was very process oriented and did not always produce a tangible product such as an essay.

It’s easy to assess understanding. It’s easy to assess how you can perform on a given task, but we have to keep stressing that this is a highly oral program. I mean although we do practice things like phonics, it’s not pencil-paper. These aren’t papers you’re evaluating but rather the process. It’s always process. Teaching this level has really made me think about the process of learning, because you don’t have it in any tangible things. You don’t have the essays or the paper or the composition or the test. You know, it’s an ongoing kind of thing.

Consequently, Monica relied on her students’ comments to help her ascertain the success of her assessments. After one unit, some very positive comments emerged:

I think they did very well. I was quite pleased. I thought some of the comments that I heard from kids themselves were pretty telling, that they were very enthused about it. They knew they had a very strong sense of direction in what they were going to do. They knew that they had completed this number of activities, and they were looking forward to doing this or whatever. One of the parents came in who volunteers and said, ‘So-and-so, he’s just so keen. He’s so excited.’ He said, ‘He loves doing the unit we’re doing right now.’ There are so many fun activities. They were very involved and very positive about what they were doing.
Jack spent a great deal of time communicating with his students about how things were going for them. He commented on how much more motivated his students were after they had had an opportunity to dialogue with him.

We do little mini interviews once in a while. Kids like to have a little time with the teacher to talk about how things are going. You can just see it in their eyes when they hear good comments. It's sometimes an energy item for them, you know? It gives them drive. Sometimes it's an intellectual thing; sometimes it's an emotional thing that makes them feel good. They enjoy having their evaluations out early, so they know with what they're working.

Jack valued the communication with his students, particularly his communication with adolescents and recognized from experience how powerful and persuasive this communication could be whether it took the form of taking an interest in the students in and out of the classroom or conferencing with the students.

I've concentrated more on contacting kids, communicating with kids, especially during adolescence. They can quickly turn off and go somewhere else, so how do we keep them going? You know? And a lot of it is that I'm not too sure that learning doesn't occur just because the person whose trying to initiate the, shall we say, learning or student's part of learning, whatever. I'm not too sure if that's not more important than a lot of the stuff we do. And all our Faculties of Education are geared on other things than really the person that's there. And can the kids connect with that person?

Jane relied heavily on working cooperatively with her students to find out why things go wrong with both her assessing and their difficulties in achieving certain expectations. For example, she relayed an incident when the students were not able to understand a concept she was teaching:

When I get really annoyed at the kids for not understanding and I know it's [my fault, I think to myself,] 'What is wrong with you?' As soon as I am at that level [I am] kind of wondering and thinking, 'Why don't you get this?' I know right away we are in [murky] territory. I can just feel that point and at that point I just gather them altogether. They have been working and I gather them altogether and I say, 'Guys, who is frustrated? Guess what, I am even more frustrated.' I said, 'That this is as much to do with how I set things up as the way you handled it. So let's...[see if] we can salvage...this. Let's come up with some ideas for it.' And so I sort of got them to give me some ideas of how they might do it. I can't even
remember how we even ended up doing it. I just know it felt so much better not to be continuing with what our plans were.

Jane explained that her students were involved more and more in the assessment process:

I think kids are becoming a lot better at self evaluating. I notice even with my grade sixes, if I’m evaluating an oral presentation, for example, and I’ve provided the rubric, or we’ve developed a rubric, the kids’ marks and my marks are often totally in sync. So that means they’re becoming better at this, which is what you want.

Tom encouraged communication among his students. He shared an incident with one of his students with whom he had email contact: “I got an email the other day, anonymous, that said, ‘Mr. _____, do you think I’m going to get a level three on it?’”

Tom noted that colleagues did not appreciate his approach to assessment because he advocated strongly for students taking responsibility for their own learning.

Some of my colleagues don’t like what I do because it’s not their style. My style is very heavy on the student responsibility for making sure they know...not making sure they know their needs but making sure they’re honest about how they approach what they’re doing here at the school, and if they screw up or if they make a mistake, it’s O.K. Let’s just make sure it doesn’t happen again...don’t want the same mistake happening over and over again, which should be solvable.

Is There Opportunity to Dialogue with Others?

Monica extolled the benefits of collaborative peer-learning.

I’m on a huge learning curve, right now. Teaching primaries–huge learning curve! And, I get a lot of support here from the rest of the staff members, and I use them, as sort of barometers for sort of, you know, “O.K, how are we doing here?”

Reva expressed her disappointment that at her school there was little opportunity to team share or dialogue about assessment issues.

I think at the staff meetings they should be talking about some school issues as opposed to just outside curriculum development or at least finding out what the Grade 6s are doing? What are the outcomes they’re going for so that by Grade 8 we can work on them. There isn’t a lot of that. There isn’t a lot of team sharing. And I think that will be the place that the staff meeting should be and maybe these are things we can
choose to have at our staff meetings. What would you like to see, and maybe give a survey to the staff. There isn’t much of that going on either.

She valued staff meetings because it was a forum for her to hear what other teachers had to say about various issues in the school. She took away with her others’ opinions which then helped her formulate her own ideas.

I think I’m open minded and I’m sort of a peace maker. Sometimes you get caught in our meetings and say, “I understand what you’re saying but...”, and I listen to what people have to say and I take their ideas and of course I use them the way that I can teach them or work with them. But I think I’m open to new ideas. I don’t think I’m at the level that I could be. So there are always things that I want to change and improve on.

She remarked that different teachers have different philosophies: “It’s also the different philosophies of the people you’re working with, the people just above you and following what they believe in.”

Helen started feeling comfortable with rubrics when she had the opportunity to dialogue with other teachers about her concerns. In another instance, when Helen dialogued with other teachers about difficulties in implementing contemporary assessments yet still having to fulfill external mandates, she relayed that the staff as a whole agreed to employ more traditional forms of assessment such as tests as a way to cope with these contradictions.

Jack seemed to place more value on observing and speaking with others when he wanted to learn something new rather than attending workshops or in-service opportunities. He was very comfortable with working cooperatively with others even when others had different ideas. In fact, he valued differing opinions and beliefs. He maneuvered comfortably between working with others and working on his own.

I would like to be able to have more interaction with people. We’d sit down for our reporting comments and come up with common ground, which is good. We all have different ways to get to that outcome, and I’m comfortable with that, the way it’s been done. We can interact with someone, and work very collaboratively, or we can pull back and work our own way, if we think that’s what works best at the time.

While Jack celebrated teachers’ different views of outcomes-based learning, he believed that it was important for teachers to come together, particularly when there was
ambiguity, so that teachers were not feeling isolated in their practice: "Obstacles [to implementing the curriculum document] would be the fact that as teachers we are not all at the same levels, and never will be, like the students." What was extremely important for Jack was the opportunity to express his feelings to others. It was not necessarily important for the issue at hand to be resolved, simply being heard and listened to was enough: "I need time to voice my disagreement--positive or negative. I need someone to listen, not necessarily agree. I don't need someone to agree. I need someone to play off with and then reflect on what's going on." Jack's own learning relied heavily on the confirmation and affirmation of others.

I think [learning] is a human condition—I think we all learn, like it or not. We may not cognitively or explicitly say "This is a learning situation," but we're learning all the time, be it our personal lives or public lives. To me, if you stop learning, you're finished. Even if you apply your learning, you've still got chances to learn even if it's confirmation and affirmation.

He explained that he always tried to step back from his ideas and look at them from the perspective of others: "There's always the question 'Are my standards, or my impressions, or whatever, legitimate?' And it's good, because if you weigh it from another person's perspective as well, you usually come up with some kind of a liberal [viewpoint]." He felt strongly that, as a teacher, it's nearly impossible to "have the dead read on any one person." He explained, "It's one of those growing awareness things. Our interpretations, I think, are affected so much by our own backgrounds. And you add the cultural part to it, as well as your own experiences. It gets pretty much a maze." He viewed working alone in his practice as not only a weakness but also as isolating:

Part of the weakness in that approach is that I'm doing it alone, because I don't have a teaching partner on staff because we have a spilt 7-8, as well as an 8. And that necessitates a different approach. But, there's no one else I know in [the board] with the time or the geographical closeness to work on that.

Jack commented on how helpful it was to have the opportunity to consult with experts in his school.

When I was in the Program Department, I worked with a history co-coordinator. [Name] was very much involved with outcome-based education.... He's died since then unfortunately. He [was] very knowledgeable. Very unassuming. People would
talk about de Bono and his ideas, and [name] might, if you pressed him, talk about a few dinners he had with him. [He was] that kind of person. I learned a lot. We had enough differences but we really made a good team. [We had] a lot of commonalities [too]. And we helped each other, but people like that—you can’t buy. Because he would go down to, you know, Johnson City in NY and do his research [and then] come back and share. And you get reading material here, there and everywhere. You grab it when you get to know it, read [it] and do it.

Jack said that board documents helped to a degree. From his experience, however, he found interpreting the documents worked best when he could turn to experts: “There’s a time to talk to others and exchange on a free basis and then take [it] away and work with what you’ve got.”

Basically, a lot of it was coming out of our board, and then trying it. Because what happens at the board level is very different from the classroom level, at times. The interpretations [are different] and thank goodness there are a lot of people out there trying different things, so you’re always gaining something. I worked with a geography co-ordinator. [Name] was good....[he was] very much in charge of making these things work and working with them on that level. He introduced me to materials. It was good.

Jane described instances in which she discussed philosophically with her colleagues and then she had her students help her determine what a level three looked like. In describing the discussion with other teachers, she noted how other teachers opened themselves up to other possibilities and asked questions about changing their practice:

So, actually, that led us to a very good discussion on the last day of school. [For example,] if you are going to test for knowledge of what you have already covered, must you include something in an application situation beyond the level three stuff so that you give kids a chance on a test to actually truly obtain an ‘A,’ or do you write on the top, which is what I do sometimes, ‘Level Three Test,’ and say that if you got 18 out of 20 or 19 out of 20 that is a ‘B’ plus on the scale? So we started having some sort of big discussion about that, but as we did, you could see a lot of people all of a sudden going, ‘Oh, hold on a minute, that is what I have been doing. I have been giving a test saying if you got 96% that is a level four.’ But it is the material for the test. So what do you do then?
She made the effort to dialogue with other teachers: “We try and connect with other teachers of the same grade level, particularly around assessing in language. So that generates a lot of talk. I think we all have a different comfort level.” Jane also believed there was not enough dialogue among teachers in her school: “I think there is a lot of really new stuff going on. I don’t think we know as well as we should. And that is part of my whole issue about just talking through it. Talk about it.” Jane described some of the issues that she and other teachers were discussing about assessment. For example, there were numerous attempts to define level four among her staff. As teachers dialogued about this, it emerged that teachers had different understandings of this concept and were implementing it differently. She noted that the more dialogue there was the more it became apparent that teachers were not uniform in their assessment practice: “I realized that my colleagues are not necessarily thinking the same way…. Sometimes, when I think I have gotten something and I think O.K. this is really the way to do it and I try and explain it to other people or explain the thinking, it doesn’t really get talked about or understood. That is my frustration.” Her attitude in most cases seemed to be significantly different than most teachers who would rather shut their door to critical inquiries about assessment. “I think my attitude is different from some teachers. There are teachers who would very much like to close their doors.”

Jane also dialogued with her students. For example, she had them assist her in establishing criteria for their work:

Lots of times, I have done activities where I have had the [students] build what they think a level three for this assignment should look like. And as a class, we come to this and as long as we have level three under our belt then you can easily see where level four would start. As long as we have that, to me that is the big importance. I have liked getting the kids more involved in that, and I found the kids to becoming more involved this year. Now perhaps, again, it was the class I had. They were much more astute at sort of zeroing in on where a piece of work should go, be it theirs or somebody else’s…. Maybe if they get better at it, I’ll get better at it.

Tom noticed that teachers were dialoguing more with each other since the introduction of the Common Curriculum simply because it was less prescriptive than the previous documents, which had made it easier to work in isolation. The communications
with other teachers remained limited however, as Tom found himself only discussing these issues with two close colleagues.

There are still a lot of people who don’t want to make the shift, or who can’t make the shift for whatever reason. OSIS worked for a lot of people because it was prescriptive. Even in areas where people were specialists, it was easy. It’s easy to do it all yourself rather than project it on to others. So there are some teachers who couldn’t give a damn about the Common Curriculum, because they don’t see a need for it. Is there a need for the Common Curriculum? Probably is. Most of the teachers want their students to do well and that’s what they work towards. And in that sense, I hope we hold a lot of things in common. It’s hard to say...there’s not a lot of dialogue going on...[only] with my close colleagues and we go through it and try to interpret it, but even there we have our differences, but those are all interpretive.

Tom showed signs of having the capacity to dialogically see the value of different perspectives of the document from various stakeholders although he found himself becoming confused with these different perspectives at the same time.

Too many people [are] trying to do the same thing but from different angles. For example, at the board level, I hear some stuff from the Ministry; I see the ASAP stuff; I see the...project in math-science. So I see a lot of people trying to do the same thing but approaching it from slightly different ways, and all of them are equally valid, and all of them are equally confusing.

**Discussion**

While a range of inquiry modes were listed in Table 1, the teachers did not use all modes of inquiry found there. Additional modes of inquiry were also employed by the subjects that were not included in Table 1. These included emotional, experiential and moral inquiry. These modes of inquiry are found in bold font in Table 10. These modes of inquiry did not meet the characteristics of any of the other modes as outlined in this study but were pertinent enough to include as emergent modes of inquiry.

**Emerging Modes of Inquiry**

Table 10 represents the modes of inquiry teachers employed in this study. Included in the table are the emergent modes of inquiry with a brief description of their characteristics.
Table 10
Emerging Modes of Inquiry

<table>
<thead>
<tr>
<th>Modes of Inquiry</th>
<th>Characteristics</th>
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<tbody>
<tr>
<td>Technical Inquiry</td>
<td>*individuals focus and reflect on technical skills.</td>
</tr>
<tr>
<td>Teacher As Researcher</td>
<td>*systematic, intentional inquiry by teachers about their own classroom work.</td>
</tr>
<tr>
<td>Emotional Inquiry</td>
<td>*individuals respond emotionally according to their perception of their circumstances.</td>
</tr>
<tr>
<td>Tacit-Intuitive Inquiry</td>
<td>*involves an intuitive sense of how to do things that cannot be explained in conceptual terms.</td>
</tr>
<tr>
<td>Experiential Inquiry</td>
<td>*past experience to inform their inquiry into practice and thus reshaping past experience into appropriate action for the situation at hand.</td>
</tr>
<tr>
<td>Reflection</td>
<td>*encourages teachers to abandon technical approaches to teaching and use reflection to improve practices.</td>
</tr>
<tr>
<td>Moral Inquiry</td>
<td>*teachers expressed certain values as morally wrong or at least worthy of questioning and usually involving a social justice issue.</td>
</tr>
<tr>
<td>Teacher as Critical Inquirer</td>
<td>*adds a dimension of critical theory to teachers’ inquiry about their classroom work.</td>
</tr>
<tr>
<td>Communicative Rationality</td>
<td>*ongoing dialogue as a way of reaching alternate modes of knowledge.</td>
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</tbody>
</table>

These emergent modes of inquiry have been placed in a specific sequence in relation to the other modes of inquiry surrounding them. Figure 2 presents their paradigmatic positioning more clearly.
<table>
<thead>
<tr>
<th>Epistemological Approaches to Inquiry</th>
<th>Modes of Inquiry</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical</td>
<td>Technical Inquiry</td>
<td>• individuals focus and reflect on technical skills.</td>
</tr>
<tr>
<td></td>
<td>Teacher Researcher</td>
<td>• systematic, intentional inquiry by teachers about their own classroom work.</td>
</tr>
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<td></td>
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<td>• individuals respond emotionally according to their perception of their circumstances</td>
</tr>
<tr>
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<td></td>
<td>Teacher as Critical Inquirer</td>
<td>• adds a dimension of critical theory to teachers’ inquiry about their classroom work.</td>
</tr>
<tr>
<td></td>
<td>Communicative Rationality</td>
<td>• continuous dialogue as a way of reaching higher levels of knowledge.</td>
</tr>
</tbody>
</table>

*Figure 2. Emerging Conceptual Framework*
The basic characteristics of the emergent modes of inquiry are as follows:

**Emotional Inquiry**

Teachers expressed strong feelings that seemed to influence their capacity to implement new assessments. While Day, (1999) suggests that many researchers tend to ignore or downplay the importance of emotions in the reflection process that positively or negatively affect teachers' practice, in this study, it seems that it would also be negligent to ignore teachers' emotions in the inquiry process. Intertwined with teachers' own practical knowledge are the emotions they experience in certain situational contexts. Ruohotie (1994) claims that individuals respond emotionally according to their perception of their circumstances, that is, individuals interpret environmental events or situational change in ways that are psychologically meaningful to them. Individual perception is also affected by

...personal values and [cognitive] assessment of environmental events on the basis of work-related schemas such as recognition or challenge. [People have] internal standards or demands in relation to which they determine for themselves whether a given task is challenging or not. Environmental attributes may be the same for two individuals, and their descriptive perception of them identical, while the valuations associated with them are significantly different. One person may consider a task to be nonchallenging while the other perceives it as challenging. Such individual valuations have an effect on emotions since, together with psychological arousal, they give rise to subjective emotions. Psychological responses are relevant cognitions in emotional terms because they influence the individual's perception of the extent to which the working environment is conducive or detrimental to personal welfare. (Ruohotie, 1994, p. 19)

Strong emotional attachments to certain previously conditioned blueprints or cognitive and cultural maps of the environment makes new learning difficult.

**Experiential Inquiry**

It seemed as if teachers gained understanding of their present practice by reflecting upon their past practice. Experiential inquiry has some similar characteristics to narrative inquiry as defined by Connelly and Clandinin (1990) which relies on teachers arriving at a better understanding of themselves and their practice, yet the difference here is that teachers did not gain this understanding through a process of telling their experiential, professional and personal story through interviewing, diaries and journals.
Instead, in this study, they used their past experience to inform their inquiry into contemporary practice thus reshaping that previous experience into appropriate action for the situation at hand. That is, they used past experience as a guide to inform current practice. Like narrative inquiry, experiential inquiry, as applied to this study, is a derivation of inner exploration, which also involved reflecting on practice.

**Moral Inquiry**

Within the organizational structure, it is questionable to what extent latitude exists for individual moral positions. One must acknowledge the influence of socialization processes on individuals and their resultant conformity and commitment to institutional values (Campbell, 1992). Campbell (1992) suggests that it is possible that organizational life is not as neat and ordered as the principles of socialization might suggest. Individuals, in conforming to the new norms and ethics that have been inculcated on them, may not necessarily embrace organizational values as their own but rather accommodate them and in doing so, compromise their own inner convictions leading to suspended morality. It seemed as if some of the teachers in this study were experiencing moral conflicts which manifested themselves as internal tensions. While these teachers may, early on in their careers, have demonstrated a commitment to the values of their school or the district in general where “people act consistently because activity of some particular kind is regarded as right and proper in their society or social group and because deviations from this standard are punished” (Becker, 1970, p. 263), some of the teachers expressed certain values as morally wrong or at least worthy of questioning. They were willing to sacrifice their allegiance to a particular group’s values to stand their ground and at times change their practice according to their personal morals.

Cochran and Laub (1994) suggest that those teachers who are able to act on such repertoires are the ones with the courage to explore their freedom within existing school structures and “become the author of his or her course of life as an ongoing composition” (p. 178). In doing so, they synergistically put to use their freedom to act in a responsible manner. Niemi (1993) suggests that teachers who embrace change and (morally) inquire about it are those able to look to the future. They teach with the future in mind not simply responding to change without consideration for the future. They anticipate the future in their work at school and do not simply do their duty more or less perfunctorily. Teachers’
capacity to orient themselves towards the future is one of the most important factors in enabling the teaching profession to change and develop. We mold our future with the attitudes, values and concepts we hold. Teachers must become active agents in their profession. It depends on their readiness to set objectives for their own professional growth and their capacity to perceive different alternatives in school development. If teachers simply expect and obey orders from national or local authorities, it is dangerous for the teaching profession. The nature of teaching as a moral craft requires teachers to think autonomously and to use their professional capacity in an emancipatory way (Niemi, 1993).

**Modes of Inquiry Utilized by Subjects**

The modes of inquiry that were used by the teachers in this study include the following: technical, teacher as researcher, emotional, tacit-intuitive, reflective, experiential, moral, critical inquiry, and communicative rationality. These modes of inquiry coincide with Habermas' categories of knowledge interests: technical, practical and emancipatory (see Figure 2). It is evident that all of the teachers employed varied modes of inquiry (see Table 11).

