

**INSTRUCTION IN ASSESSMENT-FOR-LEARNING PRACTICES IN ALBERTA
TEACHER PREPARATION PROGRAMS**

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Dedication

I dedicate this work to the memory of Dale Armstrong, a visionary and passionate educator who always put students first. It was through his assessment course at the University of Alberta (taught by another great educator) that I began to catch a vision of the power of effective teaching practices to change the lives of children.

I learned so much at his proverbial feet about the challenges and joys of classroom instruction as we worked together in the Alberta Assessment Consortium. His dry wit and piercing insights made our summer campfire discussions rich, memorable and meaningful. From him I learned that even though topics like “assessment” and “research” may sound dull and academic, in practice these terms lead to real classroom experiences and relationships that forever impact individual students for the better. It was an honor, my friend, and wherever you are, I hope you still make a difference.

Abstract

This study is an examination of what teacher preparation institutions in the Canadian province of Alberta are teaching student teachers about ‘assessment-for-learning’ practices. A large body of research exists to show that assessment-for-learning practices are among the best tools educators have for improving student learning; therefore, it is important that assessment-for-learning practices be taught to prospective teachers. As a school administrator, I had encountered many first-year teachers who seemed to be lacking knowledge and skills in assessment-for-learning practices and I sought to determine whether or not the deficiencies could be traced to inadequate preparation during their undergraduate training. Interviews were conducted with instructors at seven Alberta education faculties on whether and how assessment-for-learning practices were integrated into their teacher education programs. There is some variance in the way courses are organized to teach assessment-for-learning practices to student teachers; some schools having a designated course on assessment, others embedding assessment into other teacher preparation courses. Overall, the findings in this study suggest that Alberta education faculties are providing future teachers with training in assessment-for-learning practices. Further research into other areas of teacher preparation and/or induction would be necessary to determine the reasons for deficiencies in new teacher knowledge of assessment-for-learning practices. This study also includes some recommendations for improving instruction in assessment for learning at Alberta teacher preparation institutions, as well as some suggestions for further study.

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Table of Contents

Dedication	iii
Abstract	iv
Acknowledgements	v
Table of Contents	vi
Chapter 1: Rationale and Research Question	1
Chapter 2: Definitions	7
Chapter 3: Literature Review	11
Scholarly Research	12
Practitioner Manuals and Periodical Articles	20
Government Policies and Professional Initiatives	27
Chapter 4: Methodology	31
Selection of Institutions	31
Interviews	31
Analysis of Interview Data	33
Analysis of Course Outlines	34
Limitations	35
Chapter 5: Findings and Analysis	38
Sharing Learner Expectations with Students	38
Descriptive Feedback	45
Peer Assessment	47
Self-Assessment	49
Modeling	51

General Observations	52
Areas for Further Reflection	53
Program Strengths	54
Chapter 6: Conclusions and Recommendations	55
Conclusions	55
Recommendations	60
Areas for Further Research	62
References	64
Appendices	69
A. Participant Consent Letter	69
B. Interview Schedule and Blueprint	71
C. Reflective Survey	73

Chapter 1: Rationale and Research Question

An important body of research exists to show that ‘assessment-for-learning’ practices are highly effective in enhancing student achievement and motivation, especially for those students who struggle in their learning. In the literature review section, I intend to show that assessment-for-learning practices are effective in raising student achievement, that the practices are widely disseminated to Alberta teachers, and that they are embedded in Alberta provincial policy. Some examples of works demonstrating the effectiveness of assessment for learning include *Assessment and Classroom Learning* by Black and Wiliam (1998), *The Power of Feedback* by Hattie and Timperley (2007), and *Focus on Formative Feedback* by Shute (2008).

For public policy towards schools, the case to be made here is firstly that significant learning gains lie within our grasp. The research reported here shows conclusively that formative assessment does improve learning. The gains in achievement appear to be quite considerable, and as noted earlier, amongst the largest ever reported for educational interventions. (Black & Wiliam, 1998, p. 61)

The model proposed in this article identifies three major feedback questions: Where am I going? How am I going? and Where to next? The answers to these questions enhance learning when there is a discrepancy between what is understood and what is aimed to be understood. It can increase effort, motivation, or engagement to reduce this discrepancy, and/or it can increase cue searching and task processes that lead to understanding (thus reducing this discrepancy). Feedback is among the most critical influences on student learning. (Hattie & Timperley, 2007, p. 102)

Valerie Shute adds, “formative feedback has been shown in numerous studies to improve students' learning and enhance teachers' teaching to the extent that the learners are receptive and the feedback is on target (valid), objective, focused, and clear. (Shute, 2008, p. 182)

In addition to academic research, there have been a number of books and professional articles published on the topic of assessment for learning that have been

widely distributed, including the work of Anne Davies, Robert Marzano, Stephen Chappuis, Jan Chappuis and Richard Stiggins, that have popularized the use of assessment-for-learning practices and have also asserted the effectiveness of using these practices in classrooms.

Taken together, the evidence provided in these studies suggests that achievement gains and reductions in score gaps are within reach if classroom assessments (a) focus on clear purposes, (b) provide accurate reflections of achievement, (c) provide students with continuous access to descriptive feedback on improvement in their work (versus infrequent judgmental feedback), and (d) bring students into the classroom assessment processes. (Stiggins & Chappuis, 2005, p. 14)

Because of the large body of research available and the proliferation of other professional publications on the topic, organizations like the Alberta Assessment Consortium (AAC) and governing bodies like Alberta Education and the Alberta Teachers Association have given these practices a high priority, as shown by such recent publications as *Refocus: Looking at Assessment For Learning*, *Conversations to Enhance Learning*, *Real Learning First*, *Effective Student Assessment and Evaluation in the Classroom* and *The Alberta Student Assessment Study*. In addition, many school divisions throughout the province have also given these practices a high priority in their Alberta Initiative for School Improvement (AISI) goals. AISI provides additional government funding for jurisdictions to use to enhance student learning, based on local needs and goals.

Sixty-nine school jurisdictions and seven post-secondary institutions (as of 2012) in the province are paying members of the Alberta Assessment Consortium, an organization whose primary purpose is the dissemination of effective assessment practices to Alberta teachers. *Refocus: Looking at Assessment for Learning* (Hogg et al.,

2005), a document produced by the AAC as a professional development tool for teachers, summarizes the relevant research as follows:

The research clearly showed that **improving formative assessment practices raised student achievement levels**. Further, many of the studies reached the important conclusion that improved formative assessment practice **helps low achievers more** than other students and so reduces the range of achievement while raising overall achievement. The researchers concluded that they know of no other way of raising student achievement for which such a strong case can be made. (p. 11) (Emphasis in original)

A more recent AAC publication explains the role of the teacher as it pertains to formative assessment, and outlines the specific practices that fall under the heading of *assessment for learning*.

As instructional planners, we set the stage for learning using a solid understanding of the graded curriculum, both at grade level and at the grades below and above grade level. This section will focus on the importance of teacher expertise in guiding conversations that support student learning during the instructional process. As coaches, we believe that every student has the desire and ability to learn. In partnership with our students, we gather information to help students improve and support conversations that

- allow us to get to know students, their interests, strengths and areas for growth;
- help students make connections between prior and future learning;
- provide students with specific descriptive feedback that allows them to advance in their learning;
- enable students to give feedback to each other about their learning; and
- enable students to act on feedback from others. (Mulgrew & Rawe, 2008, p. 29)

In 2006, Alberta Education published a document entitled *Effective Student Assessment and Evaluation in the Classroom*. This paper links effective assessment practices to the *Teaching Quality Standard* (Alberta Education, 1997), a list of the knowledge, skills and attributes necessary to teach in Alberta. The section dealing with the purposes of assessment includes the following statement regarding assessment for learning:

Student assessment and evaluation should reflect the following teacher functions:

- identify, in advance of teaching, the learning outcomes students are expected to achieve
- monitor and provide specific and descriptive feedback to students as they progress toward achieving the learning outcomes they are to achieve, so that the students are aware of their current level of performance and what follow-up learning opportunities are needed. (p. 14)

Recently, Alberta Education commissioned a study to explore assessment practices in the Province of Alberta for the purposes of informing policy and determining effective practices for teacher and leader professional development. One area of the study found that “several specific strategies were tied to good classroom assessment practice including the use of multiple measures and methods, attention to student feedback and motivation, curricular alignment, and striving for consistency and coherence. (Webber, Aitken, Lupart, & Scott, 2009, p. 59)

The *Teaching Quality Standard Applicable to the Provision of Basic Education in Alberta* (1997), a government document that defines the knowledge, skills, and attributes necessary to be certified as a teacher in the Province of Alberta, contains several descriptors that speak to the use of effective formative assessment practices:

- i) Teachers gather and use information about students’ learning needs and progress.