**Table 11**

**Modes of Inquiry Utilized by Subjects**

<table>
<thead>
<tr>
<th>Mode of Inquiry</th>
<th>Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rachel</td>
</tr>
<tr>
<td>Technical</td>
<td>X</td>
</tr>
<tr>
<td>Teacher as Researcher</td>
<td>X</td>
</tr>
<tr>
<td>Emotional</td>
<td>X</td>
</tr>
<tr>
<td>Tacit-Intuitive</td>
<td>X</td>
</tr>
<tr>
<td>Reflective</td>
<td>X</td>
</tr>
<tr>
<td>Experiential</td>
<td>X</td>
</tr>
<tr>
<td>Moral</td>
<td>X</td>
</tr>
<tr>
<td>Critical</td>
<td>X</td>
</tr>
<tr>
<td>Communicative Rationality</td>
<td>X</td>
</tr>
</tbody>
</table>
Technical Interest

Technical Inquiry

In this chapter we learned that teachers with a technical interest of assessment engaged in technical inquiry that was concerned with how to resolve the conflicting purposes of assessment; what terminology to use; how to assess; which assessment strategies to use for which situations; and the logistics involved in making sure students achieve the expectations for their grade level. More specifically, seven teachers used technical inquiry to ask four key questions: “How do I reconcile conflicting purposes of assessment?”; “What does this term mean?”; “How do I assess?” and “Did students achieve the expectations.” These four questions are technical questions concerning assessment, and in all cases except for one teacher (Jane), elicited a technical response or solution. While Jane asked a technical question of “How do I assess?”, she wanted to learn how to assess higher-order thinking in writing assignments which is a question driven by an emancipatory interest of promoting higher-order learning among her students.

Teacher as Researcher

Teachers as researchers were concerned about engaging in their own research about a variety of assessment issues. Five teachers committed themselves to learning more about assessment through professional coursework, in-servicing, observing others implement new assessment and reading assessment materials. Rachel, Helen and Reva displayed a technical interest of learning more about the mechanics of assessment strategies (for example, portfolios) by observing others. Jack on the other hand, expressed a practical interest in the importance of teachers needing to observe each others’ practice in order to arrive at a consensus about the purposes of assessment. Helen, Jane and Tom expressed having technical and practical interests in attending professional courses and in-servicing sessions in order to, not only gain a better understanding of the mechanics of assessment, but to also understand these strategies in a conceptual and broad-based manner as they impacted their practice, their students and their schools. Finally, Helen, Jane and Tom made efforts to read more about assessment. By doing so, Helen had been able to conceptually distinguish between the terms ‘assessment’ and ‘evaluation.’ She
displayed a practical interest to broaden her understanding of how these differences impacted her students. Jane on the other hand, displayed more of a technical interest for learning more about the mechanics of assessment in general. Tom displayed technical and practical interests in his efforts to stay current with assessment issues.

**Practical Interest**

Teachers’ inquiry that revolved around a practical interest included emotional, tacit-intuitive, reflective and experiential inquiry.

**Emotional Inquiry**

It seemed as if some teachers were hampered by emotions when attempting to implement assessment strategies while others were spurred on by their emotions. Three teachers expressed feeling scared, frustrated and observed burnout and isolation among colleagues. Three teachers exhibited more positive outlooks which allowed them to forge ahead into the murky world of assessment. Six teachers expressed positive and negative emotions when implementing assessment. While they did not ask specific questions in this mode of inquiry, it seemed as if emotions profoundly affected their capacity for inquiry. For example, three teachers experienced negative emotions as serious factors influencing the implementation of assessment. In contrast, three teachers cited having faith, maturity and liberality as positive factors enabling them to incorporate new assessment into their practice. These emotions as facilitators or inhibitors of both their inquiry and practice were generally present when applied to assessment as a new technology.

**Tacit/Intuitive Inquiry**

The teachers used intuition when they knew how their students would respond or perform; in certain subjects (for example, English) over others; with special needs students when the standards were not so rigid; to accommodate midstream assessment changes; to triangulate objective evaluations; and to assist in discipline situations during assessment tasks. The questions asked within this mode of inquiry: “Do I know my students well enough to be able to anticipate what will happen and what I need to do?”; “Do I use intuition for certain subject areas or type of student?”; “How much faith do I have in my intuition?”; and “Is my intuition as accurate as formal assessment?” These questions reflect a need to establish routines in teachers’ practice. Seven teachers expressed
finding routines helpful in determining achievement levels for their students; identifying situations when certain students required extra reinforcement; and to detect patterns of student behaviour. These are uses that are technical in nature. Only two teachers (Reva, Jack) expressed a practical interest in using their intuition to help them understand their students by identifying problem areas in their students’ learning.

**Reflective Inquiry**

Seven teachers reflected on their practice after implementing a particular assessment. One teacher, (Tom) reflected during the assessment task. Teachers had specific questions: “How do I relate standards and curriculum requirement with my assessment?”; If I could do this unit over I would…?”; “How did my students influence my assessment?”; and “How does reflecting on my practice help me?”

In the first question, “How do I relate standards and curriculum requirements with my assessment?”, Rachel had a technical concern of how to align the provincial levels with her use of rubrics. Helen on the other hand, had a more practical interest in wanting to make sure her students understood how to use the rubrics and decided, upon reflection, that in the future she would take time out of the curriculum to teach her students how to use rubrics.

Next, Jack and Reva discussed how they would do things differently if they could do a unit over again. For example, Jack’s concern was technical in nature by reconsidering the amount of time assessment took while Reva expressed both a practical and emancipatory interest in involving her students in the assessment process next time and, in this way, empowering her students by encouraging them to take responsibility for their own learning.

With the third question, “How did my students influence my assessment?”, Jack reflected on his assessment practice and came to the conclusion that the specific group of students he had that year determined the type of assessment approach he took. This question became a technical one for him because he had had to abandon his primary approach of sharing assessment with students and reducing his assessment practice to a more prescriptive, goal oriented approach. Finally, four teachers displayed a practical interest in reflecting on their practice to better understand their own assessment practice and its effect on students.
Experiential Inquiry

All teachers expressed learning more about assessment through actual experience, past and present and using their experience to resolve current assessment challenges. In other words, teachers used their experience to determine what accommodations to make for their assessments; to rationalize that assessing for effort was just as viable as achievement; to determine why they were using a certain assessment and when; to determine if their assessment was working; and to identify purposes of assessment in their practice. This mode of inquiry seemed to illustrate situations where teachers searched a past repertoire of practice to solve current problems; when teachers had accumulated enough experiential wisdom to be able to rationalize a situation based on that criterion and their comfort level of a solution; and when there was a recurring problem during their experience that they have not been able to reconcile, resolve or comfortably come to terms with. The questions asked were: “What kind of accommodations do I need to make?”; “Is there room for effort as well as achievement?”; “Is there room for more than mandates?”; “Why do I assess when I do?”; “How do I know my assessment is working?”; and “What is the purpose of my assessment?”

The first question, “What kind of accommodations do I need to make?” seems to be asked out of a practical interest of gaining a better understanding of the individuals being assessed; however, the two teachers who asked the question, (Rachel, Helen), resolved this issue in a technical manner by re-teaching a lesson in order to provide students more practice for the assessment and by assigning tasks when they deemed students’ behaviour was more conducive for the assessment.

The next question, “Is there room for effort as well as achievement?”, was asked by Rachel and Natalie, and both believed, based on their experience, that regardless of the new report card format, teachers should assess the whole student and be able to use more than achievement as a component. This displays a clear practical interest of seeking to understand their students in a larger context of who they are as individuals and an emancipatory interest of being cognizant of their backgrounds and learning styles.

Six teachers asked the question: “Is there room for more than mandates?” This question troubled many of these teachers. Two teachers, (Monica, Reva), expressed a strong allegiance to the mandates while the others (Jack, Jane, Tom, Helen) took time out
of the curriculum to fulfil personal mandates. Monica asked the next question, “Why do I assess when I do?”, displaying a practical interest of understanding the impact of her assessment on her students.

Natalie and Reva asked, “How do I know my assessment is working?” They responded very differently from each other. Reva relied on a technical approach in the form of marks to determine the success of her students while Natalie demonstrated an emancipatory interest by expressing concern as to how her students were responding to her assessments, thereby making a case for different assessment approaches for different learning styles.

Finally, five teachers asked themselves, “What is my purpose of assessment?” Two teachers, (Jane, Reva), responded with technical reasons for using assessment as a means of providing evidence for their marks, while four teachers (Tom, Jack, Natalie, Helen) displayed a practical interest of using assessment to provide feedback to students and parents as well as for assessing their own practice. Natalie and Jack viewed assessment as an opportunity to focus on the students as a whole in the learning process that displays an emancipatory interest.

Emancipatory Interest

Moral Inquiry

Three teachers relied on moral inquiry and expressed very strong opinions about why they took and did not take certain actions in their assessment practice. These actions seemed to be grounded in a moral stance that these teachers had taken. Three teachers expressed very strong opinions about their beliefs. The first question asked was standards oriented: “How viable are standards?” Both Natalie and Rachel displayed practical and emancipatory interests when they expressed that they did not believe all students can be expected to achieve the same standards. They were reluctant to reduce assessment to numbers, when, in their experience, they had seen first hand that all students learn and achieve differently. Jane, on the other hand, believed that standards were an important accountability measure to prepare and inure students for tertiary education, displaying a technical interest. Rachel asked the second question, “How viable are curriculum directives and new assessment approaches?” and expressed her reluctance to implement
new assessment approaches as well as continuing to teach for rote learning despite other mandates in the new curriculum. In taking such a stance, she had almost reduced assessment to a technology.

Critical Inquiry

Five teachers engaged in critical questioning and thinking about assessment. This questioning revolved around the appropriateness of current standards; gender related issues; ability or growth among students; and the why of assessment. The teachers asked the following questions: “Can all students achieve standards?”; Is gender equity possible?” and “Should we assess both ability and growth?” With the first question, Jane and Tom displayed a technical interest by stating that they felt standards were important for accountability purposes. Tom struggled with the fairness of standards by wondering what the difference was between 82% and 83%. Helen and Jack revealed practical-emancipatory concerns about what message was being conveyed when students who did not achieve the standards proceeded to the next grade. Jack, in particular, believed that the existing standards maintained the status quo and challenged his students to exceed these standards.

Jane had an emancipatory interest in promoting gender equity in her classes while Natalie was an anomaly on her staff as she became one of the few teachers who had a practical and emancipatory interest of assessing the whole student by examining both growth and ability.

Communicative Rationality

Six teachers commented on the importance of dialoguing with others (for example, students, teachers). Jack, Jane and Tom relied heavily on student involvement in their assessment practice thus expressing emancipatory interests of encouraging students to take responsibility for their own learning. Monica on the other hand, while superficially believing that students should share assessment with the teacher, displayed mostly technical concerns that revolved around how well the students presented a good performance. In response to the second question, “Is there opportunity to dialogue with others?”, Reva was only interested in dialoguing with others in so far as she could learn more about the mechanics of assessment. Interestingly, Helen was in a school where she found herself reluctantly agreeing with the majority to administer more tests to students
in a school-wide decision. Both women advertently or inadvertently, experienced dialoguing for the purpose of fulfilling technical interests. Monica also expressed a technical interest in the need for more collaborative peer learning in order to learn more about the techniques of assessment.

In contrast, Jack, Jane and Tom had practical and emancipatory interests to incorporate dialogue into their daily practice with which to provide a forum of understanding other teachers' viewpoints. Jack and Tom in particular had a sophisticated understanding of the collateral nature of dialogue in that they comprehended that individuals are likely to have differing beliefs about assessment, which can bring about a richer understanding of assessment. Jack expressed his need to dialogue with others for affirmation or refutation of his ideas and both Jack and Tom were eager to learn about different perspectives.

**Interpretations of the Results**

The findings show that assessment is not a completely rational process. Rather, it is, more broadly, a very human process depending upon individual judgement and social interaction. More importantly, assessment relies on teachers to understand conflicting philosophies of assessment; become experts in assessment; anticipate the impact of their practices in their classrooms and in the larger community; and position themselves to use assessment wisely. This chapter sheds light on how those teachers, who were selected because of their demonstrated commitment to educational change, coped with the challenges of implementing new assessment. This study demonstrates that teachers increasingly have become life-long learners and inquirers. By inquiring about the meaning, purpose and appropriateness of assessment within the context of their classrooms, teachers are better able to understand why they assess the way they do. Teachers in this study relied on three main knowledge-bases to inquire about assessment, that correspond with Habermas' three levels of knowledge and human interests, that is, technical, practical and emancipatory. Teachers employed the following modes of inquiry:
Technical Interests
- Technical Inquiry
- Teacher as Researcher

Practical Interests
- Emotions
- Tacit-Intuitive Inquiry
- Reflective Inquiry
- Experiential Inquiry

Emancipatory Interests
- Moral Inquiry
- Critical Inquiry
- Communicative
- Rationality

The complexity of teachers' assessment practice was found not only in learning new assessment skills but also in fulfilling external mandates, that is, of having to reconcile classroom assessment with report cards and learning outcomes. In this case it is unlikely that teachers are ever able to arrive at a definitive understanding of educational goals or objectives. Rather, when teachers implement a very specific innovation, a new literacy is required to do justice to their students' learning. Teachers used their technical knowledge, that is, knowledge acquired from professional course work, in-servicing and reading materials, to come up with criteria to guide them through various long-term, ongoing, broad and complex assessment situations. Within that context, they tried to remain true to the underlying principle that assessment is an ongoing process. The teachers in this study primarily researched classroom assessment with the aid of books, experts and observation of the implementation of new assessment approaches in other teachers' classrooms. The knowledge that teachers acquired through technical inquiry corresponds best with the scientific paradigm of inquiry and to what has been referred to in the teacher knowledge literature as propositional or formal knowledge.

The modes of inquiry found in the practical paradigm of knowledge are equated to teachers' practical knowledge. It is helpful here to clarify practical knowledge. Connelly and Clandinin (1988) maintain that teachers' practical knowledge is experiential and is shaped by teachers' purposes and values. While some may claim practical knowledge is not legitimate knowledge at all, this study shows how teachers' practical knowledge was a main contributor to their technical expertise. Practical knowledge became a pre-theoretical framework for their assessment practice that they continually referred to when making assessment decisions. The majority of the teachers relied on their intuition to help guide them in day-to-day, short-term assessment issues. Many of their ongoing assessment decisions were based on tacit knowledge, intuition and a repertoire of tried and true assessment tricks that they had accumulated over the years.
In addition, it became clear that teachers' emotions about assessment inhibited or facilitated their inquiry into assessment.

While teachers' technical and practical knowledge was useful for solving day-to-day conflicts, teachers had a better chance to resolve complex abstract issues using emancipatory approaches to knowledge, that is, through dialogue and by drawing from not only their own experience but also others' experience. The teachers began showing a commitment to an approach where: their skills resulted from an intermingling of experience and theory; they viewed their practice within a whole school and even a whole education context; they dialogued with other educators; and they systematically and regularly took part in professional activities and reading of professional literature.

Dialoguing and asking critical questions about assessment changed teachers' assessment roles dramatically. Teachers became collaborators in their students' learning as learning became a shared endeavor. Teachers not only collaborated with students but also with one another. They worked together to learn from what others had done; they shared their thoughts about teaching and learning to acquire the technical prowess to implement new assessments. Teachers in this study expressed a preference for learning about assessment by observing colleagues in their classrooms. Rather than struggling as individuals to learn the techniques of an innovation or to understand its relevance on their own, it was the shared aspects of teachers' inquiry of assessment that became the focus for change. Finally, teachers felt justified in taking a moral stance based on their experience.
CHAPTER NINE: INTERPRETATION OF THE FINDINGS

Since the early 1990s, assessment-centred reform has been instrumental in changing standards of teaching and learning, as well as public accountability (Earl, 1995). While various types of assessment, such as large-scale ones, are important components in these changes, it is classroom assessment in particular that reflects a major paradigm shift when evaluating feedback from learning and teaching. Historically, classroom assessment occurred at the end of a unit, a semester or a school year. Assessment was synonymous with teachers’ judgements of students’ learning, based, for the most part, on tests and exams. Grades and marks became the accepted currency of evaluation that students, parents and the public were used to (Earl, 1995). In contrast, contemporary classroom assessment is viewed as integral to learning and instruction themselves (Broadfoot, 1996; Earl and LeMahieu, 1997). The intent of new assessment is to develop a common understanding between teachers and students through dialogue about when learning occurs. Assessment, therefore, must become both sophisticated and sensitive enough to detect problems in learning that emerge for students (Earl, 1995; Shepard, 1991). The move toward new assessments that has prevailed since the early 1990s is viewed by many educators as an exciting and necessary school initiative. Treiman and Schwager (1997) maintain that new assessment is by far one of the most significant reform initiatives to emerge since the 1960s. Such a reform phenomenon is not neutral, however, particularly since it reflects the above mentioned major paradigm shift that apparently emanates from a re-focus on learning theories, ranging from behaviourism to constructivism. Earl (1997) comments that while classroom assessment, historically, has been a well-established and accepted process in schools, in recent decades there have been challenges to the form and function of many long-standing educational practices. Classroom assessment is one of those under scrutiny. Hargreaves, Earl, Moore and Manning, (1997) maintain that even for teachers, the traditional approaches of assessment no longer feel very comfortable, and they are beginning to doubt their own assessment expertise, leading them to feel like impostors in that role of assessor. Teachers are faced with an uncomfortable incumbency, enforcing standards in the midst of a major controversy about how learning occurs and about how assessment should function. These new ideas will inevitably cause some changes in their practices.
while at the same time they are expected to comply with policy mandates that do not make accommodations for this paradigm shift. The questions we are left with to be answered in this study then, are these: “Where does this paradigm shift lead us?” “Does it lead to a new epistemology or to the enlargement of the traditional concept of rationality or to a pluralism?” “Does this paradigm shift in assessment mean the substitution of one epistemology for another?” “Can a prevailing paradigm be used exclusively as a criterion to determine the validity of all forms of assessment?”

What this study has found is that classroom assessment is not and probably should not be a completely algorithmic, rational process. Rather, it is an eclectic process dependent upon judgements and social interactions as well as upon morals, emotions and prevailing beliefs. But most importantly, it relies on teachers’ understanding of the prevailing conflicting philosophies of assessment, and on them becoming experts in assessment, being able to anticipate the impact of their practices in their classrooms and in the larger community, and finally, positioning themselves to use assessment wisely.

This study sheds light on how teachers, who have been deemed to be committed to educational change, cope with potential classroom assessment challenges and what not only their inquiry but also their general knowledge of assessment looks like.

The findings in this study confirm that, within the context of educational change, there are prevailing conflicting philosophies of assessment teachers must face. One of the more predominant assessment related issues that affects teachers is the centralization of student evaluation, where the responsibility for judging the performance of students has been taken out of teachers’ authority. Simultaneously, teachers are deemed collectively responsible for student scores in their own classrooms and consequently, within their school as a whole. We are left with some cogent questions that have emerged in this study: “What does this contradiction amount to?” “What does it mean in the lives of teachers? and “How should teachers respond to such paradoxes?”

Authors such as Deal and Peterson (1995), Handy (1994) and Senge (1990) maintain that complication and contradiction are normal in organizations and that individuals should accept the situation and find new ways to cope with the integration process. From this perspective, the task of examining the assessment challenges encountered in this study would be quite simple. We must, however, be cognizant of the
deeper complexities behind the apparent ones. It would be too naïve to explain the contradictions in teachers' work simply in terms of complex systems or paradoxical demands. These paradoxes, intricacies and uncertainties that reflect current society are not random or accidental. Giddens (1995) suggests that our current uncertainty is manufactured by governmental, corporate and financial powers for purposes of profit and control. Policy-makers seek certainty by imposing centralized and 'back-to-basics' curricula. Yet rather than achieve certainty, there is increased uncertainty as conflicting ideas, information and belief systems collide. Hargreaves (1994) suggests that some of these paradoxes are rooted in conflicting social and political values being played out in the education system, that is, in struggles for power and conflicting visions of what educational change is for and who will benefit from it. In short, while the educational and organizational-change literature asserts that paradoxes and complexities found in schools and classrooms are commonplace, not all of these complexities and uncertainties should be tolerated, nor should they be accommodated.

For those paradoxes that are defensible, teachers are encouraged to engage in self-reflection and inquiry. Critics (for example, Hargreaves, 1989), however, warn that a focus on self-reflection and personal inquiry may lead to narcissism and self-indulgence, resulting in individuals losing sight of how these concerns play out in the larger community. In an attempt to be cognizant of the dangers of placing too much emphasis on the self-indulgent inquirer, I have turned to Habermas and his hypothesis which states that change remains a social phenomenon in which relationships between individuals within an organization becomes a more desirable option. So while I examine teachers as individuals in this study, the individual portraits that emerge can also be viewed as contributions to teachers' collective understanding of assessment. Indeed, for Habermas, knowledge building and inquiry are not isolated phenomena. He proposes a theory of communicative rationality which finds its validity rooted in the argumentative process and in a consensus that allow participants to overcome their subjective opinions and reach a rationally-motivated agreement on the basis of the best argument in a quest for justice, rightness and sincerity. The forms of argumentation based within communicative reason (technical, practical and emancipatory), are not mutually exclusive; on the contrary, they are interdependent and represent the development of the process of
rationality itself. Habermas, therefore, introduces another form of rationality that moves beyond those modes of rationality used in science, since in his view, a crisis of rationality has its origins in the positivistic-based separation of facts and values, means and ends, administration and politics and the rejection of discourse about aims, values and purposes. By widening the range of reason to move beyond a theoretical and instrumental use, Habermas makes room for a practical and critical use of reason in an attempt to revitalize and deepen epistemology and to resurrect the possibility of knowledge-building.