Teachers monitor students’ actions on an ongoing basis to determine and respond to their learning needs. They use a variety of diagnostic methods that include observing students’ activities, analysing students’ learning difficulties and strengths, and interpreting the results of assessments and information provided by students, their parents, colleagues and other professionals.

Teachers select and develop a variety of classroom assessment strategies and instruments to assess the full range of learning objectives. ...They record, interpret and use the results of their assessments to modify their teaching practices and students’ learning activities.

Teachers help students, parents and other educators interpret and understand the results of diagnoses and assessments, and the implications for students. They also

help students develop the ability to diagnose their own learning needs and to assess their progress toward learning goals. (p. 4)

Given the current focus on assessment-for-learning practices, and because these practices are so effective, it should stand to reason that these practices are being taught in educational evaluation or assessment courses at the eight Alberta teacher preparation programs.

I am not aware of any existing study that addresses the specific area of assessment for learning in Alberta teacher preparation programs. However, the *Alberta Student Assessment Study* does note some deficit in neophyte teacher knowledge about general assessment practices stemming from inconsistencies in teacher preparation programs, (p. 108) including the problem of universities modeling inappropriate assessment practices (p. 37).

In addition to this study, there was a cross-Canada study done by W. Todd Rogers in 1991 that found serious deficiencies in undergraduate teacher preparation programs (and teacher knowledge in general) in the area of assessment. However, the deficiencies noted in both studies were in the domains of general assessment practices, not necessarily assessment for learning. Because of the foregoing, further study is needed to determine specifically if assessment-for-learning practices are included in teacher preparation courses.

Another study was conducted by researchers at the University of Alberta that explored the growth in student teacher knowledge, skills, and attitudes around both formative and summative assessment (Poth, Daniels, & Lejeune, 2010). They found improvements in both formative and summative assessment domains following the completion of a mandatory assessment course by the students at an unnamed Canadian

university. This study is important because it demonstrates the value of instruction, experience, and modeling in teaching assessment practices to student teachers. All the same, the authors cite other research to suggest that pre-service instruction alone in assessment practices has little impact on what they will actually do once they enter the profession (p. 3). This recognition led the researchers to change the assessment course to include explicit instructor modeling and student assessment experiences. Doing this helped students to increase their understanding of sound assessment practices beyond their own prior experiences as learners (p. 11). Because of the importance of instructor modeling, I have included a question in my research to explore how instructors model the practices for their students.

Teacher preparation programs need to ensure that assessment-for-learning practices are being taught to prospective teachers, not just because of the current provincial and legislated focus, but because formative assessment practices raise achievement and narrow achievement gaps and are therefore good for students. The current study sheds some light on what is being taught relative to assessment for learning at Alberta teacher preparation programs. It is clear that this study is important and timely, and perhaps a little overdue.

Chapter 2: Definitions

Assessment for learning was defined as those assessment experiences that result in an ongoing exchange of information between students and teachers about student progress toward clearly specified learner outcomes. In the research work of Black and Wiliam (1998, 2003, 2009), Sadler (1989), and Hattie and Timperley (2007), there are four key assessment-for-learning practices, outlined below, that can raise student achievement, motivation and self-efficacy in all contexts, from Kindergarten to graduate studies. The definitions I have used in this study are the definitions most widely used in the Alberta context. There are some differences in the way assessment for learning is defined by various authors, but I have chosen to use it the way it is defined by the Alberta Assessment Consortium (AAC), as this organization has done a great deal around disseminating these practices to classroom teachers in Alberta. The AAC is active in the professional development of Alberta teachers through its conferences, workshops, and its distribution of accessible literature to every school of participating districts. The literature of the AAC is found in most schools in the province, and their materials continue to be used in some post-secondary teacher education programs as well.

The first practice is clarifying learning intentions and criteria for success. This includes sharing outcomes from the prescribed curriculum (In Alberta this would be the Program of Studies) with students in language that they can understand, showing samples of student work that meet the evaluation criteria (exemplars), and co-constructing scoring criteria (rubrics, checklists, etc.) with students. For the purposes of this study I will be addressing this practice using three questions, one each for outcomes, exemplars and criteria.

The second practice is providing feedback that moves learners forward. This is defined by Chappuis et al. as follows: “Feedback given to students is descriptive, constructive, frequent, and timely; *helping students identify their strengths and know how to plan and improve* their work.” (Chappuis, Stiggins, Arter, & Chappuis, 2004, p. 167, emphasis in original.) The research shows significant learning gains in using feedback, but only in certain types of feedback. (Kluger & DeNisi, 1996; Hattie & Timperley, 2007; Shute, 2008)

The third practice is activating students as instructional resources for one another (William, 2011, p. 145). This practice is sometimes referred to as peer-coaching, peer-tutoring or peer-assessment (Hogg et al., 2005, p. 72). In the literature of the Alberta Assessment Consortium, this practice is defined as “...one student considering the quality of another’s work and providing feedback by applying criteria to help improve performance” (Hogg et al., 2005, p. 72). Although peer-assessment requires an especial amount of finesse to do well, it can be highly effective for students. Having one’s peers provide feedback about a piece of work gives students a second “mirror” in addition to the teacher that they can use to reflect upon and refine their work. This strategy also frees up some teacher time to focus better on individual student needs. In applying this practice, teachers are expected to help their students to take a more active role in subject-matter expertise. This particular practice may be misunderstood to mean peer grading or peer marking, which is the practice of students giving marks to one another on their work.

The final practice that I will use in this study is activating students as the owners of their own learning (self-assessment). This includes student goal-setting and self-

appraisal relative to the learning outcomes. Helping students to self-assess helps them take responsibility for their own learning and gives them ownership of their success. In other words, they are striving for the sake of their own learning instead of merely trying to give teachers what they want.

There are other practices that could be included under the heading of assessment for learning, including student-involved testing, pretesting, learning checks, and second chances, but these practices could easily be included under one or more of the above four practices. As well, the four areas I have chosen, although they are discrete practices, are linked strongly together in practice, and are less effective if implemented in isolation. For example, descriptive feedback is meaningless if there is no specific learning target on which to base the feedback. Conversely, these practices, when linked together, are proven to be highly effective. Another key idea in the research is that these practices require a great deal of thought to implement effectively, and some of the more current literature on assessment for learning indicates that teacher collaboration and school leadership (Davies, Herbst-Luedtke, & Parrott Reynolds, 2008) are critical factors in successful implementation.

These practices are also referred to in the literature as *formative assessment*. I have chosen the term *assessment for learning* because it is predominant in the current literature. Organizations and individuals using the term include Alberta Education, the Alberta Assessment Consortium, the Assessment Training Institute (Rick Stiggins, Jan Chappuis and Steve Chappuis), Anne Davies, Ruth Sutton, Paul Black and Dylan Wiliam. As well, *assessment for learning* is a term familiar to Alberta classroom

teachers, as a result of the work done by the Alberta Assessment Consortium, The Alberta Teachers Association, and regional professional development consortia.

Chapter 3: Literature Review

I have divided this literature review into three sections. In the first section, I intend to show from scholarly research sources both past and present that assessment-for-learning practices are highly effective in improving student learning and raising student achievement. Indeed, some researchers argue that these practices as a group are among the single most effective classroom interventions that teachers can use (Black & Wiliam, 1998; Hattie, 2009; Marzano, Pickering, & Pollock, 2001). Another important aspect of the scholarly research is that it has a fairly long history. The term *assessment for learning* has, of course, been adopted more recently, but some of the practices themselves have been identified as being effective for much longer. This persistence over time demonstrates a high level of scientific repeatability and puts to rest any assertions that assessment for learning is any sort of fad. In the present literature review, I will be presenting the scholarly articles in chronological order so as to demonstrate the evolution of our understanding of using classroom assessment to improve student learning.

The second section will provide recent examples of books and articles that are widely available to Alberta teachers and administrators that teach assessment for learning practices. The wealth of scholarly data available has led to a flood of books and periodical articles on the topic, many of them written by the original scholars themselves. In providing these examples, I intend to show that the information is “on the radar.” Another important aspect of these materials is that they often provide practical instruction on how to implement assessment for learning practices in real classroom settings.