Owing to Habermas' theory opening the possibility of examining assessment through more than just a technical lens, the study examined classroom assessment through three different lenses guided by Habermas' three knowledge interests. While some theories separate the paradigms of inquiry and knowledge as mutually exclusive, one vying for superiority over the other, Habermas' theory shows that each paradigm is useful, with none having supremacy over the other. It is important to note, however, that the impetus for Habermas' theory was his ability to look beyond science, since he did not believe that technical progress was always beneficial. This distinction brings to the fore the importance of acknowledging that aspects of knowledge, change and even assessment have different purposes. In this study, while teachers were not necessarily implementing a brand new innovation, that is, classroom assessment, they were having to manoeuvre between new purposes that were at times sophisticated and subtle, requiring new assessment literacy in order to distinguish between these purposes and for whom these purposes were being served.

Discussion of Research Question Number One

Chapter Six shows how assessment's basic purposes, meanings and consequences extend beyond technical matters of implementation to include a concern for individuals seeking a common understanding of assessment (for example, teachers, students, parents) as well as the political nature of assessment. These implications emerged through differing lenses driven by different human interests (technical, practical and emancipatory), exposing different problems in the phenomenon of innovation.
Technical Interest

Different forms of thinking and doing assessment correspond to different types of human interests. Technical interests reflect the need to control or manipulate the environment in order to satisfy basic survival needs. The prevailing metaphor for educational systems from this perspective becomes one of an input-output system of efficiency, where the student personifies resources and raw material on a conveyer belt, entering on one end and exiting at the other end as the final product. In this perspective, teaching and learning follows a behaviourist approach, where behaviours are controlled in an attempt to achieve specific objectives or purposes. In this perspective, too, teachers allegedly acquire a degree of technical prowess when implementing assessments.

More specifically, assessment in the technical perspective is centred on measurement and usually appears as external to the process of instruction orientated to measurement, to prediction and control. Chapter Six shows the variety of technical challenges presented to teachers when implementing new assessments in their classrooms. The most formidable challenge proves to be the development of quality assessments that would measure outcomes. Next, teachers found that aligning their assessment and reporting practices were difficult. Other significant issues that emerge were the time-consuming nature of new assessments; knowing what new assessment strategies were available to use; when to use them appropriately; and developing the necessary skills to implement these strategies. These issues were frustrating for the teachers.

In general, then, this perspective starts from a static concept of assessment, where the learning objectives are not questioned, and where student learning is assessed by measuring outcomes. In this model, evaluation, besides being external and appearing only in the final phase of the process, does not define the standards and is unable to discern any discrepancy between objectives and outcomes. This perspective places much importance on behavioural changes that can be observed and measured, perhaps ignoring, according to critics of behaviourism, that the educational process is complex and should not exclude other important objectives that cannot be quantified.

In a critical sense, if this perspective is used exclusively to conceptualize assessment, assessment becomes limited to the functions of prediction and control that
are seen as a set of techniques used to verify the achievement of objectives. The danger lies in using results of tests or exams as evidence of educational success or failure without questioning whether the tests really represent what society wants schools to pursue or to simply achieve the standards. What this shows, according to Broadfoot (1996), is a tendency to discuss assessment questions as technical problems. In using Habermas' three categories of knowledge interests, it is possible to avoid reducing assessment simply to a technical interest where teachers become reduced to technicians. Rather, Habermas' framework enables us to acknowledge the importance of technical expertise along with other skills available in the practical and emancipatory paradigms. In summation, we are not conflating technicism with technical knowledge in this study.

The pervading assumption underlying a technical interest of assessment is a primacy on technical skills and social stratification in schools. Concern with the development of technical skills and stratification ultimately led to social efficiency systems, that is, standardizing of time, space, curriculum, pedagogy, and jobs. What has grounded schooling, therefore, is a market logic of capitalism, scientific management (or popularly called Taylorism), positivism, or technocratic rationality (Callahan, 1962). What becomes noticeable in this study then, is teachers' valiant but often unsuccessful efforts to break through the above prevailing ideology of social efficiency within the education system. Looking through the technical lens to examine teachers' attempts at implementing new assessment, we see teachers with little or no control to introduce new forms of assessment that might threaten the underpinning of social efficiency and stratification. From the technical interest of assessment, practices emerge that highlight teachers' efforts to implement new assessment into their classroom routines against the backdrop of modernism and an ideology of social efficiency.

In addition, a change as complex as the development and implementation of new assessment requires and promotes a climate of trust among the various stakeholders within the educational system (LeMahieu and Foss, 1994). The following question must therefore be asked: "To what extent are policies designed to enrich, enable, and empower professionals rather than control them?" In other words, to what extent are teachers encouraged to learn more about assessment by not just asking only the technical 'how to'
questions but also the equally important ‘why’ questions about assessment. Apple and Weiss (1983) maintain that

...schools themselves are increasingly dominated by technicist ideologies. The major curricular, teaching, and testing programs in use are nearly all strikingly behavioural and reductive in orientation. Yet, by attempting to reduce all curricular knowledge to atomistic behaviours, as is so often the case currently, many school practices also reduce the cultural sphere (the sphere of democratic discourse and shared understandings) to the application of technical rules and procedures. In essence, questions of ‘why’ are [discouraged and] transformed into questions of ‘how to’. (p. 6)

When teachers are confined to only asking factual ‘how’ and ‘what’ questions, the relationship between teachers and policy remains manipulative and authoritative, where teachers' actions and behaviours become the properties of ‘experts’ who manipulate and coerce them into the action they have prescribed (Ball, 1997, p. 9). Fay (1977) concedes that the fundamental purpose of the theorist or policy maker has traditionally been to coerce the practitioner into believing and acting upon a certain ideology; theorists or policy makers become the hierarchical knowledgeable elite because they possess the knowledge to create theories or policies. Consequently policy makers ascend to positions of power even when mandating change. This approach to policy implementation symbolizes a society that relies on a demarcation between the theorist (politician, policy maker) and the (engineer) citizen to put certain theories or ideologies into action. The modern world, rooted in Taylor's efficiency ideology, has relied on the compliance of workers for the effective management of business and education; “bureaucratic structures [were] developed to control people and information” (Fink and Stoll, 1996, p. 2). Goodson (1992) maintains that

...the current system of public education is built to control the schools from above. Politicians and bureaucrats are vested with authority to tell the schools what to do and they are under constant pressure from constituents and interest groups to put that authority to use.... The result is that schools are buried in policies, rules and regulations that specify what they are supposed to be doing and how they are supposed to be doing it. This destroys school autonomy and with it, the foundations for effective learning. As for management reform, it preserves the current system by giving principals and teachers ‘new’ powers that are actually highly circumscribed. (p. 234)

Apple (1988) maintains that issues of efficiency and increasing meritocratic achievement have almost totally depoliticized the field of education. Questions of
'technique' have replaced the essential political and ethical issues of what we should teach and why. While many of the teachers' concerns in this study were initially technical in nature as they wanted to know what assessments to implement and how to go about implementing them as well as using many technical approaches in their assessment practice, it soon became evident to the teachers that the answers to these technical questions were dependent upon equally important why questions in their efforts to implement new assessment into their classroom routines.

So while a criticism of the technical interest, with its emphasis on selection and technical training, is that a focus on technical issues leads to the neglect of the content of the educational process itself (that is, what is assessed, how it is assessed and why it is assessed), teachers in the study were increasingly interested in the process of assessment. For example, in Chapter Six we saw how they wanted their assessments to provide evidence that their students had learned, not for the purpose of simply allocating a mark. Consequently, teachers not only wrestled with how and what questions like: "What do I assess?" and "How do I prove my marking?" but they also struggled with why questions such as, "Why should I use numbers when learning never stops?" Teachers also challenged the technical goal of sorting and selecting students by asking questions like, "How can you create standards that satisfy everyone?" It became evident then, that teachers were indeed far more concerned with the content or context of assessment and how it fit with the human subjects the process was assessing. From these observations then, it became evident that the teachers whose reported practice in this chapter displayed predominant technical approaches to assessment seemed to be willing, or to have the courage, to unpack the concept of assessment by asking why questions. In doing so, however, they were confronted by numerous paradoxes and contradictions. The most pervasive conflict was evident in teachers' struggle with the hypocrisy of trying to do what the curriculum asked of them (that is, to introduce new assessment in their classrooms) while simultaneously marking to fill out the report card.

**Practical Interests**

A different paradigm of assessment emerges from the opposition to the technical perspective, which goes beyond the technical interest and provides a distinct view of assessment. Assessment is not seen uniquely as a product, but more as a process where
teachers and students interact to understand and make sense of the social environment. This paradigm stresses the complexity of educational situations, the impossibility of isolating all the active variables and of reducing social interactions to cause-effect linear relationships. This approach therefore, is holistic and illuminates the social situation, in order to make it understandable, instead of reducing it to tests or outcomes. In addition, this different perspective takes into account teachers' beliefs and implicit theories about assessment as they interact with rules and social norms. When examining the use of assessment from a practical perspective, the implementation of assessment becomes much more than refining teachers' measurement skills. The challenge of assessment reform lies in rethinking the nature and purpose of classroom assessment with students in mind. Assessment, therefore, becomes multi-directional, where the assessment criteria are not hidden from students (Earl, 1997; Wiggins, 1993).

From a practical perspective, teachers encountered conflicts and contradictions in their assessment practices that reflected a struggle between conflicting ideologies. In contrast to the technical interest, the practical interest makes room for conflict which highlights a tension in society and its components created by the competing interests of the various participants. Contrary to the technical interest then, conflicting interests, rather than systemic needs, are seen as shaping an organizational system (House, 1979). The technical analysis of education has been criticized for exaggerating the role of technology and underestimating the importance of conflict failing to recognize the extent of divergent interests, ideologies, and conflicting special-interest groups in society (Bowles and Gintis, 1976).

Although the majority of the teachers in this study attempted to involve the students themselves in their own assessment, a comfortable interplay between student and teacher did not always transpire, particularly when students preferred to receive only their teachers' judgements of their performance. Teachers nevertheless, continued to emphasize student self-assessment, conducting joint reviews of progress with students, and sharing assessment criteria with students. Assessment therefore, signalled a shift away from curriculum coverage and assessments based on correct or incorrect answers. Rather, the new approach involved dialogue with and among students and included constant re-assessment and ongoing student self-assessment. Students were not, in these
instances, passive recipients of the wisdom of teachers' judgements about their learning. They were active, engaged and challenged contributors to their own learning.

Practical interests also inevitably emphasize the power of dominant groups to shape the schools arbitrarily to their own purposes as opposed to the more marginalized groups (Callahan, 1962). Education serves to reinforce these dominant groups by identifying insiders and posing barriers to outsiders. While a technical orientation maintains that the purpose of schooling is to promote technical skills and to perpetuate a selection of students, a practical interest in schooling highlights competition between certain groups (Callahan, 1962). In fact, in this study, we gain glimpses of four distinct groups that make up a school district population, each vying for a legitimate voice: teachers, parents, students and policy makers. For the purpose of this chapter's discussion, what we are most concerned with are the differing beliefs about assessment among the four groups. For example, parents viewed the purposes of assessment differently than the teachers. That is, parents and teachers often differed in their expectations about how student achievement should be measured. Teachers generally measured students against achievement levels or a standard while parents wanted students to be measured against each other (criterion vs. norm referenced based). Teachers also stressed the importance of the learning process while parents' prime concern was the result. Consequently, teachers were concerned that parents would not interpret the report cards correctly based on questions parents asked like, "What does a good [on the report card] look like in relation to a percent, a letter grade or a level?"

The third group—the students themselves—also differed from the teachers in their understanding of the assessments' purpose. Students still asked for grades despite the teachers' attempts to introduce new (non-grade oriented) assessment strategies into the classroom. Students also wanted to know how they performed comparatively.

Another group consists of the policy makers. These bureaucrats insist that teachers abide by a prescribed curriculum that includes statements of objectives, all of the curricular content and material needed, pre-specified teacher actions and appropriate student responses, and diagnostic and achievement tests coordinated with the system. These tests usually reduce the curricular knowledge to 'appropriate' behaviours and skills (Apple, 1998).
It seemed as if the different groups were vying for their definition of evaluation to be paramount. For example, it seemed as if teachers’ attempts to implement assessments which resulted in learning rather than marks were routinely derailed by parents, students and the prescribed curriculum. Parents became more informed about accountability issues that coincided with governmental mandates thereby placing them in a position to scrutinize teachers’ assessment practices. They took on a gatekeeping role to pressure for more conventional forms of measurement and reporting and actively derail teachers’ efforts to implement change. Parents were holding teachers accountable for their actions.

Teachers began to feel threatened about their assessment practices and felt they needed to be able to defend their judgements of students’ learning if challenged by parents. The teachers became increasingly similar to ‘outsiders’ of the dominant groups (i.e., parents, students, curriculum), while the parent, students and even the curriculum were the insiders in an assessment ideology that focused on a normative reward system. Parents’ power and status, in particular, became so pervasive that teachers felt compelled to tell parents what they wanted to hear even if it meant being dishonest. This practice was perpetuated when parents refused to accept teachers’ judgements of their child’s achievement. Hence, the implementation of change is thwarted and teachers appear resistant as they comply to parents’ demands.

What we see occurring in this study is the teacher group forfeiting their status because they could not persuade other groups (that is, parents and students) to ‘buy into’ their ideology of assessment for learning. Teachers themselves differed in their beliefs about the purposes of assessment, hence could not develop a critical mass in terms of an alternate ideology. For example, teachers did not have a clear understanding of many assessment concepts; teachers could not see the feasibility of report cards that were inconsistent with assessment; teachers empathized with parents’ feelings and beliefs because they were parents themselves; and teachers were challenging a deeply embedded traditional assessment paradigm that they themselves (and most parents) had probably experienced when they were students. Efforts to implement new assessment strategies, from the teachers’ perspectives, were often constrained by the mandated curriculum, the rigors of standard-based instruction and the requirements for the report card. Official curricular requirements were also seen to impede efforts to adapt the program for
individuals who required remediation or for those who required more of an intellectual challenge. Just over half the teachers commented on the discrepancy between the expectations that all students should be able to meet the prescribed standards while in reality their special needs students did not even come close. The teachers were left with questions like, “How can they complete the assessment if they can’t read?” and “How can you build a program if they can’t read?”

Contradictions were not always due to external mandates but also found within the culture of teachers themselves. Teachers’ critical understanding about assessment was either totally absent or different from other colleagues. For example, participants in this study commented on how some of their colleagues still used the bell-curve system or averaged students’ marks. While not all the teachers in the study employed current grading principles where they assessed students on their most recent accomplishments and used the mode or mean when designating grades, these discrepancies only managed to reify and accentuate stratification within the same teacher culture.

In summary, a practical perspective of classroom assessment emphasizes the interplay among viewpoints, values and beliefs. Considered this way, the task of developing new assessment greatly exceeded the narrow concerns of isolated technical measurement matters and skill requirements into the area of establishing communication and building understanding among all those involved in the assessment exercise. The control for objectives and quantification prevalent in the technical perspective was no longer in the foreground. Assessment was now centered on the actual participants and on the understanding of the assessment process. Variables like intentions and expectations of teachers and students became as important as the meanings these individuals attributed to their actions. While the technical perspective explains the questions related to the ‘what’ and the ‘how,’ the practical perspective focuses on attempting to answer those questions related to ‘why,’ or to discover definitions. The tensions, contradictions or conflicts that teachers indicated in this study were ones that primarily questioned the feasibility of implementing a curriculum that did not acknowledge students’ differing backgrounds, ethnicity, gender and socio-economic levels. For example, the teachers struggled with reconciling class-wide expectations prescribed by the curriculum with those of meeting the needs of the individual students who filled their classes.
Criticisms of this perspective include concerns about assessment strategies being relatively apathetic about the improvement of educational practice as opposed to their greater focus on knowledge and understanding of all possible elements that are part of curriculum as an educational project where processes outcomes, context, beliefs and experiences are included. The practical perspective also highlights a plurality of methods to cover all subjects, students and learning styles, leading to limited uniformity or systematic techniques. Other criticisms of this perspective might be the excessive subjectivism of this perspective and the fact that conflicts are reduced to a divergence of interpretations.

**Emancipatory Interest**

The emancipatory perspective in Habermas' framework, in theory and practice, is less well developed than the other elements. Perhaps its greatest value is its role in the transformative process. Habermas explains that the technical and practical interests, or rather, causal explanations and understanding, are just moments in the transformative process that lead to enlightenment and emancipation; the different types of interests (for example, technical, practical, emancipatory) do not exclude each other and each branch of knowledge co-exists in the continuum of the transformative process.

In the emancipatory perspective, assessment is not just employed at the end of a unit or term or even separated from instruction. On the contrary, it accompanies the whole process, and because of that, it also starts to include a critique of curriculum and pedagogy. The assessment process is successful to the extent that participants (for example, teachers, students) reach a consensus and common positions on the process to be developed. Emancipatory assessment requires reflection and dialogue. Reflection enables us to identify and make explicit the assumptions, values and beliefs of the participants. Reflection helps to develop explanations of certain facts and makes the existing alternatives clear. Dialogue allows participants to achieve consensus that is rationally motivated but which may not be considered to be definitive since situations change with time. One of the features of emancipatory assessment, therefore, is its participative nature. In the emancipatory perspective, the use of self-assessment based on consensual criteria promotes participation, cooperation and autonomy. Assessment in the
emancipatory perspective is not static since it is being continually adjusted and (re)defined through a process of collaboration, clarification and reflection.

New assessment in this perspective recognizes that assessment is also political and involves power struggles. Problems in the study went beyond issues of technical coordination and human communication to include power conflicts among ideologies and interest groups in schools and societies. In the emancipatory perspective, assessment is not viewed singularly, case by case or technique by technique, rather, the main aim of assessment is the study and the understanding of personal or institutional changes as they take place. Politics at times undermined the successful implementation of new assessment in this study. Problems are sometimes caused by political and bureaucratic interference, or institutional priorities and requirements that can militate against any significant changes in assessment. For example, high schools which did not carry forward the innovative strategies elementary teachers implemented, made it more difficult for elementary teachers to rationalize the regular use of these methods over more conventional forms of measurement and reporting. Parents also pressured teachers to adhere to more conventional forms of measurement and reporting. Finally, on a macro level, the task of implementing new assessment became more daunting considering the many contradictory expectations embedded in assessment policy and curriculum documents from the public and from teachers (Earl and LeMaheiu, 1997; Firestone, 1998). Hargreaves et al. (forthcoming) maintain that it is difficult to expect teachers to harmonize their assessment practices whenever policymakers and the wider public cannot reach viable consensus.

The teachers’ only opportunity to overcome these contradictions appears to be to develop the capacity of acting rationally and of basing decisions on accumulated knowledge (including technical knowledge and from experience), rules and the situation at hand. Generally, what happens is that individuals gain some self-knowledge through reflection which then enable them, individually and collectively, to be responsible and committed to implement innovation appropriate for a changing world. Conceptually, the process of becoming liberated from dominant ideologies involves acting rationally, becoming self-determined as well as self-reflective. By self-determination, Habermas urges individuals to reflect autonomously on the cultural context and traditions in which
one is situated, as well as relying on one's own moral and emotional constitution. Self-reflection enables us to overcome the limitations caused by the internalization of social rules. The political potential of new assessment then became evident when the teachers opened themselves up to scrutiny and provided opportunities for their students to share in the development of assessment strategies. Some teachers used these situations for further reflection of their own practice.