The third section will show, through Alberta policy and professional development sources, that these practices are widely disseminated to Alberta teachers and that these

practices are embedded in provincial policy. A legal and professional requirement to teach using these practices lends credence to their significance.

Scholarly Research

In 1984, researcher Benjamin Bloom was searching for methods of group instruction that demonstrated effectiveness on the order of that found through one-on-one tutoring. He found that students receiving one-on-one tutoring achieved at roughly two standard deviations above their regular classroom counterparts. He explored a number of alterable variables to determine if any of them could equal one-on-one tutoring in their effectiveness. Unfortunately, the results were negative, but he did find some practices that came close. Mastery learning, defined by Bloom as giving students formative tests and then providing them with feedback and corrective procedures, improved achievement on the order of 1 to 1.6 standard deviations. He also noted a positive improvement in student affect and attitude, a surprise benefit that surfaces often in later sources: “There were also attitudinal and other affective differences in students related to these achievement differences. These included positive academic self-concept, greater interest in the subject, and greater desire to learn more in the subject field.” (Bloom, 1984, p. 7)

In 1989, Royce Sadler outlined a theory of formative assessment. By doing so, he described in great detail what we know as “assessment for learning” today. Although he argues that instructional systems bereft of these practices will be deficient, he makes little attempt to scientifically prove their effectiveness. Instead he provides a blueprint for using these practices in the classroom. All four of the key assessment-for-learning practices, as I have defined them, are clearly outlined in this article. He also sets out some of the necessary conditions for successful implementation: including the need for

teachers to develop a shared and standards-based understanding of what constitutes quality work:

In an instructional system, an exclusive reliance on teachers' guild knowledge works against the interests of the learner in two important ways. In the first place, although the practice of surveying a sample of performances is common (and advisable where the aim is fair ranking of one student's work against that of other students), it is inappropriate for formative assessment because it legitimates the notion of a standards baseline which is subject to existential determination. Strictly speaking, all methods of grading which emphasize rankings or comparisons among students are irrelevant for formative purposes. Assuming that sorting and stratifying learners is not the main purpose of education and training, the objective for each student is to acquire expertise in some absolute sense, not merely to surpass other students. Secondly, guild knowledge keeps the concept of the standard relatively inaccessible to the learner, and tends to maintain the learner's dependence on the teacher for judgments about the quality of performance. *How to draw the concept of excellence out of the heads of teachers, give it some external formulation, and make it available to the learner, is a nontrivial problem.* [italics added] (Sadler, 1989, p. 127)

Clearly, assessment for learning requires a fundamental shift in how we think and how we teach.

In 1996 Avraham Kluger and Angelo DeNisi conducted a detailed meta-analysis on the specific topic of feedback. They defined feedback interventions as “...*actions taken by (an) external agent(s) to provide information regarding some aspect(s) of one's task performance*” (Kluger & DeNisi, 1996, p. 255, italics in original). They noted that feedback is highly complex and that it is difficult to develop any sort of a coherent theory of what constitutes effective feedback (p. 278). There are many variables that can influence the effectiveness of a feedback intervention, including the level of cognitive effort required to complete a task, the level of ambiguity surrounding the task, and even the personality traits of the individual receiving the feedback (p. 269). However, after reviewing the body of literature on the subject, they concluded with some reservations

that feedback directed more towards the task and less towards the ego can have a strong impact on learning.

...an FI (feedback intervention) provided for a familiar task, containing cues that support learning, attracting attention to feedback-standard discrepancies at the task level (velocity FI and goal setting), and is void of cues to the meta-task level (e.g., cues that direct attention to the self) is likely to yield impressive gains in performance, possibly exceeding 1 SD. (p. 278)

One of the most important works on the subject of assessment for learning is the 1998 meta-analysis by Paul Black and Dylan Wiliam. This study forms the foundation of my present research and is cited often in many of the other sources. Black and Wiliam set out to review the body of research in formative assessment to determine which practices yielded substantial learning gains and provide recommendations for both policy and practice. Incidentally, like Bloom, they also note increased student motivation through using these practices. For example, in a study comparing students using performance goals (solving problems) versus learning goals (self-assessment in *how* to solve problems), they found, "...the learning goal orientation led to higher motivation and achievement outcomes than did the performance goal." (Black & Wiliam, 1998, p. 14) Black and Wiliam note a second example of this in a study conducted on a group of 838 disadvantaged kindergarten students in the United States.

One example, the kindergarten study of Bergen *et al.* (1991) brings out dramatically the importance that may be attached to the achievement of such gains. This particular innovation [frequent formative assessment and modifying instruction accordingly] has changed the life chances of many children. This sharp reality may not look as important as it really is when a result is presented dryly in terms of effect sizes of (say) 0.4 standard deviations. (p. 17)

The studies Black and Wiliam reviewed provide clear, illustrative examples of the effectiveness of assessment-for-learning practices, although as noted before, there is

much overlap of the practices within the practical application of assessment for learning. The first example comes from a group of 25 Portuguese mathematics teachers who were trained in helping students self-assess using learning objectives and assessment criteria. There were a total of 354 students from the ages of 8 to 14, and a control group of 20 other mathematics teachers spending the same amount of time teaching mathematics. The only variable was the training received by the first group. The experimental group's mean gain was about twice that of the control group. Black and Wiliam note that in addition to being ecologically valid, this study also highlights the significant paradigm shift required by teachers in order to successfully implement formative assessment practices: it was not simply a matter of dropping some new practices into an existing teaching repertoire. The teachers had to shift their teaching focus to a more constructivist model for the assessment practices to even work. (p. 10)

A second example from Black and Wiliam's report is a study about mastery learning (frequent testing and feedback) in one classroom and with 7000 students over several years reinforces the importance of the changes necessary in teaching philosophy and practice as well as the successes possible.

The gains reported are substantial; although the comparisons with the control are not documented in detail, it is reported that the teacher has had difficulty explaining his high success rate to colleagues. It is conceded that the success could be due to the personal excellence of the teacher, although he believes that the approach has made him a better teacher. In particular, he has come to believe that all pupils can succeed, a belief which he regards as an important part of the approach. (p. 11)

A third example provides a more holistic picture of three assessment-for-learning practices being used at the same time and the benefits to be derived therefrom. A group of about 180 middle-school students in science were taught how to use self- and peer-

assessment to progress through units of study where the outcomes and learning model were made clear. Not only did the experimental group do better than the control by a significant amount, the students within the experimental group that had performed the poorest on a pretest made the greatest gains, to the tune of *three standard deviations*. [italics added] (pp. 14, 15) Another example from the Black and Wiliam's study reports significant achievement gains for students with mild handicaps. (p. 15) Not only do assessment-for-learning practices raise achievement for students, they raise scores even more significantly for struggling students.

As well as highlighting the effectiveness of formative assessment practices, Black and Wiliam also note some of the challenges and opportunities in implementation. For example, grading is a particularly vexing fly in the ointment when it comes to effective feedback.

A significant feature here is that even if feedback comments are operationally helpful for a student's work, their effect can be undermined by the negative motivational effects of the normative feedback, i.e. by giving grades. The results are consistent with literature which indicates that task-involving evaluation is more effective than ego-involving evaluation, to the extent that even the giving of praise can have a negative effect with low-achievers. They also support the view that pre-occupation with grade attainment can lower the quality of task performance, particularly on divergent tasks. (p. 13)

Black and Wiliam conclude their study with a call for policy change and teacher professional development.

For public policy towards schools, the case to be made here is firstly that significant learning gains lie within our grasp. The research reported here shows conclusively that formative assessment does improve learning. The gains in achievement appear to be quite considerable, and as noted earlier, amongst the largest ever reported for educational interventions.

If this first point is accepted, then the second move is for teachers in schools to be provoked and supported in trying to establish new practices in formative

assessment, there being extensive evidence to show that the present levels of practice in this aspect of teaching are low...

There is no doubt that, whilst building coherent theories, adequate descriptions, and firmly grounded guides to practice, for formative assessment is a formidable undertaking, there is enough evidence in place for giving helpful guidance to practical action... Furthermore, despite the existence of some marginal and even negative results, the range of conditions and contexts under which studies have shown that gains can be achieved must indicate that the principles that underlie achievement of substantial improvements in learning are robust. Significant gains can be achieved by many different routes, and initiatives here are not likely to fail through neglect of delicate and subtle features.

This last point is very important because there does not emerge, from this present review, any one optimum model on which such a policy might be based. What does emerge is a set of guiding principles, with the general caveat that the changes in classroom practice that are needed are central rather than marginal, and have to be incorporated by each teacher into his or her practice in his or her own way. (pp. 62, 63)

Subsequent to the Black and Wiliam study, a number of researchers, including Black and Wiliam themselves, sought to study formative assessment practices with a move to implementation (Torrance and Pryor, 2001; Black and Wiliam, 2003; Black, Harrison, Lee, Marshall, & Wiliam, 2004; Hattie and Timperley, 2007; Shute, 2008; Andrade and Valcheva, 2009). All of these researchers found the same advantages from using assessment-for-learning practices that were identified by Sadler and Black and Wiliam. Often, they focused on one specific aspect of formative assessment, such as feedback or student self-assessment, but they all refer to implementation in one form or another.

The Torrance and Pryor (2001) study explores the practical implementation of formative assessment practices through professional development within a collaborative model. Some of their key findings include the resistance of teachers to new approaches

and processes (p. 618), the changes necessary to the classroom culture (p. 628) and how important it is to share learning criteria with students (p. 628).

Black and Wiliam (2003) revisit in greater detail the issues surrounding research into practice. They describe the challenges inherent in making the theoretical become real and practical in educational research, and indeed in all humanities research (p. 632). A key problem that they noted at the time was the issue of dissemination. Their 1998 study did not reveal anything that was new or revolutionary, but from that time formative assessment practices began to be more widely known to teachers and policy-makers (p. 633). They attribute this to their own desires to share their findings and their aggressive promotion strategies (p. 633). In other words, they wanted to get these practices into the hands of teachers. In a later article, Black, Harrison, Lee, Marshall, & Wiliam (2004) further describe the problem with implementation and provide one example of a group of teachers seeking to develop themselves professionally through collaboration:

This difficulty of ‘putting research into practice’ is not the fault of the teacher. But nor is it a failing in the research. Because our understanding of the theoretical principles underlying successful classroom action is weak, research can never tell teachers what to do. Indeed, given the complexity of classrooms, it seems likely that the positivist dream of an effective theory of teacher action – which would spell out the ‘best’ course of action given certain conditions – is not just difficult and a long way off, but impossible in principle (p. 51).

It would be reasonable to conclude from this, that implementation is and must be personal and contextual in nature.

In 2007, John Hattie and Helen Timperley published “The Power of Feedback,” a meta-analysis describing the effectiveness, or lack thereof, of various types of feedback. Like Kluger and DeNisi, they reported highest effect sizes related to task-specific or goal-centered feedback and lowest effect sizes for ego-centered feedback events such as praise

and rewards. Noting the complexities in defining what specifically constitutes effective feedback, the authors use the data to create a practical feedback model that teachers can implement using three questions for students: Where am I going? How am I going? Where to next? They stress the importance of clear goals as students work to close their own learning gaps.

The relationship between feedback and goal-related challenge is complex. If feedback does not lead to reducing the discrepancy between current understandings and goals, students are likely to close the gap by overstating their current status or claiming various attributions that reduce effort and engagement. Feedback cannot lead to a reduction in this discrepancy if the goal is poorly defined, because the gap between current learning and intended learning is unlikely to be sufficiently clear for students to see a need to reduce it (Hattie & Timperley, p. 89).

This article was followed the next year by another meta-analysis by Valerie Shute (2008) on the same topic. She focuses more specifically on task-oriented feedback and the importance of timing, feedback specificity, goal-directed feedback and student motivation. From the research she offers an extensive list of helpful suggestions for teachers as they provide specific and descriptive feedback to their students (pp. 177-181). Again, this is not a prescriptive approach that is one-size-fits-all. It is a list of general principles that need to be applied mindfully to individual circumstances.

Two more studies both dated 2009, shed specific light on self- and peer-assessment. The first, by Andrade and Valcheva (2009), reminds the reader of the importance of students being aware of the criteria necessary for success before they can compare their own work to the exemplar. They also note that students would need specific and direct instruction in how to assess their own work (p. 13). The second study,

by Keith Topping (2009), also emphasizes the importance of training for both students and teachers in the successful implementation of peer-assessment (p. 24).

Implementation of assessment-for-learning practices continues to be a challenge, as noted in a recent literature review by Ian Clark at the University of Washington (2012). Some of the challenges he identifies include implementing assessment-for-learning practices within existing classroom frameworks that deter practitioners from experimenting, and the difficulty, not insurmountable, of translating theory into practice. A key element that he identifies as crucial to the success of implementation is the idea that teachers need to use and adjust assessment-for-learning practices during actual instruction (p. 27) as part of the organic flow of teaching and learning. An instructional model that requires teachers to constantly adjust their teaching based on information received from students during actual instruction is a difficult shift for many (p. 27). Teachers who are used to a teaching model where they plan, teach and assess, in that order, may find implementing assessment for learning practices holistically and organically a daunting task (p. 28)

Practitioner Manuals and Periodical Articles

In brief, all of the above articles describe the high levels of achievement possible with these interventions in the classroom. They also discuss at length the challenges in implementation. Because of the skill and knowledge required for teachers to see the promised benefits in their classrooms, a large number of books and articles have appeared over the past few years, as well as multiple professional development opportunities such as conferences and workshops. The following is a brief overview of the books and

articles available to teachers as they implement assessment for learning in their classrooms. The list is not exhaustive, but it is representative.

In chapter 8 of *Classroom Instruction that Works*, (Marzano, Pickering, & Pollock, 2001), the authors restate the research supporting assessment-for-learning practices and provide some limited directions and classroom examples as to how to implement them. They discuss the need for students to set specific but flexible individual learning goals based on learning objectives, and some of the specifics of providing effective feedback, including using criterion referenced feedback as opposed to norm-referenced feedback. Using only criterion-referenced feedback is desirable in most situations, but there are important exceptions. Kluger and DeNisi's study, noted previously, makes the case that there are circumstances in which norm-referenced feedback can contribute to long-term persistence in a given task, leading in turn to increased motivation and performance (Kluger & DeNisi, 1996, p. 277). Although Marzano et al. devote a chapter to assessment-for-learning practices, the authors' treatment of the subject is far from exhaustive. I have included this work in my study because it does provide some support for assessment-for-learning practices and because it is a widely-published work familiar to teachers.

The next book under review, *Assessment for Learning: Putting it into Practice* (Black, Harrison, Lee, Marshall, & Wiliam, 2003) is devoted entirely to helping teachers implement assessment-for-learning practices in their classrooms. The writing team, led by Paul Black and Dylan Wiliam, trained teachers in schools to implement the practices in real classrooms and then followed the results over the period of a year. The purpose was twofold: one, to engage in further research about these practices and to examine the

challenges classroom teachers face in implementation. The research uncovered a host of challenges and celebrations. First and foremost, student achievement did increase significantly. Second, it was challenging to change teaching and learning. It required significant changes in teacher habits and mindset. Third, external help in the form of training and administrative support was necessary for whole-school implementation. The authors make a critical point about the research-based practices being both risky and meaningless unless implemented by thoughtful teachers:

Any attempt to turn ideas into practice will be a learning experience, but also a risky one. Indeed, practical learning and risk often go together. One risk in our venture was that teachers might have found the tasks that it set them to be unacceptable or impossible. Although they did not decide to refuse or to ignore the challenge, there was still the risk that the changes proposed might have been found feasible but unacceptable. Yet these potential disasters did not happen – so why were the outcomes so positive and rewarding?

One answer to this question surely lies in the potential of the ideas behind the project. Yet, while the positive outcomes may have been due in part to this potential, the professionalism and commitment of the teachers formed a second essential component. The interaction of these two, - that is, the power of the ideas to bring out the professionalism and talents of teachers – was clearly a further catalyst for success (p. 118).

This book is extremely important. It represents the first large-scale attempt to deliberately infuse assessment for learning into real schools. The good news, of course, is that it worked. Teachers looking to implement assessment for learning in their classrooms can rest assured that it can work. Many things need to be considered, of course, before implementing, but the general principles are sound.

In the book *Assessment As Learning* (Earl, 2003), Lorna Earl tackles the research-into-practice problem from the learner's perspective. She provides a detailed background into how people learn, before charging into assessment for learning. When she does discuss assessment-for-learning practices, it is in the context of the learner: student

engagement and motivation, student needs and readiness, connections to prior learning, etc. In addition to helping teachers implement assessment for learning in their practice, this book helps teachers see assessment for learning from their students' perspectives.