The emancipatory perspective also showed assessment as problematic. For example, assessment as a strategy may not always be empowering for those being assessed, rather it may become a sophisticated form of surveillance in the way that teachers exercised behavioural surveillance over everything their students did as an unending set of observation and in the way that students’ learning was made transparent to all (Foucault, 1977; Hargreaves, 1989). Teachers must therefore, refrain from glamorizing new assessment methods that are currently in vogue and not imbue them with “magical properties that render them, in and of themselves, capable of improving students’ academic standing” (Bartolome, p. 176). Rather, the development of assessment structures that respond to the day-to-day reality of their students as well as the socio-historical view of their students is needed (Bartolome, 1994). A discriminate view of assessment therefore, looks slightly different than what we saw from a technical or practical perspective. From an emancipatory perspective, assessment cannot be as comprehensive as it might appear to have been in the past. This is partly due to the uncertain climate assessment is now being implemented in and the diverse, unknowable students in our classrooms (Hargreaves et al, forthcoming). In the context of our current society of uncertainty, authentic assessment is thought to be the panacea for capturing the messiness of learning, yet Hargreaves et al. (forthcoming) maintain that the concept behind authenticity itself is questionable where authentic assessments simulates reality as much as they create it. Meier (1998) concurs by saying:

Artificiality doesn’t have to be a bad word, and authenticity isn’t a guarantee of good education. Playing scales on the piano over and over is surely “artificial” but so is the piano and what we do on it. Whether it’s justified depends both on how much we value its end purpose and whether we conclude it’s a good route towards reaching such an end. (p. 596)
"Much of what passes for authentic curriculum and authentic assessment in the jargon of contemporary pedagogy seems to miss this point by giving in to the search for entertainment and avoidance of boredom rather than in pursuit of clear purposes and powerful learning" (Meier, 1998, p. 598). Hargreaves et al. (forthcoming) claim that there is a danger of celebrating authentic assessment as it promises improvement and empowerment in a world of escalating poverty and inequity. While new assessment appears to promote deeper learning, often it does no more than offer superficial yet sophisticated forms of presentation and performance. For example, portfolio assessments, can simulate rather than authenticate achievement.

In addition, while self-assessment is equated with empowerment, researchers warn against excessive self-examination, which can lead to narcissism (Denzin, 1994; Giddens, 1995, Lasch, 1979). Finally, new assessment is not easily justified for some parents (example, working class) who value the tangible and objectifiable aspect of hard-work. In their minds, new assessments obscure their children’s progress and avoid allocating concrete marks or grades. These parents want to see how their children are doing in relation to others in addition to wanting some sort of projection of how their students will do in the real world (Nespor, 1997).

Discussion of Research Question Number Two

Secondly, the study examined teachers’ reported assessment practice. All but one of the teachers, to varying degrees, relied on technical, practical and emancipatory interests when implementing assessment, which reflects Habermas’ technical interest for control of the environment and behaviour, the practical interest that encourages understanding among the individuals involved in the assessments and the construction of knowledge and an emancipatory interest to engage in practices that were liberating and equitable, as well as to encourage dialogical communication.

The technical strategies emerged in most cases in response to external mandates for grades and the implementation of learning outcomes. A few teachers employed specific technical approaches of assessment with their special needs students in order to maintain control and discipline as well as to bolster students’ self-esteem by providing immediate feedback and reinforcement. Teachers who seemed to be the most comfortable
with new assessments displayed more practical than technical tendencies in their practice. Some of the assessment problems that emerged, resulted from teachers working within two paradigms of practice and epistemology, namely, the technical interests and the practical interests which were then difficult to reconcile. For example, teachers’ difficulties increased when they attempted to measure student outcomes using more practical approaches. This required them to move away from looking for right and wrong answers, to widen the possibilities for learning while decreasing the likelihood of precision in determining what students knew in relation to prescribed learning outcomes. Many of the teachers’ concerns revolved around the quality and accuracy (for example, reliability and validity) of their assessments. Different notions of the purposes of assessment were apparent among teachers, students and parents which highlighted competing allegiances to either the technical, practical or emancipatory paradigms among these various groups. Some teachers encountered resistance among students to move beyond a technical mode of evaluation to a practical approach that would require students to take responsibility for their own learning.

In some cases, each paradigmatic approach was viewed (whether intentionally or unintentionally) as mutually exclusive where ‘never the twain shall meet.’ This separation indicates a gap between what the public sector wants and what scholars advocate concerning assessment reforms (Treiman and Schwager, 1997). Perhaps the problem is due to how individuals attach values to each paradigm without considering the possibility of seeing the value of each working together. Whether teachers even recognize the presence of a potential conflict remains open to inquiry, and even this presupposes that teachers actively work to integrate the curriculum directives into their practice, which in itself is no given. The seemingly paradigm wars has been escalated by some assessment reformers (for example, Wiggins) who disclaim that standardized tests are useful measures of student achievement while advocating for other forms of assessment (for example, authentic, alternative, performance-based, portfolio, curriculum-embedded, exhibitions, group projects, journals, teacher-observed, open-ended and essay-prompted assessments). Advocates for practical interests, for example, argue that what students produce on standardized tests is such a fragmented and decontextualized form of knowing that scores are really only a distorted picture of achievement. In addition,
Stiggin's (1995) research has shown that standardized test results are virtually meaningless for classroom teachers. Educators who discount standardized tests advocate new assessments as a better way of capturing the student thinking, albeit they are messier and at times involve a more complex process. There remain however, those who suggest that there is inherent value in standardized tests and that teachers and students would benefit if teachers taught to the test.

Phillips (1995) suggests that the separation of paradigms is so entrenched that perspectives that embrace practical interests (for example, constructivism), have become something akin to a secular religion in the efforts of its advocates to present its revolutionary possibilities. Yet, schools increasingly reflect 'back to basics' expectations and initiatives with an emphasis on centralization, behaviourist and technical-rational approaches of learning and assessing. While there are many who discredit behaviourism or a technical interest of schooling, the reality is that such an approach has increasingly become part of the educational process. In fact, there was evidence in this study that teachers found technical interests of control useful for special needs students who responded well to immediate reinforcement and at times, from the perspective of some teachers, required disciplinary conditioning.

Greene (1988) points out that a problem in the contemporary world, and education in particular, is this very polarization of differing paradigms. Educators remain affected by such polarization or what Greene (1988) refers to as, 'the crisis of culture.' Resolving the problem requires that educators become more informed of all sides of the debate. In support of the possibility of bridging the gap between paradigms, Habermas hypothesizes that change comes about from material modes of production, from social processes and from emancipatory efforts to free ourselves from illusion, dogma and inequities. Put another way, individuals require a system of behavioural conditions to communicate, organize and resolve conflict; systems of dialogue; as well as systems of critically reflecting on the aforementioned. In other words, technical production is but one important part of the complex algorithm for change. Cooperation among those concerned with progress is another such possibility. Finally, liberatory thinking to understand the status quo and its purposes as well as the awareness to be free of this thinking must remain a possibility.
The majority of the teachers in the study challenged, (not always successfully), the technically oriented approaches to schooling when they became too oppressive or were inappropriately used to replace them with either a socially interactive view of assessment or a critical view. These inquiry approaches attempted to abolish differential academic achievement in schools. In other words, they focused on nurturing meaningful teacher-student interactions. We begin to see, in the practical paradigm, how teachers' concerns begin to revolve around the social construction of assessment and its effects on students. For example, teachers became cognizant of how assessment impacted student performance. They also became concerned about their ability (or inability) to design a good test. A study in California public schools investigated some of the assumptions implicit in the evaluation of the academic performance of school children (Cicourel, 1974). The study confirmed that the test situation itself is a socially constructed phenomenon, that is, the social setting in which a test takes place, influences student performance. Cicourel (1974) reported that tests may be only arbitrary human constructs susceptible to measurement problems that are not related to the student's actual capacity to understand written material. In support of such conclusions, in this study, students were vulnerable to the potential incompetence of teachers' assessment abilities, which influence students' assessment experience negatively or positively.

In this study, we have seen evidence of teachers attempting to share power with their students by negotiating students' involvement in the assessment process; collaborating with their students; sharing assessments with students; and even becoming students themselves. Consequently, at times, teachers empowered their students. In this way, empowerment is viewed as enabling rather than delegating. Hence, teachers attempted to motivate their students through the development of a strong sense of personal efficacy. When examining the social construction of assessment, incidences of the political aspects of assessment emerge in teacher-student interactions. In fact, Cicourel (1974) maintains that relations in educational institutions are humanly constructed. Teacher-student interactions inevitably result in struggles over the definition of the situation, but the question of whose definition will ultimately prevail is pre-eminently one of power. Tensions between students and teachers as to who will define the situation for example, clearly illustrate this principle: teachers, by virtue of their
powerful institutional positions, wield sanctions that not only delimit the boundaries of what may be negotiated but also give them a crucial advantage in determining whose definitions will prevail. There is also an important element of creativity in student-teacher interactions, but there are also limits to the extent to which definitions of the situation may be negotiated. Some students disliked being empowered. For example, students were far more comfortable relying on teachers' judgements of their achievements than being responsible for their own learning and assessment. During these scenarios, the power relationship between teachers and students shifted so much that there were instances where students' influence actually undermined teachers' efforts to implement new assessment by students' lack of understanding of certain assessment tools (for example, rubrics); their desire to know their results in comparison to their friends; and their frequent demands for marks.

Teachers' option to empower students was also restrained by external constraints, as perceived by some teachers, when teachers acknowledged that abiding to evaluation directives was the 'law' and that they would lose their jobs if they did not follow prescribed assessment procedures and curricular programs. Teachers, therefore, were seen to be controlled by the curriculum, as one teacher said about the *Common Curriculum*:

> I will follow policy, and I won't be the maverick in that sense, but I will adapt it to what I'm doing, and what I know works, and it sounds very egotistical, but that's what happens with a teacher's life — it becomes personal, all the time. There's no choice. The Ministry has said "thou shalt," and so, you're expected to [follow that commandment]."

Resistances to the curriculum were also evident. Another teacher partially subverted it in ways that benefited the students:

> I have to do what's right by me, and with my kids. I just barge ahead and do it and hope it shakes down all right and try to sort of walk that line of giving things that I know are going to be palatable to parents and also trying to create a new look to the whole thing. But it's a bit of a balancing act.

We see teachers therefore, generating their own creative responses to dominant ideologies. Often the teachers transformed and reinterpreted the curriculum they employed so that they became tools for the creation of alternative forms of both
assessment and resistance. In short, we might venture that the curriculum documents employed by the teachers in this study, in their present physical state, may somewhat, have hampered teachers from finding the answers to their 'how to' questions or to respond creatively in their interpretations of the documents. Anyon (1988) suggests that “curriculum content...might, despite the claim of objectivity, serve the interests of some groups in society over others” (p. 37). For example, over half the teachers identified their difficulty in making sense of curriculum guidelines as a critical factor hampering their change efforts with assessment procedures. Teachers discovered that it took considerable time and effort to decipher the policy documents. The additional problem of the guidelines’ inaccessibility might be attributed to the poor presentation of curriculum materials. The lack of accessibility, clear language and presentation quality influenced teachers’ commitment to change and their motivation to adopt innovative strategies of instruction and assessment. Teachers selected only the segments of the curriculum that they comprehended or were acquainted with and those outcomes they were familiar with and could understand, thereby ensuring that their students did not receive a comprehensive education. Teachers indicated that one of the biggest weaknesses of the Common Curriculum was the lack of clear assessment guidance. As a result, teachers were cited using familiar and traditional assessment approaches with which they felt comfortable. They expressed their discomfort with making judgements about students’ work without the aid of exemplars and felt that the lack of exemplars was a serious curricular shortcoming. When exemplars were available, they were not always user-friendly or congruent with specific needs.

Discussion of Research Question Number Three

In Chapter Eight, how teachers inquire into assessment was examined. From what we have seen thus far in the study, most teachers blended paradigms of practice, which might indicate that the blending of knowledge-bases is the teachers’ way of managing uncertainty and that the assessment process is often not totally rational. Teachers seem to leap from one level of knowledge to another with little premeditated systematic thought. Other teachers made a clear distinction between the paradigms and used different assessments to serve different purposes. Nevertheless, odd configurations of assessment
approaches emerged (for example, combination of checklist and rubric) where paradigms were blended. For example, one teacher, designed an instrument that incorporated both a checklist for right and wrong answers while also placing on the same handout, a rubric for assessment of learning. She obviously was caught between paradigms.

Overall, what seemed to happen with the teachers in this study was that they incorporated the external knowledge-base (for example, the curriculum) and filtered it through their own minds, subjectivities and value preferences. For example, what was chosen to be used from the Ministry documents generally became starting points for their practice and was cited as authority. From there, teachers would generally rely on their own interpretation of this information depending on their epistemologies of assessment, their past experiences as students themselves, and the students in their classes. While complying with educational directives as they perceived and interpreted them, the teachers were also thinkers who used that knowledge to promote their own prescription or pedagogical framework. This blending of epistemological tendencies can be found in the complex relationship teachers worked with, the policy and political superstructure they encountered, as well as the dilemmas that could be addressed but not solved. Teachers therefore viewed the knowledge of the outside world as important givens to be interpreted and, where possible, accommodated into their thinking. Teachers were, after all, connected to the outside world and continually reminded of public expectations.

Modes of Inquiry

If we look closely at the teachers’ modes of inquiry in Chapter Eight, we see that the majority of the teachers relied on a technical interest to understand assessment which was usually reduced to a technology, therefore simultaneously seeking technical solutions to their problems; on intuition to help guide their day-to-day decision in their assessment practice and their experience to provide a theoretical framework that justified their actions and moral stances. While the teachers engaged in varied modes of inquiry that included critical modes, the majority of their concerns were technical in nature for which they sought technical solutions.
Technical Interests: Technical Inquiry and Teacher as Researcher

This emphasis on the technical is not surprising in light of the increasing evidence that recent educational reforms are making teachers’ work more complex in terms of a whole set of new skills in classroom assessment, such as portfolio assessment, peer assessment, self-assessment and performance assessment (Pollard et al., 1994). Paul (1994) warns us however, that the solving of problems often reflects a tendency on the part of the individual to reduce all problems to technical ones and so to render all knowledge and all problems procedural, if not algorithmic. In other words, problems are reduced to a relatively narrow system of exclusionary ideas, technical precision and manageability. In fact, researchers (for example, Schön, 1983; Ashbaugh and Kasten, 1993) state that technical-rational models of professional knowledge are inadequate to (solely) deal with the messy and complex problems of practice. This conclusion was based on evidence in university programs for the preparation of teachers and administrators. Ashbaugh and Kasten (1991a) in particular noted in their research that teaching and leading are personal as well as professional activities. Sometimes knowingly, but frequently unconsciously, educators apply their own biases as they attend to problems. The values, morals and emotions of educators become key determinants of how and why they ignore some behaviour and focus on others; apply some rules and regulations but disregard others; interpret policy to expedite some decisions but to block others (Ashbaugh and Kasten, 1993). In other words, the application of knowledge to experience is a multi-faceted process.

Practical Interests: Intuition, Emotions, Morals, Experience, Reflection

The majority of teachers in this study used some mode of inquiry that was reflective of a practical interest. Often this meant that teachers relied on some sort of routine that had proven itself to work over time, in their assessment practice. Research (Peters, 1985; Shavelson and Stern, 1981) shows that teachers rely on routines that become well-established in their psyche; reflect their individual theories or epistemologies; use them when they have a good sense of who their students are; and refer back to their experience as students themselves. When routines become entrenched however, they are no longer reflected upon; they become automatic; and very often these routines are resistant to change (Peters, 1985; Shavelson and Stern, 1981). Routine
therefore, often is conceptualized as something negative. In contrast, Sennet (2000) resurrects the possibility that routine need not be a degrading aspect of work. In a society where we face drifting employment situations, rootlessness and the loss of routine, convention can actually give people dignity because customary patterns give rise to shared narratives.

In this study it seemed that intuition was often unconscious, difficult to articulate, inaccurate at times, and did not help teachers in very complex situations. As teachers are expected to cope with more and more contradictions, their practice becomes more difficult to classify and systematize. As we saw earlier, teachers were generally working from an external authority (for example, curriculum) and since it is unlikely that teachers are ever able to arrive at a definitive understanding of educational goals or objectives, teachers use their practical knowledge, that is, knowledge acquired from experience, to guide them through various situations. In Chapter Eight we saw teachers using reflections more and more as well as pursuing their own gaps in their knowledge-base of assessment through research, the reading of materials and observing other teachers’ practice. A practical interest in knowledge building therefore was seen as trying to make the meaning of action understandable to teachers in a specific context; helping teachers know the rules and underlying assumptions of their action and identifying the acceptable ones; and enabling teachers to realize how their actions are, or may be, understood by others.

Teachers’ practical knowledge can be seen as a main contributor to their expertise and served as a pre-theoretical framework.

Schön (1983) notes that problems do not appear in the real world of practice labelled and ready to be solved. A substantial part of professional work is the delineation of problems, not their solutions:

In real-world practice, problems do not present themselves to the practitioner as givens. They must be constructed from the materials of problematic situations which are puzzling, troubling and uncertain. In order to convert a problematic situation to a problem, a practitioner must do a certain kind of work. He must make sense of an uncertain situation that initially makes no sense. (p. 40)

Schön (1983) refers to this sense-making process as problem-setting during which practitioners name the things that are important and construct the context in which they will be considered. The uncertainties they attend to, the givens they question, their names
for the things, and the contexts they define, are related to values they hold for themselves as professionals (Ashbaugh and Kasten, 1993).

Criticisms, however, have been directed against teachers’ practical knowledge. First, since teachers do not have identical perspectives, little consensus about their practice is possible. Second, practical knowledge is not the ideal level of knowledge to solve conflicts. When we look closely at the practical modes of inquiry teachers used in this study, they include intuition, moral and emotional inquiry and reflection, all of which were used as descriptive forms of their practice. Habermas claims that it is only through the evaluative critical or emancipatory interests that conflicts are resolved. Third, teachers’ practical knowledge is not always of benefit or worthy of further inquiry, particularly when teachers draw heavily from when they were students (Sugrue, 1996). Too much emphasis on teachers’ practical knowledge may incorrectly be used to support the idea that teachers need not inquire any further. Practical knowledge, without further inquiry, reduces teachers’ practice to a technically competent but unquestioning one. What teachers should be aspiring to is an intermingling of experience and theory; where teachers are able to view their practice within a whole school and even a whole education context; where they dialogue with other educators; and where they systematically and regularly engage in professional activities and read professional literature. This way, teachers’ practice relies less on intuition and becomes more rational.

Bloom (1956) points out new curricula are not acts of faith, rather, they represent new hypotheses which should be empirically tested before they become an accepted part of the educational program. Teachers then, to be most effective, must be considered a classroom researcher, that is, someone “who is involved in the evaluation of his or her own teaching and learning, even as it takes place” (Cross, 1988, p. 27). This approach to teaching “establishes the classroom as both a teaching and research environment, and a place where pedagogical questions can be thoughtfully pursued” (p.27). In these situations, teachers are called reflective practitioners who “approach teaching and learning as uncertain processes...[and who] understand that complex learning problems often require creative solutions rather than standardized techniques” (Schön 1983, p. x). The quest for a knowledge-base for teaching often leaves out the moral, emotional and contextual aspects of teaching. Yet, as we have seen in this study, when required to
implement a very specific innovation, teachers relied on their emotions and morals to implement (or not implement), new assessment.

In sum, teachers can accept change blindly and remain technicists, concerned solely with the technical application of assessment innovation (for example, developing for example, summative evaluation instruments that address recall) and relying on external authorities to direct or transmit information about assessment to them, or, they can complement this technical inquiry thoughtfully, with other modes of inquiry that question the meaning of assessment within the context of situations, the students and the subjects they teach.

**Emancipatory Interests: Critical Inquiry and Communicative Rationality**

In this study, teachers’ assessment roles dramatically changed. We saw teachers become collaborators with their students. Learning was a shared endeavor. Teachers not only collaborated with students but also with one another. They worked together to learn from what others had already done and shared their thoughts about teaching and learning as a way of supporting their own reflection and understanding in their efforts to acquire some technical prowess in the implementation of new assessments in their classrooms. In fact, teachers in this study expressed a preference for learning about assessment by observing other colleagues in their classrooms. The downside of this type of collaboration however, is that teachers might resort to exchanging resources and tricks of the trade rather than scrutinizing practice together. When successful, these forms of collaboration can replace a focus on random technicity with more useful knowledge.

By inquiring critically about the meaning, purpose and appropriateness of assessment within the context of their classrooms, the act of inquiry can not only move teachers towards dialectical levels of consciousness but can also lead teachers to view assessment as problematic. Through inquiry, teachers are encouraged to embrace life long learning by asking questions and collaborating (Niemi, 1993a). Tensions inevitably arise, however, for teachers. These tensions are usually a result of questioning traditional approaches to schooling, which consist of tight control by administrators and-or politicians, and of curriculum designed to be implemented passively with an emphasis on narrow, measurable objectives (Niemi, 1993a). From a traditional perspective then, more emphasis is placed on the teacher as a technician controlled by a bureaucracy. What
occurs is a vicious cycle of demotivation of teachers resulting in demotivation of students, poor student achievement, doubts about teachers' capacity and a call for more accountability. Darling-Hammond (1990) maintains that such modern notions of schooling are deeply ingrained:

Rather than connoting a high level of training and knowledge applied to practice that must, above all else, serve the needs of clients in intellectually honest ways, the term [technical skill] is used by most policy-makers and administrators to mean an unquestioning compliance with agency directives. Evaluation criteria stress good soldiership and conformity with district policies rather than knowledgeable advocacy of appropriate teaching practices. The 'professional' teacher in common parlance is one who 'does things right' rather than one who 'does the right things.' In the bureaucratic conception of teaching, teachers do not need to be highly knowledgeable about learning theory and pedagogy, cognitive science and child development, curriculum and assessment; they do not need to be highly skilled, because they do not, presumably make the major decisions about these matters. Curriculum planning is done by administrators and specialists; teachers are to implement a curriculum planned for them. (p. 31)

In response to this situation, Fullan (1993, p. 17) emphasizes that teachers explore these tensions by becoming “interactive professionals.” For this to occur, Edmundson (1993) and Smith (1994) agree that teachers require the skills and commitment necessary for continuous inquiry, where teachers have a far more active role as developers of teaching, curriculum, and their own learning. In sum then, teachers become part of a paradigm of inquiry in the midst of change and educational reforms where policy does not simply mandate change. Rather teachers have a far more active role as developers of teaching, curriculum, and their own professional enrichment. Classroom assessment therefore, is complex enough to frustrate teachers who are committed to serving their students and implementing innovations. Teachers' inquiry about assessment need not only be informed by technical prowess to fulfil external mandates or authorities, nor be confined to practical knowledge and reflection on how to deliver a program others have defined, but teachers can also be guided by cooperative visions of the purposes of assessment that can be gained through inquiry of their practice.