In 2006, Pauline Clarke, Thompson Owens and Ruth Sutton published a series of four books entitled *Creating Independent Student Learners* designed to help teachers of specific grade levels to implement assessment-for-learning practices in a practical, methodical way. Like all of the previous authors, Clarke et al. recognize the importance of helping teachers to change their practice through changing their mindset. As well, the books provide a step-by-step approach for teachers to use without being overly prescriptive. Assessment-for-learning practices cannot be implemented by a scripted approach. One of the great benefits of these books for teachers is that they apply basic philosophical principles of assessment for learning to specific student age levels. It is important to recognize that assessment-for-learning practices look very different from grade to grade, even though the general ideas remain constant.

Canadian researcher and author, Anne Davies, has written a number of books on the topic of assessment for learning. She also provides teacher and leader training workshops on the subject. In *Making Classroom Assessment Work* (Davies, 2007), Davies clearly describes how to implement the practices in classrooms. She even provides several real-life examples of assessment-for-learning practices, thus using one of the practices (sharing exemplars) to teach her adult audience. Another important point she makes in this book is that assessment itself should guide instruction. It is not enough just for teachers to share learning goals and provide individual feedback. Instruction should also be adjusted based on student needs to maximize learning in the classroom.

Recognizing the challenges of implementation identified by Black and Wiliam and others, Davies co-authored *Transforming Barriers to Assessment for Learning* (Davies, Herbst-Luedtke, & Parrott Reynolds, 2008). This book serves to support teachers and leaders as they work through the various concerns associated with shifting teacher and school practices around assessment for learning. Some challenges they identify include a lack of systemic support, poor professional development models, teacher, student and parent resistance to change, and traditional grading practices. Of course, the authors provide meaningful methods to overcome the challenges so that assessment-for-learning practices might take root in a given context.

Another group that provides books as well as workshops is the Assessment Training Institute in Portland, Oregon. Researchers Rick Stiggins, Judith Arter, Jan Chappuis, and Stephen Chappuis co-authored *Assessment for Learning: An Action Guide for School Leaders* (2004) to help systems reform their general assessment framework around assessment for learning practices. Like Davies' *Transforming Barriers*, this work recognizes the challenges inherent in successful and sustained implementation and provides useful strategies to overcome them. In fact, the book is designed to be used as a set of workshops to guide professional reflection and to smooth systemic implementation of sound assessment practices. In 2007, the team also wrote *Classroom Assessment for Student Learning: Doing It Right – Using It Well* (Stiggins, Arter, Chappuis, & Chappuis, 2007). Unlike the previous work, which was designed for system leaders, this resource was created specifically for classroom teachers to guide their implementation of assessment for learning. Recognizing the needs of 21st century adult learners, the book also includes a training DVD and a CD-ROM containing a number of practical tools. The

book is also set up as a course of study, following a logical sequence of development and providing examples of real practice.

In another article, Stiggins and Chappuis (2005) explore some of the roadblocks to successful implementation before describing four conditions of classroom assessment, both formative and summative, that they feel are necessary for students to succeed and for achievement gaps to close. Two important challenges they describe are the burden of externally mandated standardized tests, which they argue have done nothing to improve learning, and the negative beliefs of some students themselves about their learning (pp. 12, 13). The latter point is important when we talk about the affective benefits of assessment for learning.

Students must understand that, when they try to grow academically, at first, they may not be very proficient, and that is all right. The trick is to help them know that failures hold the seeds of later success, but only if we keep going (p. 13).

Stiggins and Chappuis then outline several classroom formative assessment practices that all fall within the four practices that I have described.

Transformative Assessment (Popham, 2008) is another work that provides teachers with specific implementation strategies. One important highlight of this book is Popham's argument that assessment-for-learning practices definitely raise student achievement, but do not necessarily raise achievement on instructionally insensitive external standardized tests (p. 123). Of course, this may only be an indictment of certain tests, not the assessment-for-learning practices themselves, which Popham touts as being highly effective (p. 2). It is just a caution to teachers who may be expecting great things on all external measures as a result of using assessment for learning practices. In any

event, this limitation has very little bearing on the Alberta context, where standardized tests are aligned with curriculum and used sparingly.

One of the most important works on the subject is the recent *Visible Learning* (Hattie, 2009) by researcher John Hattie. This detailed synthesis of over 800 meta-analyses of research into ways to improve student achievement reveals which teaching practices or programs are most effective. Looking at positive and negative effect sizes of different attempts to improve achievement, Hattie found that formative assessment practices are among the highest ranked innovations that teachers can use to raise student achievement. Although this book is essentially a study into what works to improve achievement, it does warrant inclusion in this section of the literature review because it also provides a theoretical framework for teachers to use to improve teaching within their own context. The author also wrote a follow-up, *Visible Learning for Teachers* (Hattie, 2011) which further describes how to successfully implement high-effect teaching practices, including formative assessment practices.

The final book under review is *Embedded Formative Assessment* (Wiliam, 2011) by Dylan Wiliam. Since his 1998 study with Paul Black, Wiliam has been a tireless advocate for using assessment-for-learning practices to significantly improve student learning and efficacy. In this book, Wiliam makes the argument that the most important thing that school authorities should be doing to raise achievement is to improve teachers. And the way teachers need to improve most is in using assessment-for-learning practices in their classrooms. He then goes on to describe the practices and how to implement them, complete with examples.

All of the above works exist for essentially the same purpose: to help teachers implement assessment-for-learning practices. Although the authors may describe the practices in slightly different ways and approach implementation from different angles, on the salient features they are in agreement. This speaks to the continuing evidence that these practices work, and that teachers can and should be using them to enhance student learning.

Government Policies and Professional Initiatives

Because this study is framed in the Alberta context, it is important to understand any legislative directives that may be binding on teachers in the province. It is also important to review the professional development documents produced by Alberta Education, The Alberta Teachers' Association and the Alberta Assessment Consortium, as these documents are universally available to Alberta teachers, as well as to education students.

As noted in the rationale, the Teaching Quality Standard (1997) is the legislative document listing the professional attributes and legal obligations of teachers. The following clauses speak directly to using assessment-for-learning practices:

- e. Teachers monitor the context, their instruction, and monitor and assess students' learning on an ongoing basis, and modify their plans accordingly. (p. 3)

- g. Teachers clearly communicate short- and long-range learning expectations to students, and how the expectations are to be achieved and assessed. (p. 4)

- i. Teachers monitor students' actions on an ongoing basis to determine and respond to their learning needs. They use a variety of diagnostic methods that include observing students' activities, analysing students' learning difficulties and strengths, and interpreting the results of assessments and information provided by students, their parents, colleagues and other professionals.

Teachers select and develop a variety of classroom assessment strategies and instruments to assess the full range of learning objectives. They differentiate between classroom and large-scale instruments such as provincial achievement tests, administer both and use the results for the ultimate benefit of students. They record, interpret and use the results of their assessments to modify their teaching practices and students' learning activities.

Teachers help students, parents and other educators interpret and understand the results of diagnoses and assessments, and the implications for students. They also help students develop the ability to diagnose their own learning needs and to assess their progress toward learning goals. (p. 4)

It is interesting to note that this document was published prior to the 1998 meta-analysis of Black and Wiliam. Alberta teachers are expected to abide by the standards listed above, as well as all the standards in the Order. Teachers are also evaluated using these standards.

In 2006 the *Western and Northern Canadian Protocol for Collaboration in Education* published *Rethinking Classroom Assessment with Purpose in Mind*, a document designed to support Alberta (and British Columbia, Saskatchewan, Manitoba, and the Yukon and Northwest Territories) teachers in fairly and effectively assessing their students. An entire chapter is devoted to the implementation of assessment-for-learning practices. Although not binding on Alberta teachers, this document supports what is known about effective assessment practices, and provides teachers with tools that help them plan for assessment for learning.

Alberta Education has also published two documents for teachers that each provide assessment-for-learning information to teachers. The first, *Effective Student Assessment and Evaluation in the Classroom*, printed in 2006, is crucial to the present study. Three of the four stated purposes of this document are to:

- serve as a statement of the repertoire of student assessment principles and core knowledge, skills and attributes that all Alberta teacher preparation institutions, each in their unique manner, are expected to provide to their graduates;
- inform prospective employers about the student assessment principles and core knowledge, skills and attributes they may reasonably expect of recent Alberta, Bachelor of Education graduates as they begin their teaching careers;
- provide a foundation for more in-depth information gathering and research about ways that Alberta teacher professional development institutions and professional development providers may further enhance the quality of teaching in Alberta by strengthening education graduates' student assessment competencies. (p. i)

This places a significant emphasis on the importance of expected assessment competencies in graduating teachers, as well as in current practitioners. Three of the four assessment-for-learning strategies used in my study are found within this document (peer assessment is not found), once again highlighting their importance.

Alberta Education also recently published *Making a Difference* (2010), a document designed to support teachers as they implement differentiation strategies in their classrooms. One chapter is devoted to implementing differentiated assessment strategies. All four of the practices used in my study are found there, complete with tips on how to use them with a wide variety of learners.

In addition to Alberta Education, teacher practice is also governed by the Alberta Teachers' Association. A 2009 document, entitled *Real Learning First*, was written as a critical response to provincial testing and various external accountability measures. Citing the need for assessment to support student learning, the document distinguishes between assessment *of* learning and assessment *for* learning, and highlights the practices of sharing outcomes and providing feedback to students (p. 3). The key argument made by the Association is that assessment strategies of any kind must primarily be used in the service of student learning and motivation (p. 4).

The Alberta Assessment Consortium is a teacher professional learning body that provides materials and training in all areas of assessment, including assessment for learning. They have produced a number of books on the topic of classroom assessment practices, including *Refocus: Looking at Assessment for Learning* (Hogg et al., 2005). This publication is a particularly useful document for helping teachers directly implement assessment-for-learning practices in their classrooms. It describes assessment-for-learning practices in action and it includes quotes from Alberta teachers who have successfully implemented assessment-for-learning practices. In addition, the book includes a set of video clips from an Alberta school that has had great success in using the practices. Other works from the AAC, that specifically support assessment-for-learning practices, include *Building Better Rubrics* (Bennett & Mulgrew, 2009) and *Conversations to Enhance Learning* (Mulgrew & Rawe, 2008).

It is clear from the foregoing that assessment-for-learning practices, if implemented mindfully and contextually, can lead to significant improvements in achievement and student efficacy.

... the case to be made here is firstly that significant learning gains lie within our grasp. The research reported here shows conclusively that formative assessment does improve learning. The gains in achievement appear to be quite considerable, and as noted earlier, amongst the largest ever reported for educational interventions. (Black & Wiliam, 1998, p. 61).

Resources and materials to support implementation are widely available to Alberta teachers, and Alberta teachers are expected to use these practices within the context of their own classrooms. It is also clear that there is an expectation placed on teacher preparation programs to ensure that graduates are at the very least familiar with assessment-for-learning practices.

Chapter 4: Methodology

Selection of Institutions

As of August 2011, there were eight teacher preparation programs identified by the Alberta government as being certified to graduate teachers in the province of Alberta: The University of Alberta, the University of Calgary, the University of Lethbridge, the Faculté St. Jean, the Canadian University College, King's University College, Concordia University College, and St. Mary's University College. One instructor each from seven of the eight institutions was interviewed for this study. One school declined to participate due to anonymity concerns. My study involved conducting interviews with the instructors as well as collecting the course syllabus from each instructor's course.

Interviews

I interviewed one instructor from each of the seven education faculties that agreed to participate. For schools with a mandatory assessment course, I interviewed one of the instructors of the course. Some of the institutions did not have a mandatory assessment course. The assessment component of teacher preparation in these cases is integrated into other courses such as curriculum and instruction and/or planning. For these institutions, I interviewed instructors based on information about the courses that indicated some focus on assessment. Some institutions had more than one instructor for a given course, so I chose one based on their research specialties and availability. Five of the interviews were conducted in person, while two were held on the phone. Each interviewee was assigned a random gender, and, in one case where there were two interviewees from the same school in the same interview, their responses were combined and only one gender was assigned. The reason for assigning random genders to all the respondents was to help further ensure

some degree of anonymity, while still maintaining a personal feel to the interview quotations.

I conducted semi-structured interviews (Gorden, 1969; Patton, 1980) wherein I had some specific topics and questions outlined, but the order in which these topics were covered was determined by the organic flow of the interview. Using this approach allowed the interviews to be more collegial and open-ended, while still providing specific information. For example, in the context of the current study, it became clear through the course of the initial, open-ended question portion of the interview that some of the instructors focused heavily on the area of formative assessment in their courses. This informed me, even without my asking the specific interview schedule questions, that formative assessment practices are emphasized in their course. In some cases it became unnecessary to ask the specific questions contained in the interview schedule as the questions were already answered during the open-ended portion of the interview, or during the response to a different question. This is not surprising, given the often-holistic nature of the practices being investigated.

The interviews conducted with instructors of programs without a specific assessment course, however, were done mainly with the exact questions from the interview schedule. I did this because an open-ended approach might not have led to the answers I needed in the context of some other education course.

As part of the semi-structured interview approach, I started with general, open-ended questions, and through the use of prompts, lead the interviewee towards greater specificity. There are specific topics within the area of formative assessment for which I was looking, and as I proceeded through the interview, I asked clarifying questions, such

as “Can you tell me more about that?” As noted above, however, I was usually able to proceed quite quickly to the more specific questions.

The questions themselves were designed to find two things. First, they served to determine whether the practices were being taught or not, and second, they also helped reveal the depth of understanding of assessment-for-learning practices on the part of the instructor being interviewed.

Analysis of Interview Data

Interview data was sorted by question, and each respondent’s answer to each question was analyzed to determine if the practice were being taught, and, if so, how robust was the teaching. In other words, if it were being taught, did the instructor teach student-teachers a deep understanding of the contextual variables and the complexities of using the practice, or were students only given a cursory overview.

The next stage of analysis was to check for any themes or trends emerging from the responses to each question, and report these. For example, at least one of the practices seemed to be well-understood by almost all of the respondents.

The final stage of analysis was to answer the overarching question as to whether Alberta teacher preparation programs are teaching assessment-for-learning practices to prospective teachers. Obviously, some schools have demonstrated that they are doing more in this domain than others, but I have drawn some general conclusions about the overall state of assessment-for-learning instruction in seven of the eight Alberta teacher preparation universities.

Analysis of Course Outlines

Although I conducted interviews with the instructors about the emphasis they place on assessment for learning practices in their courses, the actual course weightings were also likely to determine what may be important to student-teachers. Even if the instructor teaches assessment for learning in lectures or expects the students to read about it, if student *coursework* in assessment for learning is not given a graded value in the course, the students may not necessarily see it as important. Therefore, in my interviews I asked to receive course outlines and the weightings given to assignments on assessment-for-learning practices. Where possible, a copy of each of the course outlines was used to analyze the course weightings. In the case of schools without a mandatory assessment course, only the interviews were used to obtain data. In the end, analyzing course weightings did not yield any significant data. Some of the course outlines for specific assessment courses revealed some degree of focus on assessment-for-learning practices, but did not assign a weight to students demonstrating their understanding of assessment for learning. Three of the course outlines mention assessment for learning in very brief and general terms, which does not necessarily indicate any sort of a deficiency; rather it indicates the broad scope of what these courses are intended to cover. Assessment courses are designed to prepare student teachers to develop skills in a variety of assessment areas, including summative assessment strategies, grading, measurement, and creating balanced assessment systems, to name a few. Because of the lack of weighting information, and because the outlines focused on much more than just assessment-for-learning practices, I chose to not use course syllabi information in my final analysis.

Limitations

An important limitation of this study is the limited number of respondents. To increase reliability, I interviewed instructors that had some connection to teaching assessment, whether through a specific assessment course, or integrated into other courses or practica. Also, all but one of the schools either has an established assessment course, or is small enough that there is a very small faculty. The one school without a specific assessment course and a large faculty does present a potential problem of reliability in this study. Just because the instructor that I interviewed may have given me clear evidence that she was teaching assessment for learning (as she did) does not prove that anyone else on faculty is teaching it. On the other hand, the objective of the sample was to have a representative from each institution, and the original assumption was that assessment for learning was inadequately represented in Alberta teacher preparation courses. Consequently, even identifying a single well-informed instructor negates the initial assumption: at least some instructors are teaching exemplary assessment practices, so it cannot be said that this is not occurring. Further, given at least one proponent of assessment-for-learning practices on a campus, it is likely that these ideas are part of the discourse on that campus, even if not completely diffused through all relevant instruction. The exact extent of this diffusion could therefore be a useful topic of future research, but the purpose of the current study's initial survey of provincial programs was simply to identify whether assessment for learning formed any part of these programs. Hopefully, diffusion of this study's results will be sufficient to place the topic of instruction in assessment for learning on the agenda for these institutions' own routine program review

(provincial regulation requires that all post-secondary programs be reviewed on a regular basis).