In conclusion, the works of Habermas have placed him well within the academy and have established his authority to serve as a guide through the territory explored in this study. His roots in critical theory allow him to champion the cause of liberating
human beings from all forms of oppression, especially those forms that generally go unrecognized, often to the victims of oppression. Habermas' legacy is rich with approaches to understanding the complex human situations where the dominant groups' interests are served through the exploration of others by means of various institutional practices. Habermas' critical questioning of assumptions in all aspects of everyday human experiences offers an example of how educational researchers can incorporate the conventional approaches to finding new knowledge but also expand their reflective practice by following Habermas' lead. Habermas' theory now provides researchers a safe harbour from which to explore. He provides a home and a passport to look into protected territories such as traditional classrooms to discover hidden oppressive practices and relations of dominance. One aspect of following Habermas and critical theorists' lead is the freedom to dig deep in order to look for any dehumanizing reproduction of diminished human beings to take their prescribed roles in society. Habermas shows how radical questioning and focused attention to the concerns of living subjects can lead to their liberation.

This study does not attempt to provide an exposition of Habermas' philosophy, rather it offers Habermas up as an exemplary explorer undaunted by the obstacles one finds when challenging some of society's most cherished assumptions and the covert support provided to the dominant class. The study does not advocate that teachers all learn about Habermas through concentrated study of his works but only that teachers fight for more time to reflect about the results of their pedagogical and assessment work. Habermas knows the territory but he cannot be expected to know the details about the teachers' place in it. Teachers and researchers must collaborate to know where they are and determine what they are willing to risk to change it. There is no universal prescription provided other than a sense of being in the right direction and attempting to live within the morality of helping anyone in need to fulfil their aspirations for a better or more humane life. Resisting oppression by being on the side of the oppressed is part of the journey that teachers can find themselves on.
CHAPTER TEN: SUMMARY AND CONCLUSION

Chapter Ten summarizes the research study by highlighting the main methodological approaches and conceptual arguments. This chapter consists of a brief summary of the study; implications of the findings in relation to assessment and teacher thinking; a discussion of the viability of the conceptual framework; and recommendations for further study.

Summary

This study is grounded in the philosophy of Habermas and applies his theory of levels of knowledge and human interests as a conceptual framework to examine teachers' implementation of classroom assessment. This philosophical approach provides theoretical lenses with which to examine the essential problem of elementary teachers implementing new assessments while still having to fulfill external mandates that may seem inimical to these innovations. This conceptual framework was selected specifically for its possibility to examine teachers' use of varied paradigms of knowledge when thinking about and implementing assessment. While teachers' knowledge could have been examined through the lenses of conventional paradigms of knowledge that consist of the positivist, interpretivist and critical paradigms, these are often viewed as exclusive approaches of research that would have presented their own conceptual and methodological limitations to the study. Habermas' theory of knowledge paradigms does not treat these three levels of knowledge interests as mutually exclusive, thereby supporting the assumption that teachers' work and thinking use a range of knowledge paradigms. Nor does it treat any one knowledge paradigm as a right or wrong perspective regarding classroom assessment within a context of educational change. Contradictions, paradoxes and dilemmas are inevitable in the change process. An inquiry into these situations emphasizes the necessity of understanding assessment from a number of perspectives or individual paradigms of knowledge and what each contributes to assessment.

The study begins by introducing the problem of implementing change on a school level and examines the literature on why change fails and what facilitates change, that is, by having teachers claim ownership for the innovation being introduced in the school.

297
This study examines how teachers conceptualize and inquire into the subtleties of classroom assessment that are currently at play in Ontario, and ultimately, implement contemporary assessment choices in their classrooms. More specifically, this study provides the substantive base for the problem of innovative implementation and introduces the study’s intent for inquiry of this problem. It further explicates the reasons for and purpose of the study and lists the three guiding research questions:

- What challenges do teachers experience in attempting to implement new classroom assessment practices?
- How do teachers’ reported assessment practices relate to epistemological paradigms?
- How do teachers inquire into assessment?

Inquiry becomes the means for teachers to understand new assessment in their classroom practice within a context of ambiguity and contradictions and to draw from these situations their own meaning of assessment as it fits within their own context. This study advances the concept of the teacher as a reflective practitioner and examines the teacher as an inquiring practitioner. Within those parameters, the teacher is, therefore, not satisfied to merely acquire a repertoire of skills and knowledge to solve practical problems. Instead, new perspectives are sought in order to confront educational problems. Teachers’ inquiries, therefore, become intelligent, sensitive, articulate, conceptual and sophisticated in their analyses of educational innovations. By focusing on inquiry, this study looks closely at how teachers learn and inquire into assessment, ultimately examining how they put that learning into action. In doing so, it becomes apparent that some teachers exhibit more readiness than others to transform their beliefs and knowledge of assessment through inquiry while implementing assessment innovations within their classrooms. Possible modes of inquiry teachers employ when faced with change are presented in this study, as teachers transform their beliefs and knowledge through inquiry while implementing new assessment approaches within their classrooms.

This study emerged from Earl-Hargreaves’ (1997) larger project, Beyond Transition: How Teachers Interpret and Integrate Transition Years Reforms in Their Practice, and extends Earl’s (1997) continuation of this same study: A Longitudinal Study
of Teachers Committed to Innovation in Ontario Schools. The larger study was a Ministry of Education sponsored multi-year investigation into how teachers implement change (for example, curriculum, assessment) in their daily practice. A qualitative research methodology was used for this study to investigate assessment from the perspective of teachers’ own experiences with, and understanding about, classroom assessment. Data from semi-structured interviews were gathered over three years (1997-1999). The multi-year approach assisted in gaining insight into teachers’ understanding of, and practice with, assessment by providing rich descriptions. Eight grade 7 and 8 teachers were interviewed using semi-structured interviews during each of the years 1997-1999.

Research Question Number One: Challenges

The results show that innovations can and should be viewed from a variety of perspectives that go beyond merely technical analyses. The findings for this research question, in terms of technical, practical and emancipatory interests are summarized below.

Technical Interest

The findings for the first research question presents those issues or challenges the study’s sample of elementary teachers identified as technical issues in their practice of assessment during the years 1997-1999. An examination of technical issues of assessment that emerged from this study’s data set draws attention to the following: developing valid forms of measurement (e.g. of outcomes, standards); assessment in integrated subjects; using a variety of new assessment procedures; reconciling assessment and reporting practices; and time, resources and school structures that influence the implementation of new assessment practices into the routines of the classroom.

Practical Interest

This section focuses on the problems teachers encountered when attempting to gain negotiated meaning with students and parents about the assessment approaches they were using in their classroom; when attempting to make assessment meaningful for students; and when negotiating among the influences of power and politics that facilitated and militated against teachers’ efforts.
**Emancipatory Interest**

Areas of concern for the teachers in this section were realized in their attempts to acknowledge and promote student uniqueness; to share assessment with students; and to nurture dialogue among teachers.

**Research Question Number Two: Practices and Epistemologies**

The second research question examines teachers' reported assessment practice within their classrooms using Habermas' knowledge interests. The key findings reveal that teachers' reported practices included a variety of approaches found in three paradigms of knowledge which correspond to Habermas' technical, practical and emancipatory levels of knowledge.

**Technical Approaches to Assessment**

When teachers' practice reflected this epistemological category, they made comments and displayed practices that are consistent with Habermas' notions of technical interests where knowledge is transmitted from an external authority. The areas that emerged in this section to categorize the data were the following: objectives from an external authority: the curriculum; outcomes are made clear to students by an external authority: teacher; transmission of knowledge; assessment and learning is organized in objective chunks; external reinforcement; immediate feedback; external control over individual students; and practice. Teachers used technical assessment strategies primarily when attempting to assess outcomes that were mandated by an external source (that is, curriculum); when making these external expectations clear to their students (that is, one-way transmission of information); and when using external reinforcement (that is, traditional tests-examinations; rewards).

**Practical Approaches to Assessment**

Teachers' practical interest in assessment was demonstrated in the following areas: outcomes originate from the classroom or school; outcomes are made clear to students with the students; interactive learning; inclusive assessment; authentic assessment; continuous learning; learner-centered; performance-based learning; problem solving; self-assessment; motivation; learning environment; facilitation.
**Emancipatory Approach to Assessment**

According to Habermas, a critical discourse works to counterbalance the dominant discourse that has worked to systematically exclude other voices in education. The categories reflecting an emancipatory interest of assessment were: equity and fairness; ethnicity and gender; empowering learning; and humanizing assessment.

**Research Question Number Three: Inquiry**

For the final research question, How do teachers inquire into assessment?, teachers' inquiry into assessment was examined with the aid of an additional framework that highlights a range of inquiry models that corresponded with Habermas' levels of knowledge interests. Teachers used the following modes of inquiry:

<table>
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<tr>
<th>Technical Interests</th>
<th>Practical Interests</th>
<th>Emancipatory</th>
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<tr>
<td>technical inquiry and teacher as researcher</td>
<td>emotional inquiry, tacit-intuitive inquiry, reflection, and experiential inquiry</td>
<td>moral inquiry, critical inquiry and communicative rationality</td>
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The key finding in this chapter was that teachers employed numerous modes of inquiry during their daily practice. The data set also shows that the majority of teachers used their intuition, reflection and experience to guide their practice. In sum, the findings show that assessment is not and cannot be a completely rational process. Rather, it is, more broadly, a very human process dependent upon individual judgement and social interaction. This study shows that teachers increasingly have become life-long learners and inquirers. By inquiring about the meaning, purpose and appropriateness of assessment within the context of their classrooms, teachers are better able to understand why they assess the way they do.

**Technical Interest**

We saw a variety of assessment issues teachers wanted clarification around the 'how to' of assessment as well as attempting to see the utility of certain assessment approaches. Teachers engaged in their own research about a variety of assessment issues that included observing other teachers, reading professional material or attending in-service sessions.
**Practical Interests**

All teachers expressed learning more about assessment through actual experience, past and present and using their experience to resolve assessment challenges. Teachers used their experience to: determine what accommodations to make for their assessments; to rationalize that evidence for student effort was just as valuable as achievement; to determine why they were using a certain assessment when; to determine if their assessment was working; and to identify purposes of assessment in their practice.

In addition, the teachers said that they relied on their instincts or gut feelings to make assessment decisions to help them when they knew how their students would respond or perform; in certain subjects (for example, English) over others; with special needs students when the standards were not so rigid; when accommodating midstream assessment changes; when triangulating objective evaluations; and when faced with discipline situations during assessment tasks.

Finally, the majority of the teachers described incidents where they reflected on their practice after the fact. One teacher provided illustrations of reflecting during his practice. Teachers reflected on: relating the standards and the curriculum with their assessment program; units after the fact and how they might have changed their assessment; the impact class make-up had on assessment; and how reflection of their practice was useful.

**Emancipatory Interests**

Teachers engaged in critical questioning and thinking about assessment. This questioning revolved around: the appropriateness of current standards; gender related issues; ability or growth among students; and the why of assessment. While teachers' practical knowledge was useful for solving day-to-day conflicts, teachers had a better chance to resolve complex abstract issues through dialogue and by drawing from not only their own experience but also others' experience. Teachers showed commitment to an approach where their skills resulted from an intermingling of experience and theory; viewing their practice within a whole school and even a whole education context; dialoguing with other educators; systematically and regularly taking part in professional activities and reading of professional literature. Dialoguing about assessment changed teachers' assessment roles dramatically. Teachers engaged in cooperative inquiry where
they became collaborators in their students’ learning with learning becoming a shared endeavor. Teachers not only collaborated with students but also with one another. They worked together to learn from what others had done; they shared their thoughts about teaching and learning to acquire the technical prowess to implement new assessments. Teachers in this study expressed a preference for learning about assessment by observing colleagues in their classrooms. Rather than struggling to learn the techniques of an innovation or to understand its relevance on their own, it was the shared aspects of teachers’ inquiry of assessment that became useful. Finally, some teachers also expressed very strong opinions about why they took and did not take certain actions in their assessment practice. These actions seem to be grounded in a moral stance that these teachers have taken. These strong feelings focused primarily on the viability of implementing standards and new curriculum and assessment approaches.

In addressing these research questions, the overall findings show that innovations can and should be viewed from a variety of perspectives that go beyond merely technical analyses. This study provided an account of some of the assessment issues teachers encountered in their classrooms and schools during a period when policy changes were extremely volatile in Ontario. The study’s significance is in its practical presentation of an emerging but nevertheless, burgeoning body of literature on teacher thinking. This study in particular contributes to limited literature on teacher thinking about assessment. By revealing teachers’ reported actions and inquiry in an empirical setting within schools, this study contributes to increasing the awareness of teachers’ assessment practice, their beliefs about assessment and the inherent discrepancies between the two. Additionally, the study contributes to a knowledge-base of inquiry by presenting a sophisticated conceptual guide that explores a variety of inquiry models contained within three levels of knowledge. While not mutually exclusive, the modes of inquiry are not limited in their application to the numerous issues teachers encounter on any given day or moment in the classroom.

In conclusion, while the majority of the teachers’ inquiry was continuous and frequent, this does not always mean that their assessment changed or improved. What was often missing was teachers’ own recognition of practices that vacillated between paradigms of knowledge; that there is more to assessment than mere technical concerns;
that when they were asking critical questions about assessment that there is more than a technical response or solution (if at all). What this study shows is the possibility of teacher awareness for whatever issues are involved in assessment that go beyond the technical; conceptually and paradigmatically arriving at a way to organize these issues in order to gain the most benefit in achieving solutions; and a solution as to what kinds of inquiry are most useful for which assessment issues. While the study has not changed teachers' behaviour in any profound way (and certainly does not assume to have captured teachers' behavior) one may argue that in an area such as assessment, awareness and attempts to pursue an increased sense of emancipation are attainable goals. Most teachers in the study acknowledged the disorientation of classroom purposes, which in some cases influenced them morally, physically, intellectually and emotionally. Essentially, teachers were frustrated with conflicting messages, contradictions and paradoxes in their assessment practice that reflect modern organizations. Raising questions did not always solve the problem, but it did raise the awareness of resurrecting the potential for claiming ownership for their assessment practice and accepting the legitimacy of a variety of knowledge-bases.

Implications

Several implications of the findings can be discussed in light of this study: implications for educational reform; implications for classroom assessment; implications for teacher thinking; implications for emotions, intuitions, morals and reflection; and implications of Habermas' three levels of knowledge interests.

Implications for Educational Reform

This study has shown that teachers face profound challenges in light of the introduction of educational reform specifically with the implementation of classroom assessment. Cohen (1995) maintains that many teachers find reform a high-risk venture. What makes change risky is that teachers are asked to give up entrenched ways and habits; they must familiarize themselves with contemporary procedures; and in this study particularly, they were required to adopt different purposes of assessment and patterns of their practice. Many of the difficulties teachers experienced were also due to the incompatibility of the innovation with unyielding systemic conditions. While all the
teachers in this study faced seemingly insurmountable organizational and political constraints that inhibited the implementation of new assessments, the teachers developed a theoretical framework that formulated a philosophy of assessment for them that enabled them to incorporate some of the practical and emancipatory principles that emerged in this study. (For example, sharing assessment with their students; encouraging the construction of knowledge; communicating with other teachers and their students in dialogical ways; seeking to understand the context in which they were assessing in order to provide for their students' well-being). There was one teacher however, (Natalie) who presented opposing values. Natalie continued to be convinced that the more traditional assessment and pedagogy is likely to engender higher test scores than when using new assessment. Her practice was motivated by a fear that in the push for accountability her reputation and stature depended on traditional measures of student achievement. She sensed that if she did not maintain this outlook the punishment would be severe. In her experience, parents and administrators had conflicting expectations with respect to student achievement and accountability. Without seriously adapting to change, it became evident that her knowledge of assessment reform was incomplete and fragmented. In interpreting new assessments, she gave minimal attention to the conceptual aspects of what these approaches meant. Instead, she continued with a procedural approach to assessment consistent with her prior years of teaching and assessing, and with which she felt comfortable. This practice did not always include assessing for understanding. It seemed as if her perception of reform was at odds with her own implicit theories about assessment. It almost seemed as if Natalie’s own experiences and beliefs were operating in ways to distort the reform consistent with her own beliefs. In sum, Natalie held a narrow view of assessment and may actually be interpreting new assessment through old lenses (of when she was a student). Her notions of good assessing involved lecturing and explaining, when, in fact, new assessment involves a different vision of teaching and learning that contrasts the traditional telling and listening found in traditional classrooms (Anderson and Holt-Reynolds, 1995). It also seemed that teachers’ implicit theories in combination with the conditions in which they worked functioned as impediments to their new understandings of assessment. For example, Natalie worked in a special needs high
school. Her students required tangible reinforcements, and short-term tasks that involved frequent testing.

Additionally, some of the difficulties teachers faced when attempting to implement new assessment in their classrooms were because of past assessment practices that continue to influence the present, posing new dilemmas for teachers to work through as they try to resolve the contradictory nature of assessment. This arduous task of reconciling influences from past and present impacts teachers' practice on various levels. First, teachers' personal perspectives about assessment based on past knowledge and past experiences nearly vitiate any possibility “that a teacher could somehow be cut free of her history and approach each situation without benefit of past experience” (Clandinin, 1986, p. 3). Secondly, resistance to change may lead to an ahistorical treatment of change. Schein (1985) maintains that individuals in an organization rely on “a set of filters or lenses that help [them] focus on and perceive the relevant portions of [their] environment.” (p. 4) These perceptions, assumptions or beliefs are often held onto tenaciously, because when change occurs, it creates ambiguity. When this happens, the teacher becomes a curator of past practices regardless of whether these practices are functional or dysfunctional. Gustavson (1955) maintains that “most people operate on the premise that history is linear and what has happened in the past will continue into the future” (cited in Fink and Stoll, 1996, p. 1). Ahistorical change occurs primarily because people usually “are afraid of drastic innovations” and are more comfortable with the familiar (Fink and Stoll, 1996). On the other hand, a more historical approach to change is modelled by Neitzsche (1980):

*Cheerfulness, clear conscience, the carefree deed, faith in the future, all this depends...on there being a line which distinguishes what is clear and in full view from the dark and unilluminable; it depends on one being able to forget at the right time as well as to remember at the right time; on discerning with strong instinctual feeling when there is a need to experience historically and when [the need exists to experience] unhistorically (cited in Preuss, 1980, p. 10).*

Ahistorical changes result from two common practices. First, when historical knowledge is treated as mere factual information, it retains a rear-view image of the past—a past that moves in a linear fashion into a safe, familiar and comfortable future (Freire, 1990; Fink and Stoll, 1996). Freire (1990) maintains that those who use history in
negative ways desire to control its evolution by reproducing the past in the present. They “want to slow down the historical process, to domesticate time and thus to domesticate men;” they attempt “to domesticate the present so that the future will reproduce this domesticated present” (Freire, 1990, p. 13). Secondly, teachers may rationalize innovations as a waste of time since “the future [is already] pre-established [anyway]” (Freire, 1990, p. 14). This view reflects “a kind of inevitable fate, fortune, or destiny” (Freire, 1990, p. 14) which has a “logic [of its own] that escapes human control and human values” (Freire, 1990, p. 14).

This study provokes questions that require further exploration:

- Why do teachers respond to change differently?
- What does the change process look like?
- How can teachers meaningfully respond to new assessment that promote learning on the one hand and accountability demands through outcomes-based reform and measurement on the other hand?
- Can change ever be more than skin deep?