I can draw conclusions with some assurance of accuracy. For example, as I interviewed instructors from institutions with mandatory assessment courses, every education student in these programs would have had to take the respondent's course. As well, most of the institutions without a mandatory assessment course had small faculties and the instructors that I interviewed in each of the smaller programs mentioned that they had a general idea what other instructors in their faculty were teaching.

Another limitation of this study is not being able to connect the findings directly to the actual classroom practices of program graduates. Just because students were taught these assessment principles, it does not necessarily follow that they will implement them.

As students themselves, student teachers may have experienced less than exemplary assessment practices in their own schooling and so may revert to these more familiar practices in spite of being instructed in the theory of assessment for learning. A few hours of lecture and assigned readings may not be sufficient to undo a lifetime of experience. Further, they may be placed in practicum situations where good assessment-for-learning practices are not modeled or encouraged. Indeed, supervising teachers for the practicum may actively disparage the theoretical teachings of post-secondary instructors where these teachings differ from their own classroom practices. The question of teacher training being translated into practice is vitally important, but beyond the scope of my research question. This is an important question requiring further examination.

It is impractical within this study to analyze textbooks and classroom readings. However, doing such an analysis would likely yield more data around what is

emphasized in these courses. Of course, assigning a reading is no assurance that students are actually reading and absorbing the material, but not having this data is nevertheless a limitation in the current study.

A final limitation of this study is that the sample was limited to teacher preparation programs in Alberta, and that therefore the study can say nothing directly about teacher preparation programs outside Alberta. However, it raises the issue of whether the problem with the implementation of assessment-for-learning practices among new teachers is that they are not receiving adequate instruction in assessment for learning in their teacher preparation programs, or if there is some other reason (such as the effort required to implement these techniques, or inertia within the school, etc.). In other words, it cannot be assumed that teacher preparation programs elsewhere are not teaching assessment-for-learning practices without similarly surveying the institutions involved.

Chapter 5: Findings and Analysis

I have broken down the analysis into responses to each of the specific interview questions for ease of organization and natural flow of ideas. Some responses may be repeated, as there are a few instances where a respondent answers more than one question at the same time. This is appropriate, as assessment-for-learning practices are often integrated. Indeed, the practices work better when used holistically, and a respondent who describes them as such likely has a solid understanding of the practices.

Within the framework of the semi-structured interview, I was able to obtain much rich and meaningful data. Generally speaking, the respondents tended to be candid and self-reflective as we moved together through the interview. To preserve the element of voice, I have as much as possible, used verbatim and almost verbatim quotes. Some responses have been edited for clarity. Some general trends were identified in the analysis and these will be described in the next chapter.

Sharing Learner Expectations with Students

Three separate questions were asked to help determine what is happening in the area of helping teachers share expectations with their students. The first question was, “What do you expect your students to know about sharing learner outcomes with their future students?” Providing the outcomes prior to a unit of study anchors the learning to larger concepts and lends purpose to what the students will be doing. It also gives the students a basis for feedback they will receive during learning, whether from their teacher, their peers, or themselves. For this practice to be effective, outcomes need to be shared in language that the students can understand, whatever their age. The outcomes

should be referred to often during the learning to remind students what the goal is, and how they might make adjustments in their learning to achieve it.

Responses to the question about outcomes were somewhat mixed. Most respondents identified the importance of providing learner outcomes at the beginning of a learning activity, but only four identified the need to help student teachers translate these outcomes into accessible language for their future students.

It is an expectation, though, for during the practica, that no matter who the student teacher is or who the supervisor is, that when we're observing that they're able to identify the objective and at least, if it's not individual lessons, at least unit objectives, that the students would have some idea of, you know, at the end of this unit these are the things you should know or things you should have learned... some use these "I can" statements and they're on the side of the board and they start with those and some of them say "so today, what we're going to do is learn about how this impacts that" or "We're going to learn about cause and effect" or whatever.

...we do encourage them to make it [learning outcomes] as vivid as they can, to make it a real celebration of learning...

you need to be able to rewrite the curriculum guidelines so that the students understand what they're required [to do]...

...make sure everyone is clear so they understand the target, as students would say, so they can hit it. And there are no tricks or anything like that. What you see is what you get.

Some instructors teach their student teachers to link the outcomes to the overarching purpose of why their future students would be learning a given unit, and to ensure that the students are prepared to proceed with the learning activities.

...What do the students know, what do they understand about the project, do they understand what constitutes good work?

...we would like them to introduce it right at the beginning of the unit and that gives students a reason to be doing all of this work in the developing phase so that they'll be successful here.

One instructor noted that although it sometimes comes up, he does not consistently teach his students to share outcomes with their future students.

I don't know how much, I just don't off the top of my head, how much we talk about them sharing that with their students. I know it happens probably more informally about how much they're urged to share with their students in the classroom.

Another respondent indicated that she does not teach this practice at all, saying, "... actually, I don't talk about that." Although the previous two responses indicate some weakness in this area, the same two respondents are teaching their students about using exemplars and establishing learning criteria. As the practice of sharing learner outcomes represents only a part of sharing learning intentions with students, this finding is not overly concerning. The most important concept behind this practice is providing students with a clear learning target, whether through outcomes, exemplars, or criteria.

One response to this question was particularly interesting. An instructor said that one of the reasons she teaches her students to share outcomes is that this practice is expected of teachers by many school districts.

...that it's required in some of the areas that the teachers go to. So first of all, if I'm going to prepare the teachers, right now, the pre-service teachers, to go forward I need to give them those skills so that when they work for their employers they can do that.

Incidentally, this speaks to the widespread dissemination of assessment-for-learning practices in Alberta schools.

Another instructor's response reveals a great deal of mindfulness around this practice. He makes the point that it is important for a student-teacher to know that students can demonstrate their understanding of the outcomes in different ways.

...one of the things that we practice is now how do we give instructions, what do they look like... how do we talk about what might be possible ways of coming at

a learning objective? ... What are the different ways that students might be able to demonstrate that they've grasped a concept? And so they have to think through different ways, and again, it comes to: so how do you structure assignments that have options, choices? Are there ways in which you haven't thought about that other students might be able to demonstrate what they've learned?

Respondents were next asked, "What do you expect your students to know about using exemplars?" Using exemplars helps students gain a clearer picture of the learning target than what they might see using outcomes alone. Because exemplars are widely available, this is a relatively easy assessment-for-learning practice for teachers to implement. Of course there are challenges, and many of the instructors identified them, as noted below. Overall, sharing exemplars appeared to be an area of strength in the various universities.

Most respondents identified exemplars as a way to set a standard towards which the students could strive.

...do they understand what constitutes good work?

...I think it's important for them to have an idea of what's expected...

...we take for example, grade 9 with the PATs and they do some science and math, social and English and then they have to get together in groups of 4 or 5, read a number of exemplars that we've just pulled off; they have the scoring guide and then they sit around and they go, so what's that process look like, what actually needs to go into, when we have to agree on these and what are the standards that we have.

Now in sharing the rubric and sharing the task with the students, we do encourage them to have exemplars, of course. Now that's really hard when you first start teaching because you don't have any so we do encourage them to look, for example if they're teaching grade 4, and there's another grade 4 class in the school, to have a conversation with that teacher as well as their own cooperating teacher to talk about the standards...

...I demonstrate or show them some of the successes where you can give them multiple exemplars and then say this is what I'm aiming at and this would be an A, and this would be a B, and C.

Two of the above instructors connect the use of exemplars to the scoring criteria. This is the way that the written portions of the Provincial Achievement Tests are scored, and it is a great way to help teachers and students develop a shared understanding of success. A few respondents also noted the danger that sometimes students will copy an exemplar, so they make student teachers aware of this potential problem and how to avoid it.

I have to admit that I don't use the word exemplars, because I think the problem with exemplars is they give the message that this is what you should do. And they copy it. And so even in our classes we make examples available that students have actually given us permission to use and we mask them and we do that but we do examples only at different things, not the settings in which they're able to work at, it's a whole complicated thing... It's meant to give you an idea, so I'm very careful with the use of examples now...