In an attempt to respond to these questions, the findings indicate that all the teachers were trying to create some conscious sense-making process in their daily routines of their class. For some of the teachers, however, the methods of change were superficial in that they did not change anything in their original approach to teaching and assessment, instead they merely superimposed some additional material as we saw with both Monica and Natalie. For example:

I like doing anecdotal reporting just to make note of behaviour, questioning kids, conferencing. But traditional quizzes and tests are the backbone of my evaluation. One to one would be much better, but I don’t have the time.... I haven’t used peer and self-evaluation much, but when I do, they are pretty accurate. The kid that did the most work ends up giving himself the highest mark, and the other one gets a lower mark, and the partner is honest.... It’s hard to keep up though. I’ve got a stack of marking at home, and I still haven’t gotten to it.

Other teachers (Jack, Helen, Rachel, Reva) tentatively and reluctantly moved to the edge of change, sometimes creating odd configurations of assessment that combined epistemological paradigms as they tried to incorporate new ideas. In the end, however, when confronting obstacles, they returned to a familiar pattern of assessment. These teachers routinely expressed uncertainty about their practices.
The [assessment] that they’re going to do today they do in a notebook...I have a rubric. So half of the page will be check-marked, the traditional kind of yes-no sort of thing. (They’re more direct like “What was the measure of the soup can?” It’s just a number, and that sort of thing where it’s kind of either right or wrong?) And then another one will be marked on a rubric. And the kids are used to that and...there are certain elements that they have to have in this chart and so on. So they have a combination of a couple of marks. So they’ll have an eight out of ten or whatever, but then they’ll have a level three or four. It’s usually just the rubric [mark that] I put in my book...the chart part is hard, so I want to reward all the pre-work that they’ve done. But I also want to look at their chart. And so for that activity, I’ll be using the rubric mixed with just the yes and no answers.

Another group of teachers, (Jane, Tom) made deep changes to their practice of assessment that responded directly to their students’ needs.

I see our role changing from imparting knowledge to teaching kids, or showing kids how to use the knowledge that is available.

These two teachers had the capacity to employ a variety of assessment techniques on a daily basis manoeuvring easily around obstacles that arose. These teachers seemed to have an understanding of why they were doing what they were doing despite queries from other teachers, administrators, their students and parents. They were also able to articulate, describe and share their practice. Although these teachers did not struggle any less than the others to understand the changes in assessment and often admitted that assessment was the hardest part of what they do in the classroom, they seemed undaunted in their attempts to continue to learn about change and to update their practices. These teachers used words like “courage,” “faith,” “wisdom,” and “maturity” as their mantra to continue on in the face of adversity. Those participating in the implementation of new assessment were teachers essentially involved in changes that influenced their conceptions of teaching-assessing, student learning and their own roles as teachers. Beyer and Apple (1988) maintain that teachers are faced with dialectics that exist in their inner and outer worlds:

The outer world consists not only of the immediate environment, situations, decisions, and acts of which the individual is aware, but also of all larger environmental structures which impinge on each situation. The outer dialectic exists as a reflective transaction between the outer world and explicit awareness of the individual (the individual’s explicit knowledge, beliefs, ideas
and wishes). The inner dialectic exists as an aesthetic transaction between explicit beliefs, ideas, and wishes and the individual's preconscious and unconscious functioning (the tacit knowledge, values, needs, and potentials that are the source and grounding of explicit beliefs). The outer dialectic is the source of utilitarian values as the individual intelligently reflects upon the consequences of human activities within objective and historical situational contexts. The inner dialectic is the source both of values beyond the utilitarian (such as personal and aesthetic) and of the validation of values as the individual encounters what it means to be a human being. (p. 327)

The authors describe the process of balancing these dialectics as 'centering' which becomes "a process of releasing individuals' potentials within seeming insurmountable situations leading to transcendental development" (p. 329). Inquirers have the potential to attain this state. Therefore, in 'ordinary development',

[a] teacher stands back from the student in a judgmental stance. The teacher's knowledge of the student, the student's developmental status, and long-range developmental goals are explicitly cognitive. Despite any humane interactions, the teacher's predominant rationality is technical, that is, planning, manipulative, calculating. (Beyer and Apple, 1988, p. 329)

In contrast, when

Teachers and students immerse themselves in the mutual process of centering, the predominant rationality becomes aesthetic, intuitive, and spontaneous. They become willing to 'let go' of externally defined roles, to undertake a joint pilgrimage in creative human living, having faith that they themselves, others, and the culture in which they exist will become a medium for developing centering. (Beyer and Apple, 1988, p. 330)

Those teachers who seemed to emerge most unscathed in this study from the change process were those who seemed to understand this aforementioned notion of centering.

The changes teachers experienced in this study are characteristic of what Fullan (1991) refers to as "significant change" that involves the use of new resources, new teaching approaches and the alteration of beliefs (that is, pedagogical assumptions and theories). This last shift is often the most difficult to achieve. Fullan maintains that educational change is not a single entity; it is multi-dimensional. Consequently, the impact of new assessment on teachers' beliefs was multi-dimensional, complex and varied. Teachers felt extremely challenged by the prospect of implementing new assessment strategies. This study has highlighted the problems teachers encountered as well as the questions teachers were asking about assessment: How would they assess
student work? What should they assess? There was the ever present concern about covering the curriculum. For many teachers, real-life problems, despite their potentials, seemed incompatible with classroom realities. This contradiction was never more blatant than when teachers attempted to reconcile assessment with grading and reporting. Teachers' assessment practice began indicating a different conception of teaching than that of the traditional teaching as the delivery-of-instruction. Such a shift in the conception of teaching created discomfort for some teachers while others revelled in it as teachers' role contrasted from the traditional one. Teachers became tutors or coaches helping students understand their own thinking and guiding them as they searched for new information. Teachers often had a hard time figuring out how to teach under these circumstances--how to grant independence while still providing safe learning boundaries; how to help without directing; how to distinguish a timely intervention from a controlling one. When looking at "change in practice" (Fullan, 1991), the impact of change is seen particularly clearly through teachers' action. For example, teachers began collaborating with other colleagues, students and parents. As a result, a culture of inquiry began to emerge through dialogue.

**Implications for Classroom Assessment**

A major component of this study was an examination of classroom assessment challenges teachers encountered when implementing new assessment in their classrooms during a period when policy changes were extremely volatile in Ontario. While at the outset it may seem simple enough to attribute the problems teachers experienced to the contradictory nature of educational change, there are, however, problems inherent in classroom assessment itself that also contribute to the difficulties teachers experienced. This study has shown that assessment is not a neutral activity:

Any programme of assessment (for example, internal versus external), type of test (for example, essay or objective questions) or form of reporting (for example, grades) reflects a number of assumptions. These include assumptions about the nature of learning, knowledge and the purpose of assessment. (Willis, 1993, p. 391)

Educational reform today is driven by the rapid introduction of new assessment into classrooms. This is an initiative that carries with it competing definitions. The concept of assessment, in general, is poorly defined and delineated. Ryan and Miysaka (1995)
describe the current state of evaluation as being “in process with a bewildering array of new concepts, principles, procedures and policies” (p. 1). The questions asked by educators and policy-makers affected by the promulgation of not only assessment but also standards and accountability, reveal semantic tensions and ambiguity regarding the meanings of these terms. As a result of the ambiguity surrounding assessment, many individuals equate assessment literacy with a general familiarity and comfort with the process, which seems to be viewed as being equally, if not more important, than becoming literate in the sense of possessing technical fluency. This lack of assessment literacy can be attributed to teachers having to implement and organize classroom assessment reform without the aid of sufficient exemplars in an educational arena where very little consensus concerning basic assessment vocabulary exists. Teachers are immersed in debates surrounding a demarcation between measurement models and standards models of assessment; and between standardized testing and new assessment standards (Wiggins et al., 1990). Already frustrated with the difficult task of defining outcomes, teachers are now faced with the additional task of defining assessment and standards where there is no real consensus on meanings. Fittingly, we saw teachers in this study wanting to know how to assess their students using new strategies. They worried also about their own competence to create a good test that would reveal what their students had learned. Teachers, in essence, saw the difficulties inherent in the job of measuring student achievement.

As a corollary to the basic confusion about the meaning of assessment, there is also a lack of clarity about the purposes of assessment. There are a number of different historical traditions about the basic purposes of assessment (for example, sorting and selecting). Assessment, since the 1930s, however, along with instruction has undergone major changes in education. Students who were being prepared for an industrial society half a century ago (Cheek, 1993), by the 1960s were part of an education system within which educators were advocating inquiry-oriented and student-centred instruction in addition to the development of large-scale curriculum innovations (Fullan, 1991). Objectives-based curriculum and assessment procedures were replaced by new philosophies of teaching and learning in which boundaries between subject-matter categories were blurred, connections between disciplines were emphasized, a more active
and collaborative learning role for students was promoted and a focus on higher-order thinking with a concomitant lessening of the amount of detail students must retain was advocated (Fullan, 1991).

If we examine the implications of this study's findings then, the study revealed that teachers were seldom sure about what their students knew and what they were learning. Teachers' uncertainties were due in part to their unfamiliarity of subject matter and their limited measurement skills. It became apparent that some subject areas were easier to assess than others and that teachers' limited measurement expertise meant that teachers had to rely on guesses and less on precise indicators of student learning. What was perhaps most troubling in this study was the indiscriminate use of assessment strategies. There was little evidence that teachers were equating specific assessment approaches with subject matter standards. Therefore a knowledge of a broader range of assessment tools was needed that connected more directly with instruction and subject content. Teachers also struggled with the legitimacy of assessing prior knowledge that would provide important scaffolding for students as they learned to assimilate knowledge and skills from several subsequent grade levels. The difficulties some teachers experienced were primarily because they were not familiar enough with the subject matter to ask pertinent, timely questions; to anticipate conceptual pitfalls, and to have a repertoire of prepared tasks that would help students take the next steps. It seems, that in order to implement assessment, teachers require deep knowledge of subject matter; a theory of motivation; and a sense of how to develop a classroom culture with learning at its center. These teachers needed more time to reflect on their own beliefs as well as those of students, colleagues, parents and administrators, and to learn how to combine technical skill with reflection and the methods of inquiry.

Although teachers seemed to be aware that a variety of assessment strategies should be employed to capture varied learning, they continued to perpetuate the myth that one size fits all by administering one assessment strategy to all their students at the same time for the same purpose. Teachers must be cognizant of the value of a range of assessment tools that give them the opportunity of assessing individuals differently for the same purpose depending on students' varied learning modes.
Teachers were disturbed by the impersonal importance and finality of grading, as well as their uncertainty about links between the data they collected and teaching and learning. Rarely did teachers speak about what they did with the information they collected. In one instance, when using self-assessment, one teacher seemed to be satisfied with the knowledge that she had made a legitimate effort to use such an assessment strategy while contemporaneously either disregarding the students' judgements or manipulating them to align with the teachers' judgements. Efforts on the part of policy makers to incorporate these data to be useful for external assessment purposes would both provide the incentive for teachers to gather these data and to interpret the data appropriately. What also seemed to be missing was a focus on information gathering where learning involved using various kinds of information sources (for example, libraries, information centers and data banks, secondary and tertiary sources of information). In this way, the acquisition of information from sources other than the teacher means that the understanding and the application of knowledge are given primacy over the reproduction of knowledge.

In a more positive light, this study shows assessment to be a dynamic, vibrant and continuous practice that is part of the teaching and learning process; that prior learning was included in the assessment process; that feedback went beyond simply reporting right or wrong answers; that criteria were explicit and transparent; that students were encouraged to take responsibility for their own learning; and that assessment was used by teachers to examine and improve their teaching practices. Nevertheless, this study points out that if teachers are expected to implement classroom assessment, assessment must change in the following ways: in its form and content; the way that assessment is used in classrooms; and how it is regarded by teachers, parents and students. Perhaps more importantly, "teachers need help in fending off the distorting and de-motivating effects of external assessments" (Shepard, 2000). A profoundly meaningful change in current classroom assessment practices involves the support by policymakers and the public to increase the legitimacy of the use of new assessments by teachers and students. What all of this seems to indicate is the reculturation of classrooms. Changing classroom assessment requires public support from policy makers, the public and the media to be
viewed as a legitimate form of assessment that complements other forms of evaluation (for example, large-scale, standardized tests).

While legitimacy of assessment is deemed important, the problematization of assessment is of equal importance. Blackmore (1988) maintains that while new assessments may have the illusion of promoting inclusiveness and equity, assessments are merely instruments where "different forms of assessment are developed to suit specific needs within a particular historical context. No method of assessment can guarantee a democratic or rewarding experience or fair outcomes" (p. 51). If we, as Habermas suggests, can remember past narratives and our own history, it becomes possible for individuals in society to better understand the original (and beneficial) intents and purposes of mandates and policies that, over time, seem to affect educators and students so adversely. For example, Treiman and Schwager (1997) explain that, originally, classroom assessment reformers had hoped for more participation from mainstream professional and parent communities. To ensure this participation, reformers set about to empower parents and teachers with the information necessary to clarify new classroom assessment's position in their children's and students' achieving educational goals. What took place was the implementation of some ideologies of the early assessment reforms and not others. For example, student performance, originally, was intended to bring about a democratic involvement with the community, that is, to be a unifying force among members of communities and schools. The process was considered to reflect a community's values and preferences as they attempted to discuss the question: "What should all students know and be able to do?" Ideally through a democratic collaborative process, educational standards would emerge from prioritized values from within communities. In its original form, advocates of standard setting viewed local initiatives as essential in order to re-engage community interest in schools (Treiman and Schwager 1997). Treiman and Schwager (1997) maintain that the process of standard setting however, became political as politicians usurped the community's role in order to develop standards that were more competitive at both the national and global level. Standard setting remains a valuable tool for legitimizing the goals of public education. In fact, there were few teachers in this study who questioned the value of standards. If teachers have this historical knowledge of the original intent of standards, this knowledge
could aid teachers in the sense making process of assessment options. In other words, the standard setting process that is so often maligned and criticized may just be misunderstood. This historical knowledge enables teachers to achieve what Greene (1988) calls the possibility of “wide-awakeness.” This study suggests we be cognizant of the conditions of our lives and the forces that shape them. Applied to education, teachers should not blindly accept every condition as inevitable or necessary (for example, hierarchies, standards, mandated testing programs), rather they should remember that these conditions are manufactured (for example, by politically powerful interest groups). Greene (1988) suggests that teachers become aware of the moral issues involved in such things as mandated testing programs that allegedly discriminate unfairly and they develop the expertise to demystify such conditions and help learners develop similar competence as the situation progresses. There are, however, factors inhibiting the attainment of wide-awakeness in general that lead us to remain passive and powerless, such as bureaucracies, poverty and ignorance (Greene, 1988). Indeed in both the technical and practical interests of assessment, we see teachers struggling to interpret multiple meanings and (mis)understandings of assessment.

**Implications for Teacher Thinking**

While research on teacher thinking is burgeoning, there is debate about how useful the findings are. Clark and Peterson (1986) stress the limited amount of research that was being conducted in the 1980s with results that led to vague, nonsurprising conclusions. The research agenda on teacher thinking has increased in the last decade and continues to be controversial in its efforts to arrive at meaningful conclusions that go beyond being merely descriptive. Teachers’ beliefs and actions continue to collide in many cases. Other studies have conclusively shown that a relationship does exist between the two (Short and Short, 1989; Cornett, 1990; Wilson and Wineburg, 1991). It is generally acknowledged in the research community that teachers have personal beliefs about their work. What remains contestable is whether or not such beliefs actually inform their classroom practice (Calderhead, 1996). Debate arises because researchers are concerned (for example Cornett, 1990) that teachers reveal only generalized, abstract value commitments, and it has been found that teachers can sometimes hold conflicting beliefs that create dilemmas for them in thinking about practice or result in contrasting
beliefs being used to justify contradictory actions in different contexts. Freeman (1991b) argues that a new vernacular is required where teachers make implicit belief systems explicit and thereby develop a language for talking and thinking about their own practice. In this way, they are able to question and gain a clearer understanding of the contradictory nature of their beliefs and action. Such a vocabulary would be useful in teacher education and in the process of professional development.

Studies, such as this one, are relevant since they carry on that exploration of the factors that influence this relationship and hopefully provide some practical guidance for practitioners and policy makers. Fang (1996) maintains that few studies explicitly show how teachers can apply their theoretical beliefs within the constraints of classroom life. Rather than simply providing teachers with more theories, Fang (1996) makes a case for researchers to help teachers understand how to cope with the complexities of classroom life and how to apply theory within the constraints imposed by those realities. Researchers such as Clandinin and Connelly (1988) and Elbaz (1983) are attempting to do this. This study provides some insight into how teachers cope when implementing innovations by examining both their reported practice and beliefs in a particular area of knowledge. In particular, this study highlights some of the factors that interact in the processes of assessment and learning. This study has revealed that teachers' assessment decisions are not only motivated by measurement issues but also by the competing forces teachers face in their work life; the contexts of their schools and classrooms; the needs, interests and abilities of the students; and the values and constructs teachers carry with them concerning teaching and learning. Further studies are needed to explore how teachers' past experiences, inside and outside of teaching, shape teachers' thinking about their work.

Implications for Emotions and Intuitions

What is to be done with the emotional component inherent in assessment? Is it necessary to train teachers to exorcise emotions from their practice? Increasing demands for achievement and accountability may on the surface appear to discount teachers' more subjective assessments that may be informed by emotions, intuition and morals. Acknowledgement of the relevance of emotions, intuition and morals in teacher education and professional development forums would help legitimize these ways of
thinking for teachers and begin developing principles for teachers to address so that inquiry based on intuition, for example, could be relied on as a legitimate mode of inquiry. In this study, some teachers made inaccurate intuitive observations that could be avoided if teachers had a more systematic way of employing intuition in the classroom. Ben-Ze'ev and Star (2000) recommend that teachers learn to ignore primary intuitions which may have worked in one context but prove to be inaccurate in another. Teachers may even need to go so far as to 'suspend' their intuition and need for sense-making while learning new rules, contexts or knowledge (Resnick, 1987). Some teachers' intuition was more meaningful when it was followed by objective determinants of student achievements. In this way they were enhancing the trustworthiness of their intuition.

**Implications of Habermas' Three Levels of Knowledge Interests**

In this section I revisit the theoretical work of Habermas to reconsider the role his theory has played in this study with particular view to its strengths and weaknesses. This study adopted a critical framework, based upon Habermas (1971), as a means of examining various knowledge-bases in the realm of classroom assessment. Some of the key issues addressed by critical theory included the awareness of teachers to move beyond becoming technicists of assessment by applying their literacy or technical knowledge of assessment in constructive relationships between teachers' work and its participants while at the same time vying for emancipatory assessment practices that include equity and fairness, ethnicity and gender equity, empowerment of students and a humanizing pedagogy-assessment.

In retrospect, it appears that Habermas' theory of knowledge interests is not theoretically compelling particularly since the theoretical premise of three levels of knowledge is not new. As we saw earlier in the study, there are a number of tri-partite theories of knowledge in the fields of social science and psychology. Many of these other theories, however, present knowledge as hierarchical or developmental. In this way, particular forms of knowledge inevitably acquire more status than another. In contrast, Habermas' theory of knowledge does not rely on the mutual exclusiveness of any one paradigm of knowledge vying for superiority over the other. The categories of knowledge he presents are not hierarchical. In fact, data in this study reveal that teachers relied on a range of paradigms of knowledge and inquiry to inform
their practice in any given day, lesson or unit. At least one teacher employed two paradigms simultaneously in one assessment task. Sfard (1998) maintains that such practice has an immediate emancipatory effect. Habermas' describes the technical and practical interests as being dialectically related and in this way complementing each other while also screening each others' weaknesses and ultimately being transformed by the emancipatory paradigm. This study has shown that a pluralistic philosophical stance is workable. In fact, there is evidence showing that the most powerful research is that research that is conducted using more than one paradigm of inquiry as a conceptual guide (Sfard, 1998).

Giving full exclusivity to one conceptual framework would be hazardous. Dictatorship of a single metaphor, like a dictatorship of a single ideology, may lead to theories that serve the interests of certain groups to the disadvantage of others. A metaphor that has been given hegemony serves as an exclusive basis for deciding what should count as normal and what is anomalous, what should be viewed as below average rather than above, what should be regarded as healthy and what as pathological. The exclusivity is often equated with certainty, whereas the very presence of a competing metaphor may be enough to disclose the arbitrary nature of some of the generally accepted classifications. (p. 11)

What then, exactly, are the benefits of the plurality of paradigms in teachers' assessment practice? Each of these paradigms offers differing perspectives that are not necessarily incompatible. While these differences may at times seem to be competing, they can also provide mutually complementary outlooks of the same scenario. From this perspective, then, teachers might admit that the difference between the paradigms is not a matter of differing opinions but rather of different, mutually complementing discourses. Some critics might argue that the tension between the paradigms is irreconcilable but others might respond that the paradigms are incommensurable rather than incompatible: "incommensurability entails irreducibility [of vocabularies], but not incompatibility" (Rorty, 1979, p. 388). Such an outlook, which is particularly relevant in this study points to the possibility of their peaceful coexistence.

Perhaps the final decision regarding the value of a plurality of paradigms must be left to the teachers themselves. Each paradigm of knowledge can produce new insights about learning. Therefore, the criteria for its use by a teacher would probably depend on what they want to achieve with the paradigm. In the case of this study, teachers relied on
the technical paradigm for the acquisition of knowledge about assessment for their own learning and for assessing students' knowledge about subject matter while they used the practical paradigm primarily to promote a participatory approach to learning and the emancipatory paradigm to acknowledge inequities and to promote dialogue among others about assessment. Finally, the basic message for the viability of a plurality of knowledge paradigms is supported by the context in which teachers work:

Practitioners as well as educational researchers live and work in a society that reflects a variety of paradigms. It seems that the sooner we accept the thought that our work is bound to produce a patchwork of metaphors rather than a unified, homogeneous theory of learning, the better for us and for those whose lives are likely to be affected by our work. (Sfard, 1998, p. 12)

While the study highlights the potential of three paradigms of knowledge, it would be naïve to assume that each paradigm has no weaknesses. Yet it is perhaps these very weaknesses that enable Habermas' dialectical theory to work since each paradigm of knowledge acknowledges the others' weaknesses by filling in the gaps. The technical perspective for example, can be viewed as a safehouse when acquiring new knowledge or whenever we try to comprehend a change, leading us to seek norms and structures that may be adverse or distort a situation when viewed from another perspective. Technical knowledge has proven to be beneficial in this study. More importantly, if teachers devalue such knowledge, they lose an important possibility to conceptualize their technical learning that help them gain a better understanding of the techniques and principles underlying assessment processes.

The potential of the practical paradigm lies in the promotion of collaboration as well as having an interest in teachers, students, and administrators attempting to understand the relevant phenomena and each other. Students with a history of failure, in particular, were seen to thrive in this paradigm of assessment. The relationship between the technical and practical paradigms was both symmetric and symbiotic as the plurality of beliefs that became so evident in the practical paradigm came into sharper focus as they were viewed in contrast to the normative, common and sometimes static understanding of assessment in the technical paradigm. In this way, the paradigms complement each other in their dissonance and are both independent and dependent on each other.
A final argument in support of working with a plurality of paradigms is made by postmodernists. While there is considerable debate about whether Habermas was a modernist or a postmodernist, his theory is rooted in modernism. He is a postmodernist in that he advocates a plurality of paradigms. Perhaps he offers something more than the postmodernist ever could for teachers in this study. Habermas, along with other members of the Frankfurt School (for example, Adorno and Horkheimer), developed critical theory, which has been of great importance to postmodern philosophical and educational theory. He criticized postmodernists for a tendency towards dichotomous either-or thinking, a concern with fragmentation and its attacks on rationalism. He was troubled with suggestions that we disregard the past and "wage a war on totality." Habermas believes this view is misguided. While Habermas does not discount scepticism for achieving totality, he points out that this scepticism is not new and was already evident among classical pragmatists who warned against universal views (or foundationalism and metanarratives to postmodernists). Habermas is sceptical of the type of binary oppositions that postmodernists (advertently or inadvertently) leave us with when they condemn universality and celebrate diversity.

A postmodern view of knowledge is particularly relevant in this study since the uncertainties, paradoxes and complexities teachers encountered in this study reflect the postmodern milieu in which they work. Ryan and Drake (1992) maintain that educators today are working within realities of an ambiguous postmodern world of complexities and unpredictable change. In the past, the practice of preparing teachers and administrators has been to rely on a static picture of the world where human behaviour is reduced to laws, principles and relationships that can be predicted (Ryan and Drake, 1992). This approach, however, does not adequately prepare administrators, nor does it guarantee better administrative work. Postmodernism provides a focus on the narrative of the individual relevant to their unique situation. In other words, the sharing of experiences among administrators and teachers, the ability to negotiate between discourses and the acknowledgement of the educator's practical knowledge now have a place in educational research and practice. Educators are working in schools that are accountable to the public, politicians and the media leaving a wake of uncertainty, mixed messages, contradictions and paradoxes for educators to make sense of (Hargreaves,
The inherent contradictory expectations which lie at the core of public institutions where schools are expected to serve two contradictory purposes, that is, to produce and reproduce a workforce for the capitalist economy while simultaneously providing opportunities for individuals to develop fully in order to participate in a democracy. Teachers today are working in institutions that have come under the public’s scrutiny through the calls for more accountability while at the same time being expected to promote individual learning within the classroom.

Human experience is recognized to be ambiguous; outcomes less certain or even unpredictable; issues more elusive than ever before. Where scientific thinking historically sees universal laws, other lenses such as the practical and emancipatory perspectives make room for flux. “All knowledge claims are partial, local and specific rather than universal” (Usher and Edwards, 1992, p. 10). Particular knowledges, especially those knowledges which have previously been ignored and excluded, are recognized to have something important to contribute to our understanding of the world. For example, teachers’ knowledge or understanding gained through actual experience in the classroom has not always had the respectability that it now enjoys. Even if this knowledge is not yet fully appreciated, it is far more valued than in the past.

The pluralistic approach in educational research, while disclaiming certainty in our knowing the world, allows for our capacity as human beings to choose to make our own future. Educational institutions are not governed by immutable laws. The sense of their very contingency can re-awaken in us the idea that we can do things differently. Recent developments in the discipline of education clearly show a movement away from empirical accounts of education towards approaches that stress the role of the human actors (Clandinin and Connelly, 1990). We may study different approaches to improve our institutions but we may also start thinking discriminately about whose interests these institutions are actually serving, as the critical theorists advocate. Part of this sense of what this study offers is a rejection of a best method approach as an explanation for any phenomenon where pluralism not monism is reflective of our postmodern era.
Limitations

Critical Theory

While Habermas presents both the possibility to rethink the relation of schooling and democracy and that education must promote social empowerment, he does little in the way of operationalizing this goal. One might criticize such an outlook as naïve and wonder how teachers could possibly make sense of such goals? How can a critical theory of society be a theory which can be practically enlightening? The conundrum lies in the fact that as soon as principles, models or practices are introduced contributing to a more democratic, fairer form of instruction-assessment in schools, “there arises the question as to whether a principle does indeed hold [up] universally” (Misgeld, 1975, p.55). Habermas, like other critical theorists may be charged with

...writing with great self-indulgence and for an audience of like-minded academics who thus contribute to their own ghettoization. They...do not expose themselves to the criticism of professionals in these fields. They write about pedagogy and as critical educators. But they are utterly unresponsive to the needs of day-to-day practice in concrete and real educational settings. They endorse sweeping criticisms of inherited cultural traditions and ways of thinking without really participating in the deconstructive work required. They thus alienate themselves and the teachers they may train and influence, from a critical treatment of these traditions themselves. They present as an accomplished fact that we now live in a new age, a postmodern age, and that there is little to be relied on in the inherited traditions of criticism, scholarly care, and scrupulousness, or of intellectual and scientific communication, to which one could turn in order to develop the intellectual and critical capacities of teachers as well as their social responsiveness. In short, they tend to spread confusion. (Misgeld, 1975, p. 55)

The question remains, then, as a theorist, how does Habermas anticipate his theory to be carried out as an activity “as [his theory] is not clear in what way it would address the actualities of particular society” (Misgeld, 1975, p. 79). Habermas’ theory provides at best “highly general concepts, suitable, perhaps, for the formulation of specific hypotheses” (p.79). According to Misgeld (1975), the emancipatory ideal in this sense remains merely an ideal if teachers do not know how to translate it into something that they can practically pursue. Without knowing how to do this, teachers in turn do not really know whether the ideal is desirable. While Habermas has not specifically presented a framework with which to bridge the theory-practice gap, a few researchers have begun
to eliminate the dichotomy between practice and theory using participatory or praxis-oriented research methods that provide clear strategies for linking critical theory and empirical research (for example, Friere, 1990; Lather, 1991; Smith, 1974).

Habermas' theory therefore, does not guide or inform the utility of the emancipatory interest very well. While this study has examined teachers' practice using three levels of knowledge lenses, a few words must be said about the distinction between the first two levels of knowledge: technical and practical, and the third knowledge interest, emancipatory. The first two interests reflect a methodology of action; they are visible and identifiable. They are characterized by a tendency to accept the given forms of the human world. They do not go beyond objectification of the world around us nor do they transcend our current awareness of human life and its changeability (Young, 1989). Technical action is based on predictive control and leads to a form of action based on prediction and manipulation. Such a methodology of assessment consists of a general rule, law or generalization, together with a set of variables and fixed conditions under which it applies, allowing the identification of some variable conditions, which is in the power of the person applying the knowledge to change. The second methodology teachers applied to their assessment practice, was practical, which is based on the development of understanding cultures. Whereas technical action can only be manipulative, in a literal, physical sense, practical action relies on actions and words between individuals where the goal is of understanding and being understood. When one applies practical action, the result is not a determinate, physically caused result, but a state of understanding of a message or a text. This understanding is not determinate, nor is it necessarily physically caused. Neither action, that is, technical or practical, however, is sufficient to penetrate the objectification of teacher practice. Only the third interest, that is, emancipatory interest, transcends objectification (Young, 1989). This third interest, however, according to Habermas, can be viewed in action only as words between individuals in seeking dialogical interactions, but beyond that it remains abstract and unobservable as an action. For the purpose of this study then, the value of the emancipatory interest lies in critiquing the technical and practical interests as well as presenting alternate possibilities of critical assessment. In essence, a critical approach to assessment provides broad organizing principles that pervade what practitioners do;
however, the detection of critical interests of knowledge remains less evident in practice than it was when observed from the technical and practical interests. At best, an emancipatory interest of assessment can be perceived as an ideology—an abstract mode of thinking not easily operationalized.

Ideology is a kind of practice in thinking about society. To think ideologically is therefore to think in a distinct...way. Ideas and concepts, as such, are not ideological. They are ideological by virtue of being constituted and used in ideological ways. (Smith, 1974, p.41)

Habermas’ notion of emancipatory interests differ from the technical and practical interests in that the emancipatory is evaluative while the other two are prescriptive paradigms of knowledge, easily describable, articulated and visible. In contrast, the emancipatory interest focuses more on projecting what could be or what could happen.

Furthermore, issues that are of concern for individuals in everyday life are invariably transformed into technical questions or issues. In this sense, Habermas’ emancipatory paradigm is reduced to technical language that cannot adequately capture the theoretical notions teachers might have and which inevitably reduces their practice to ideologies. He articulates what Smith (1979) calls a “rupture between experiences, concerns, needs, aims, interests arising among people in the everyday and working contexts of their living” and the forms of thought which “serve to organize and order the expression of the local, particular, and directly known” (p. 142). Put another way, when individuals participate in what Habermas claims as the ideal means of attaining emancipation, that is, through communicative action, (dialogue), this action is inevitably distorted by the rationality of instrumental action that manipulates and controls the environment. As a result, the articulation of critical reflection and of emancipatory alternatives are distorted and often are only truly depicted theoretically.

A practical application Habermas provides to illustrate the intermingling of the three levels of knowledge is that of a therapist or psychologist with therapeutic training who objectifies (technical interest) a phenomenon as he or she analyzes a patient. In this case, the therapist objectifies the problem in an attempt to understand why there is a problem, and why it would recur, not unlike a doctor diagnosing a disease. The practical aspect of this situation occurs when the therapist must engage in a dialogue with the patient since the therapist is unable to look directly into the patient’s mind. The analyst
then offers suggestions to the patient: "Could it be...?" The patient must first interpret what he-she has heard and then confirm or reject the suggestion(s). This, for Habermas, is the process of reflection and self-reflection that eventually leads individuals towards emancipation. In this scenario, the therapist puts forward conjectures and hypotheses and the patient responds with, "I agree with this; yes this is my problem," or "I do have this problem." We do not however, have evidence of emancipatory practice in this illustration because that must occur at a later date after the patient has reflected upon the above conversation. We can only project or anticipate how the patient may act in an emancipatory way. This illustration highlights, in a practical sense, how Habermas' levels of knowledge combine the technical interest with the practical and out of that combination give rise to the emancipatory or self-reflective interest. The emancipatory level of knowledge is driven by the interest in seeing through illusions or breaking through a condition of dependence. Ultimately, the patient no longer needs the therapist to guide him-her towards self-reflection.

In sum then, when Habermas presented the possibility of a critical social science, he focused primarily on the idea or the possibility of such a science rather than on its substantive development. His use of Freudian psychoanalysis to address the methodological character of a critical social science has raised objections from critics as being a weak and narrow example. Critics challenged Habermas to show the conceptual possibility of a critical social science by also asking: "What political or social experience can also be taken as analogous to the psychoanalytical transference leading to an emancipatory state?" While Habermas' task then, in Knowledge and Human Interests, was to show the viability of a critical social science, (a task some say he failed at), he provided little substantive evidence for its viability that is, whether it is a feasible research project. He does not adequately address two important questions: "Is such a science possible?" and "How is it possible?" In this his earlier work, Habermas had not yet made much progress in the systematic articulation of critical social theory (Bernstein, 1985).

**Communicative Rationality**

Habermas' theory of communicative rationality has also been criticized for its idealization of the possibility of promoting equitable discourse. Gould (1994) states that
such a discourse implies the inclusion of all those engaged in dialogue: "the reciprocal recognition by the participants of their equal roles and of their equal freedom to enter into the discussion" (p. 15). Habermas emphasizes the notion of communication as a process for arriving at a consensus by means of the best argument. Again, such discursive practice is not available to all groups of people since a best argument approach implies a procedure with which not all individuals are familiar. In other words, such an implication "poses serious questions about the representation of the interests of those who are unable or unwilling to measure up to these [procedural] standards" (Gould, 1994, p. 17). Filson (1992) concurs that such communication, that is, inclusive discourse, cannot be acquired through professional training.

It cannot, by its nature, be reduced to some technique or model. Its different features are of greater or lesser importance depending on the particular situation in which it is used and depending on the judgements of the participants, actually involved in that situation. It is a relative communicative competence, not an absolute or singular competence. It covers a range of human competencies; it develops as it is used; and it is used by people at different stages in their own personal development. Though clearly relevant as both a practice and aim in education, it may not be something that can be translated into a syllabus for the purposes of training or instruction. (p. 259)

Finally, with his emphasis on agreement as the goal of discourse, Habermas' view "does not leave enough room for the recognition of individual differences....He seems to see individual difference as an obstacle to be overcome on the way to consensus rather than as something that is normatively desirable" (Gould, 1994, p. 17).

**Recommendations and Further Research**

This study is part of the expanding research agenda to help policy makers and the general public understand classroom assessment. This study has contributed to the body of research embedded in the dilemmas of practice. What is also significant is that while researchers in the field of education (for example, educational administration and educational organization) continue to perpetuate functionalist paradigms, this study explores the legitimation of alternative knowledge sources as well as presenting a theoretical framework that provides access to the largely invisible ways dominant social constructions are created and sustained. A multi-paradigm approach to research as depicted in this study explores the possibility of alternate knowledge-bases when
speaking about classroom assessment. This approach does not dismiss traditional approaches to educational research but rather explores the utility of multi-paradigm approaches in conjunction with other epistemologies and their accompanying methodologies (Capper, 1993). For example, according to Bolman & Deal (1997), an administrator cannot transform a school without considering its organizational structure. Similarly, teachers must gain technical proficiency with assessment in order to nurture sophisticated forms of assessment dialogue with their students that reflect practical/emancipatory interests.

Furthermore, Bates (1983) maintains that “science of control has been seen as central to education...devoted to production and allocation of persons and knowledge. Control is focused on maintaining the existing organizational pattern of power structure. Critical theory can change that” (p.129). Critical theory in education seeks a new understanding of the often invisible ways in which social interaction is structured, power wielded and privileged interests protected in the organizational context. A critical theory of education, then, is concerned with social and political issues that can aid administrators, policy makers and teachers in their decisions concerning standards, interests and directions that the organization should take. This sociological view of the world emphasizes that social reality is constructed through social interaction. In doing so, administrators and policy makers can facilitate dialogue in schools and districts among teachers, students and parents.

Beyer and Apple (1998) state that curriculum debates currently focus on procedure rather than what counts as legitimate knowledge. In their words, they claim that technique is winning out over content which leads to the deskilling of teachers. They encourage reflective action on the part of teachers combined with a sense of power and politics. Classroom assessment is not exempt from these concerns. In fact, researchers (for example, Broadfoot, 1996) claim that there is a plethora of research on classroom assessment that examines assessment as a technology but which ignores the social and political aspects of assessment. What is needed is a critical application of assessment, which we saw the beginnings of in this study. What was not evident in this study, however, was the teacher's application of certain modes of inquiry that were more critical, systematic and dependent on school-wide support (for example, action research
Hannay & Ross (1993) present a model of reflective inquiry grounded in critical theory that emphasizes the application of principles not just procedures in the investigation of social issues. They maintain that a critical approach encourages the development of a critically reflective state of mind rather than just the rote application of an algorithmic pattern to a problem. They are concerned that reflective inquiry, as currently conceived, is based on the premise that social issues and problems can be critically examined by applying a technical model of problem solving. Van Manen (1977) presents a form of critical reflectivity that involves a level of thought that incorporates the consideration of moral and ethical criteria in addition to reflective thinking procedures. This in turn leads to critical discourse. Lytle & Cochran-Smith (1990) present a more systematic form of teacher research than what emerged in this study where teachers engage in systematic, intentional inquiry about their own school and classroom work. Research is deemed systematic when it involves ordered and methodological ways of gathering and recording information. The research is intentional, that is, planned not spontaneous. Teachers' inquiry stems from or generates questions and reflects their desire to coherently organize particular situations. The research generally takes the form of journals, essays, oral inquiry processes and usually works through a formal network.

Finally, teachers need to engage in action research within their schools. While Grundy (1987) notes the existence of some critical and emancipatory teacher-based action research, the vast majority of this work, according to Lather (1991), "operates from an ahistorical, apolitical value system which lends itself to subversion by those who are tempted to use merely the technical form as a means of engineering professional teacher development" (p. 263). It becomes evident then, that there exist differing and sometimes incompatible viewpoints among researchers about action research.

Some...regard action research...as a way of deepening teachers' understanding while other stress its role in stimulating practical improvement and change. Yet others see action research as an effective way of communicating research findings to teachers (Carr, 1989, p. 85).

Because of these discrepancies, action research is often criticized as mere rhetoric. Defining action research becomes even more problematic because conceptually it consists of dialectical opposites—'action' and 'research.' While 'action' denotes moving
toward critical reflection, the term ‘research’ keeps action research in a positivist framework because research is systematic and methodical rather than reflective. Carr (1989) maintains that by moving towards teachers’ own theory in action and not that of an educational theory, action research leads to reflective and critical inquiry that is not merely descriptive.

Criticisms directed toward some types of reflection and action research (for example those presented by Stenhouse (1975), Polanyi (1962), Schön (1983) regard these models as presenting essentially cognitive perspectives (Dadds, 1995). Dadds (1995) expresses her concern by saying that some models of action research in particular are too ‘tidy’ in that “teachers’ descriptions and accounts of their work often bear little resemblance to the tidiness of action research models existing” (p.2). What is missing in these models then, and what began emerging in this study, are the affective views of teachers’ experiences. Artz (1994) maintains that feelings/emotions are powerful knowing processes that reflect individual patterns of organizations and disorganizations in experience. In the process of change, emotions should not be treated as phenomena, instead they should be treated as helpful and informative sources of knowledge and understanding that is part of our sense-making process. Emotions become integral to the process of creating judgements, evaluations and interpretations. Like intuition, emotions become a reflective process that we use to structure and organize our experience. Rather than viewing feeling as reactive, it becomes the function that we use to judge and order our reality according to our values. When we are experiencing feelings, we are deciding at a fundamental level to accept or reject whatever we are doing at the present.

Emotions are indispensable for rational decisions because they inform and narrow the range of choices in solving problems and making decisions....Cognitive intelligence is an advantage but it is especially so when it combines with emotional maturity (p. 6).

In addition, research should be negotiated with others to produce more meaningful research. In other words, it is not only the research that is important, but also the individual doing the research. Life history methodology has begun to provide rich information about the ways in which teachers’ perspectives are rooted in the variety of personal, familial, religious, political and cultural experiences they bring to teaching.
Connelly and Clandinin's (1988) narrative inquiry approach has shown that teachers are socialized by influences prior to formal education (for example, previous life experiences); by relationships in their past (for example, parents and teachers); by role models of teachers; by workplace influences such as the students they teach; by the efforts of having to juggle classroom demands; by their colleagues; by their administration; and by their school culture.

I am recommending that future research focus on the consequences of school change on the individual but also advance that research by examining the various connections between internal and external forces and teachers' thoughts, emotions and morals.

Much of the ambiguity in assessment is a compromise between disparate expectations, competing demands, contradictory conceptions of weakness and discrepant solutions. In attempting a systemic approach to assessment reform, the problem is its dependence on a needs consensus. Policy makers often are not aware of the gaps in teacher preparation. Policy makers need to be aware of what teachers do in the classroom. Without this practical knowledge, they develop policy on the assumption that practitioners can cope with all the diverse, relevant assessment issues. Essentially, policy makers themselves must become assessment literate. In this way, policymakers will recognize the key role of formative assessment in effective teaching and the impact of assessment for learning. Ideally, teachers should be able to dialogue with policymakers about their practice. Policy makers must play a more active role in improving classroom assessment by supporting assessment training for teachers and administrators. Perhaps more importantly, policy makers must produce policy that takes structural constraints into account.

Policy statements should be viewed as starting points for discussion and not definitive propositions to implement. While standardized techniques are usually developed by academics, research and development agencies and then superimposed on the work of teachers to improve practice, what might be more useful is if those groups who are most intimately connected to the lives of students, (for example, teachers, administrators, students and community members) become involved in developing policy. In addition, the language in policy documents should be changed since it
presently is a language of efficiency, standards and competency, which impoverishes the imagination and limits educational and political vision. This language is distanced from the personal and situational language of teachers who must make informed, flexible and humane decisions in precarious circumstances.

While these recommendations may seem biased, teachers too must take responsibility for their assessment actions. Teachers need to improve their way of conveying the meaning of assessment to others by establishing communication and building understanding. This form of 'meaning sharing' can begin in faculties of education. In fact, Ohio State University has created a simulated environment in which to nurture reflective teaching. That facility provides an opportunity for teachers to teach and then reflect on the teaching experience with the intention of improving subsequent practice. The reflective forums help teachers think about what happened, why it happened and what else they could have done to reach their goals. Cruickshank & Applegate (1981) maintain that reflective teaching encourages teachers to be students of pedagogy and assessment. Reflective teaching is a carefully structured form of peer teaching. In such a safe environment the complexities and nuances of teaching and assessing can be discussed. Teachers have both the time to introspect about their own teaching and assessing behaviors and the opportunity to view other experienced professionals in action. In these professional development schools, there is room for reflection using videotaping, dialogue, journals and comparative teaching. Other ways of promoting peer teaching as suggested by Stiggins (1990) involves organizing learning teams in the same or different schools on the basis of grade levels and subjects. The teams develop assessment strategies during release time and become assessment experts for their school. These types of interventions are particularly valuable since they encourage time for talk with students/teachers/parents as well as promote training for knowing if assessment is successful without relying totally on marks. Teachers are able to compare patterns of assessment with others as well as being observed by others of their assessment patterns.

Finally, an agenda of participatory research is required where teachers become researchers to develop curriculum and assessment strategies that intersect. Studies on educational change show that teachers have a better chance of implementing change when they can claim ownership for the change. In this way, both the researcher and the
participant is transformed through dialogue and immediate feedback as they think about and inquire into assessment. Habermas' theory would take on a more useful role when both researchers and teachers are participants in the research agenda with an opportunity to attain emancipation and to be transformed within the ensuing relationship.
REFERENCES


House, E.R. (1979). *Three perspectives on innovation: The technological, the political and the cultural*.


APPENDIX A: INTERVIEW PROTOCOLS, 1997-1999

Interview Protocol, 1997

Preamble to Teacher Interview

Thank you for agreeing to be interviewed. We are going to tape your comments but you can ask us to stop the tape if there is something that you don’t want recorded. As we mentioned in the letter, your responses will be confidential and you will not be identified in any reports unless you give written permission.

We hope that this follow-up interview will give you chance to reflect on what has happened for you in teaching over the last couple of years. We want to gather some information about how you feel and what you think about The Common Curriculum reforms now that you’ve had some time to work with them. When I say The Common Curriculum, I mean The Ministry Policy and Outcomes, the Ministry Standards and anything that your board has produced or provided. This is not an evaluation of your or your teaching or your implementation of The Common Curriculum. There are no right or wrong answers. We want to know both about what you are and what you aren’t doing and why. Your response will be analyzed along with the other teachers' in the study to try to understand how teachers are experiencing the changes and responding to them. We’ll consider all that we have from the group of teachers that we’re interviewing to prepare a report and will send you a summary when it’s done, probably next year. We have left the interview format as unstructured and open as possible so that we can explore the issues from your perspective. Like last time, I will also ask you to describe a unit that you’ve done, in some detail. Since I don’t have a lot of time with you, I may interrupt and redirect you along the way.

Interview Protocol

I’m going to start with some questions about your assignment and your class this year. (Note-move through this section fairly quickly as a warm-up).

Class Demographics

1. What grade level and subjects are you teaching? (probe-rotary program, split grade or straight).
2. How many students in your class(es)? (range in rotary).
3. What is the gender split in your class(es)?
4. What is the racial, ethnocultural, linguistic makeup of your class(es)?
5. How would you describe your students in terms of range of academic abilities?
6. Are any of your students receiving additional support? (probe-ESL, Special Ed., peer tutoring).
7. How is your classroom physically organized? (probe-rows, centres, eclectic). Why?

Specific Curriculum Unit

One of the most interesting parts of any interview is your description of a unit that exemplifies your approach to teaching and to assessment. Pick a unit you have done that you think worked well and is a good example of you as a teacher. Describe the unit in detail. Tell me about what you as the teacher did in this unit. (probe-what instructional strategies did you use? What resources did you use?)

8. What aspects of The Common Curriculum do you think this unit addressed?
9. What outcomes did it address?
10. What about curriculum integration.
11. Overall, how consistent do you think this unit is with The Common Curriculum?
12. What was not consistent with The Common Curriculum?
13. What did you look for as evidence to decide how well your students had met the outcomes? (probe-How do you know what the students have learned? How did you know as a teacher what you were doing was working?)
14. How did you assess the learning in this unit? (probe-What assessment approach(es) did you use? Why did you use these? How did you know they were successful?)
15. How consistent was this assessment with The Common Curriculum?
16. Is there anything you did that wasn’t prescribed by The Common Curriculum?
18. How did your students do in relation to the outcomes covered in the unit?
19. What percentage achieved the outcomes?
20. How did you communicate or report progress to the students in this unit? To the parents?
21. How did you handle time issues in this unit? (probe-What about timetable, prep time, homework, e.g., work done outside of school?)
22. Are there key activities other than the clock that determined how you implemented this unit?
23. There are occasions when time seems to fly by or drag on. Describe when this happened during this unit.
24. How did you ensure students had time to achieve the outcomes? (e.g., enrichment, remediation).
25. Why do you think this unit gives us a good sense of you as a teacher? (probe-What in it are you proud of? What was particularly effective? Why)
26. Looking back at the unit, is there anything you would have done differently? (i.e., in terms of instruction; in terms of assessment; in relation to The Common Curriculum?)

The Bigger Picture of The Common Curriculum

Now that we’ve talked about a specific unit, I want to ask a few questions about the bigger picture of The Common Curriculum.
Overall, what is your involvement in *The Common Curriculum* in relation to using outcomes, assessment and teaching right now? (probe-What quadrants of *The Common Curriculum* do you teach? Are you working with others jointly? Are you involved in any other activities in school, board, consortium?)

Is any of this different with what you were doing 2 years ago? (probe—in assessment, in teaching, in the school, outside the school, in relation to the job in general?)

To what degree are *The Common Curriculum* reforms compatible with your own attitudes-beliefs about the teaching-learning-assessment process?

To what degree are *The Common Curriculum* reforms incompatible with your own attitudes-beliefs about the teaching-learning-assessment process?

How do you think this affects you in terms of implementing *The Common Curriculum* reforms?

Are your attitudes or beliefs significantly different from other teachers-administration-parents-board?

Do these influence or impact your own attitudes and beliefs in any way?

How much control do you feel you have over the implementation of *The Common Curriculum*?

How do dependent are you in others for implementing reform initiatives?

How do you make *The Common Curriculum* reforms fit with the many other reforms that are occurring at the same time? (e.g., safe schools, equity) (probe-How do you decide what gets implemented and what does not within your classroom?)

**Description of a Teacher's Day**

In this section I'm interested in your relationship between home and school. I'd like to ask you to describe a day in your life for me so that I can get a feel for what a day in the life of a teacher includes.

Even though it may not be a typical day, describe your last teaching day for me. Feel free to editorialize; tell me how you felt about the day and about individual didn’t work; how you handled situations that arose. Pretend I’m a dairy and you’re trying to capture your day in words and ideas and feelings. So, just start with getting up in the morning and walk me through the day, step by step. (probe-including out of school, full day, no gaps. What happened in the classes; how did you feel?)

**The School and Your Place In It**

The next few questions are about your school and your place in it.

Describe your role in your school (e.g., in terms of leadership, decision-making, assignments).

Has your role changed over the last 2 years?

What kind of place is your school?
41. How are you controlled-limited in what you do in terms of time demands imposed by the school or other people?
42. Describe your relationships with students-colleagues-administration-parents.
43. Can you talk openly with your administration?
44. Do teachers work in isolation or do they pull together?
45. How do students interact with each other in the school?

Reflections

46. Looking back over the past 2 years, what obstacles have you experienced during implementation of The Common Curriculum in terms of instruction? In terms of assessment? (e.g., material, organizational, political and human barriers in your work).
47. How have you tried to overcome these obstacles?
48. How did you feel about these obstacles? (positive-negative feelings?)
49. Again, in retrospect, what has been a support for you or facilitated what you had wanted to do? (probe-Where did you get your knowledge for assessment strategies? Outcomes?
50. Who has provided leadership?
51. What about staff development? (probe-any teacher collaboration?)
52. What support would you have liked that you didn't get?
53. Have you found any particular personal coping strategies to be effective in dealing with these changes?
54. How would you describe yourself as a learner?
55. What keeps you learning?
56. Reflecting on the past two years, how have issues related to time influenced your work? (probe-time for preparation; professional development; time for reflection, inquiry)
57. What do you think your principal believes are the key ways time influences your work?
58. Have there been any changes in your personal circumstances that have influenced your work during the last few years?
59. How do you balance time between work and your personal life?
60. Describe the relationship of your work to your life interests and commitments (e.g., interest in children, commitment to life-long learning, commitment to family, interests in the arts, music, sports).
61. What positive-negative feelings do you have about all the changes you experience in the last 2 years in your work?
62. What positive-negative feelings do you have about all the changes you experienced in the last 2 years in your personal life?
63. Is there anything you'd like to add about your experience with The Common Curriculum reforms that hasn't been discussed? (e.g., concerns about The Common Curriculum, recommendations, etc.)

Thanks for being willing to talk to me.
Interview Protocol, 1998

Since your last interview there have been many changes in education and our project team is interested in understanding how these changes are playing out for teachers in schools. In our earlier interviews we were particularly interested in The Common Curriculum, but we are now refocusing our work away from the curriculum and trying to understand what all this change has meant to you. As before this study is in no way an evaluation. But unlike last time when we had a large number of specific questions for you this most of the questions are fairly open. I’m going to ask you about your last teaching day, your greatest challenge, a significant high-point, the changes you feel have affected you most. Before you answer my questions take the time you need to collect your thoughts, and remember that what you tell me will remain confidential. We can stop the tape at any time, or delete a comment you have made. Remember that you will not be identified and that you are free to withdraw from the project at any time before we complete our report.

Do you have any questions before we begin?

Questions

1. Perhaps we could begin be looking at your last teaching day. Walk me through it from the moment you awoke. What did you do? What did the students do? What were you trying to accomplish?

   Probe at least one instructional lesson block after hearing the entire day.

   Probe any critical areas in the personal moment also.

2.a. What’s been one of the greatest challenges you’re faced in the last year or so in your professional life? Tell me more about it. What did you do? Can you give me an example?

   Take it through to resolution-end state if possible.

2.b. Tell me about another challenge, this time regarding your own practice of assessment. Why-Feelings Obstacles and supports power, sense of control

3. Think again about the last year or so and describe What impact has this had on
for me a high point for you as a teacher.

<table>
<thead>
<tr>
<th>4.a. We’ve talked a lot about your work, now I’d like to focus on the broader context. What’s different?</th>
</tr>
</thead>
<tbody>
<tr>
<td>What’s changed that has had a significant effect on you? Think here about any of the four levels—school, your community, your district or the broader educational sphere.</td>
</tr>
</tbody>
</table>

| 4.b. Is there another important change for you? |

| 5. Have you thought of a metaphor to represent your experience in the last year? |

Thank you for taking time to talk to me today.
Interview Protocol, 1999

Thank you for agreeing to be interviewed again. Like last time, we are going to tape your comments but you can ask us to stop the tape if there is something that you don’t want recorded. Your response will be confidential and you will not be identified in any reports unless you give written permission.

This year is the final year of the project. Because this is our last visit, we want to approach it in a different way from other years. We’re interested in three big areas. First, we’re going to ask you to stand back from your day to day work and reflect on the bigger picture of education over the past decade. Next, we’ll move inside your classroom to find out about the adaptations-accommodations-modification you make for particular students. Finally, we’ll ask you some questions around the idea of classroom assessment. For starters, though, I want to take some time for you to reflect on education generally over the past few years and on how you’ve been affected.

1. Have a look at this graphic of milestones in Ontario education in the 1990s. We’ve put some provincial milestones along the right of the time line. We know that this only captures part of what has gone on for you. Have there been any major school or district milestones that have affected your work life and stand out in your mind? What about personal milestones that have affected your work life and stand out in your mind?

2. O.K. take a look at the graphic again. Pick a point on the line, prior to now, that was particularly significant for you in your work. Tell me about it. What was happening then in all parts of your life? Just tell a story. What impact did it have?

3. I want you to locate yourself anywhere else on the line prior to the present that was significant for you. Tell me about that one.

I mentioned earlier that we’re interested in the areas of adaptations-accommodations-modifications and classroom assessment. These are features of practice that we’re working to understand and I’d like to ask you some specific questions about them. First I’d like you to think of a past lesson or teaching episode in which you made an adaptation-accommodation-modification for a particular student, preferably one who is not IPREC’D, that was for learning not behavioral reasons. Also please be sure to pick a lesson-teaching episode that included some sort of assessment. As you can see, I’m going to ask you some specific questions about the learning-teaching and the assessment-evaluation in that lesson for both the class and the individual child.

4. What were the goals of the lesson for the class?
5. Where did these goals come from?
6. What did the students actually do in order to try and achieve or reach these goals?
7. What was your role?
8. How did it go? How did you feel about it?
9. How did you handle the assessment?
10. I'm trying to find out how teachers think about assessment. When you started planning the assessment for this lesson, tell me what you thought. In other words, do a think-a-loud for me and reconstruct your thinking as best you can (e.g., How did you get to the 'doing' of the assessment? What decisions did you have to make before actually 'doing' the assessment? Were there any other options available? Why did you choose the assessment you used?)

11. Were you comfortable with how the assessment went?  
12. Did you anticipate any problems or concerns? Did they happen?  
13. How did you provide feedback to the class about their performance? How did they do?

Let's move on to the student you adapted-accommodated-modified for.

14. Tell me about the student. Why did you adapt-accommodate-modify for this student?  
15. What were the goals for him-her in this lesson.  
16. Where did the goals come from?  
17. What did he-she actually do in order to try and reach-achieve these goals?  
18. What was your role?  
19. How did it go? How did you feel about it?  
20. How was assessment handled for him-her?  
21. How did you provide feedback to this student about his-her performance? How did he-she do?  
22. As you know, the Ontario curriculum sets the same goals or expectations for all children in a grade. How do you deal with this in your class? (probe-instruction; assessment; reporting; feasibility).

Now I'd like to ask you a few questions about assessment generally.

23. What would be a metaphor or image to represent your experience with assessment?  
24. Talk to me about the purpose of assessment in your classroom. (probe-what's your role? Has this changed over the years?)  
25. What do you still need to know or want to learn about assessment?  
27. Does the time actually assessing your students differ from other components of your program?  
28. Using the scale between 1 and 5 identify to what extent you engage in the following practices when using assessment in your classroom.

1=Never  2=Rarely  3=Sometimes  4=Frequently  5=Always

1-2-3-4-5 When I plan assessment, I visualize, create images or come up with analogies.
My assessment practice is constrained by classroom or school concerns that are technical in nature.
I spend more time dealing with technical issues (e.g. lack of resources, lack of time, grading, etc.) of assessment than actually assessing my students.
I ask “How do I do this?” more than “Why am I doing this?” when I’m planning assessment.
When I am unsure or puzzled about assessment I read books about it and experiment with what I’ve learned.
I use my gut feeling when I assess.
I make changes in my assessment plans in mid-stream during a lesson or unit.
After I have assessed my students, I reflect about the process and think about how I can improve on it.
I use new assessment strategies that are different from what I have used in my past experience.
I keep records of my assessment practice (e.g., reflective log or journal) to help me think about it later.
I keep the big picture of assessment (e.g., politics, media) in mind when I assess my students.
I talk to other teachers, students and-or administration about assessment.
I’m conscious of what the government wants and worry about how I’m ‘supposed’ to assess my students.
I am aware of issues of social justice, equity, etc. when I assess my students.
I use new assessment strategies that are different from what I have used in the past.
When I plan assessment I’ll use analogous ideas from other subjects to help me.
Assessment is problematic for me.

Give an example for one of your choices.
Interview Protocol - Follow-Up, 1999

Describe Your Assessment Strategy

1. Describe one assessment strategy you used in your last unit. (probe-What evidence of learning were you looking for that students had achieved the outcomes? What were the criteria used to assess? How did you come up with these? How confident are you that this assessment task gave a good indication of the students' true knowledge or skill?)

2. What was particularly effective about your use of this assessment task? (probe-How did you know?)

3. Looking back, is there anything about this assessment task you would have done differently? (probe-include thoughts about the reporting aspect).

4. How did you try to make the assessment strategy clear to students?

5. Why did you use this assessment plan? (probe-What would the plan have looked like if students were all successful at the task? Unsuccessful? What changes did you make from your original plan? When did you make these changes? Why?)

6. Was there anything missing in your skills, knowledge in carrying out your assessment plan with the students? (probe-If a piece of information-time-resource were different our missing, what would you have done?)

7. What other assessment strategies were possible? (probe-Why did you favour one over the other?)

8. What were your reactions-feelings as you were planning your assessment?

9. If you were a novice teacher doing this unit what assessment mistakes could you make with this particular assessment strategy? Why? (probe-Would a novice teacher do what you did? What things related to this assessment task would a novice teacher not do?)

10. Did this assessment strategy work with your special needs students? (probe-How did you modify it? What questions did you ask yourself?)

11. How well do the assessment strategies you use cover and reflect the material and learning that make up your course? How do you know?

12. What do you like most-least about assessment? Why?

13. In the past year what did you like about your assessment practice that worked?

14. Was there any one assessment strategy in particular that wasn't so successful as the others? Why? (probe-What would you have done differently?)

15. Are there any conditions (e.g., in the school or in your classroom) that have to be in place before you can assess your students in more innovative ways? (e.g., administration, teachers, students, class).

16. How do you know when assessment has been successful? Not successful?

17. Have you used an assessment that no one else in your school has used? (probe-How did you feel?)

Your Assessment Knowledge

18. Why do you assess? (i.e., For what purposes? How do you define assessment? What is a metaphor-analogy for assessment?)
19. Has this meaning changed from when you first learned-heard about it? (probe-When did this change in understanding happen? How did you know? How did this make you feel?)

20. Is assessment a difficult concept for you to understand and learn to use? Why? Or Why not? (probe-Think back when you first learned about assessment. How did you feel? How do you feel now? How comfortable are you with your current level of knowledge about assessment?)

21. Where did you get your knowledge about classroom assessment? (probe-How much time do you devote to learning about-planning assessment compared to other components of your program? Do you make an effort to continue learning about assessment? Why or why not?)

22. Is your understanding about assessment significantly different from other teachers-administrators-parents-board? (probe-How do you know? How does this make you feel? Does this influence or impact your understanding-learning of assessment in any way?)

23. Are your methods of learning about assessment different from other teachers?

24. What do you still need to know or want to learn about assessment?

25. What obstacles have you encountered in learning about assessment? (probe-How have you overcome these obstacles? Do you work alone or together to learn more about assessment? Do other teachers work alone or together to learn more about assessment? What resources, books, people, have helped? Do you have administrative support for your learning? Teacher?)

26. Use a metaphor-analogy to describe your teaching (probe-How do you view your role as a teacher?)

27. How do you view your role in the assessment process?

28. What was your best-worst assessment as a teacher?

29. How would you describe yourself as a learner? (probe-Use a metaphor to describe yourself as a learner. What keeps you learning? What is your personal theory about how learning occurs?)

30. What kind of a student were you? (i.e., trace yourself as a learner in elementary-secondary-university)

31. What kind of assessment do you remember as a student? (probe-What was your best-worst assessment as a student? How did this make you feel? What assessment incidents or who had a positive-negative impact on your own learning about and practice of assessment?)

32. What is your sense of where you are going with assessment? (probe-What is your evaluation of your learning about assessment, your practice, your inquiry and direction of growth about assessment.

33. Which inquiry model best characterizes your approach to learning about assessment? (You can choose more than one) (probe-Under what conditions would you use this approach?)