...that's a little bit tricky because you don't want kids just to reproduce something...

When sharing exemplars with students, it often becomes challenging to try to establish a common understanding of what constitutes quality, especially when there are usually multiple ways for students to demonstrate their understanding. One instructor responded thus:

...it's just amazing because groups will be all over the place and it takes one person in one group who thinks something is really good to convince the others that there's something in this and another group will go, this one was actually horrible and one person can sway you...

Another instructor teaches her student teachers to use exemplars to generate the criteria and engage their students in a conversation about the differences between a good sample and a lower-quality sample.

But we have encouraged them as well, if they don't have exemplars they can draw from to make some of their own... and have them come up with an exemplar and so we did have a student, a couple of years ago, who was doing an art unit and it was about a particular sculptor and so the culminating task was going to be to create this modeling clay, an original piece of art, that demonstrated the elements that this particular artist was so well known for. So this student teacher made one herself that was really very impressive, we were impressed. It was a really good

example. And then she made a horrible one that was just terrible, and so when she introduced it to the students, her own students, she gave them the task and said now I have two here; which one do you think would be the really good one, which one do you think wouldn't work for this and then have them identify the criteria from there.

It is clear from the responses that all seven instructors teach their students to use exemplars in their courses. Most describe some of the challenges around using exemplars but also identify ways to overcome these potential hurdles.

The last component of sharing learning intentions is the use of rubrics, checklists and other scoring and/or success criteria. The question I asked was, "What do you expect your students to know about using scoring criteria?" This practice involves sharing and co-creating criteria with students. This helps students to take ownership more fully of their own learning by being a part of their own assessment. Obviously, the co-creation process requires the teacher to guide discussions with students around how their work will be assessed. The reason is that the criteria must always reflect the intended learning outcomes, and students may inadvertently set criteria that do not do this. Therefore, teachers need to apply their own professional judgment to the process to ensure alignment with the Program of Studies. An important part of the process is ensuring that the criteria are worded in student-friendly language, but also that the teacher is mindful about the process.

Not just giving them criteria but generating them with them in student language so that they understand. ... I frown on the practice of just handing out a pre-formulated rubric and saying "There you go". That's just because you don't know if your students understand or can see how it applies...

...we do encourage them... to have the students do a student-friendly version of the rubric, but the caution we always give them is that before you do that with the students, you have to have it very clear in your own mind what you're looking for, and so you need to, especially as a beginning teacher, you absolutely have to have the teacher rubric hammered out first. And you're not necessarily going to share that with your students but as they are coming up with criteria it's

essentially, I call it ‘leading the witness’, because they know what the end point needs to be, and if we allow our students, our young students, to craft the rubric when they have no knowledge of the program of studies, or what’s ultimately going to be important in the unit, then they’re not intuitively going to figure out that out.

All of the respondents mention using rubrics with their student teachers, but only two mentioned any other form of criteria tools, such as checklists. Only three respondents identified the need to teach student teachers how to co-construct the criteria with their future students, which is a critical element of this practice. Further, just two stated that they taught students how to link criteria to the program of studies, and one respondent expressed a dislike for using rubrics at all, given some of the challenges. One respondent identified a challenge with using rubrics; namely, if and how a rubric might properly assess a wide variety of student-generated products.

... We were going through an example of building a rubric to evaluate a party. That’s just what we did in our curriculum class and so... they came up with the categories and the standards and the weighting, and the first one was the cake and so we were all going through... Well what does it take to be a 4 for a cake or a 3, and all of a sudden someone says, “Well what if I want to bring a cheesecake?” Because that’s not the kind of cake we were talking about, so that was just a perfect example of exactly, “Here are some of the problems with rubrics”, ‘cause what if you’re not even in this box and you’re out here and certainly what we always tell our students is you might have some kind of preconception of how students are going to understand your assignment but they might come at it completely different, completely outside the box that you’ve constructed. How open are you going to be to recognizing that that’s a very legitimate response? It’s just different from what you have imagined. So this was just a little thing that brought home to the entire class ‘cause you go, “Yes, there it is. What happens if you want to bring a cheesecake?” It’s still a cake, so someone could say, “I don’t know, whatever”. But it was still the point that we still have the whole thing of what’s a 4, 3, 2, 1 and it doesn’t fit at all. It doesn’t fit at all with the type of cake I would bring.

This response highlights some of the potential misunderstandings around rubrics. Well-crafted rubrics do allow for a wide range of student products and processes, while maintaining the integrity of the Program of Studies. Student teachers also need to

understand what types of outcomes from the Program of Studies are better assessed by a rubric and what types of outcomes are better assessed by other tools, such as checklists.

Descriptive Feedback

The fourth question was, “What are your students expected to know about descriptive feedback?” Responses to this question demonstrated a robust understanding of the importance of feedback, the types of feedback most likely to yield results, and some of the challenges surrounding the practice. That feedback should be individual was an idea noted by several of the respondents.

... the descriptive feedback should be aimed specifically at each individual. You might say something different to Tommy, given his work, than you would to Billy. And so, it requires a lot of individual kind of assessment, depending on where your kids are at. ... You can't say the same thing to a kid who's reading at the grade 2 level that you do to a kid who's reading at the grade 10 level, and you have those kids in a grade 7 or a grade 8 classroom.

... When you have 15 or even 30 students, the type of feedback that you can give is quite different than when we're working with secondary students, student teachers, who will end up having 100, 120, 150, 180 students... and so part of that conversation is actually... “How do you... marshal that?”

One piece of feedback isn't going to do it for different students... so the feedback needs to be differentiated. There might be three of the same piece of feedback... that's helpful for all but to push the individuals ahead it has to be differentiated and it has to be specific.

Aligned with the idea of individualized feedback is the idea of showing students the next steps in their learning. Feedback that is just merely focused on what went wrong is unlikely to either motivate students or move their learning forward. Making students aware of the next steps in their learning is also a way to help them set learning goals for themselves.

... It goes back to sizing up where the student is at and helping them take the next step....

... Descriptive feedback... certainly has to have a component of next steps, as well as strengths, but the key is that we also do a whole activity around giving different examples and what would you like to receive as student.... What was helpful about that? What was not helpful?

It was particularly in the responses to this question that an important understanding came out: in the absence of explicit training, student teachers will often fall back on using teaching practices that they themselves experienced as students. Some instructors found it necessary to explicitly model better feedback practices.

... I've realized that students really aren't very good at doing this, and they probably haven't received a lot of high quality things either. So one of the things that probably guides me a fair bit is the idea that you tend to assess the way that you were assessed and so what we're trying to do, then, is to have them think back to what they were like as a student and their experiences so far...

I think it comes down to their experiences. So in school, they certainly remember when they weren't given feedback, they get this mark on something and it's handed back so they certainly have that, but their concept is "I want to do it differently than that because that experience wasn't very satisfying for me as a student."

Sometimes students are fearful of making mistakes in their learning. Helping students see and accept that mistakes and errors are part of the learning process is a strategy identified by one of the respondents.

The other thing they have to be is: it's ok to ask a question, it's ok to not know. I find that in my classes it's very hard for the students to ask a question because they might look stupid; it's ok, it's how we learn. We learn to walk by stumbling; that's how we learn so there's that feeling, that comfort level has got to be there; it's a two way street... so be specific, be clear, there's a lifeline if you don't know, ask somebody.... In giving the feedback there's that comfort level, there's security there, instead of being wrong. How can we be wrong when we never were told? ... To me those are the big ones; thinking of the student and putting it in his or her context, students come from different contexts, and respect, giving respect, giving feedback respectfully, and taking it the same way too.

This respondent also highlights the need for the process of feedback to be formative, not evaluative. There needs to be trust and respect so that students feel safe in making

mistakes and moving forward in their learning. Another respondent is careful to point out the need for constructive and supportive feedback, as opposed to moving straight to what is wrong with a piece of student work.

You start with something that the student did well or the student understood. If you start with the negative, the student starts off on a negative foot. So, what did the student do well and then lead into “ok, now don’t...”

Descriptive feedback can often be misunderstood to mean those positive interactions that serve as encouragement for students. One of the respondents made this insightful distinction:

... looking at how do our pre-service teachers interact, for example, students are working on something, you notice, are they being the cheerleader as they walk around the aisles, “Ok, let’s get going, let’s get working, you guys have 10 minutes, you’re doing a great job” or are they actually looking at what students have written, what they’re doing, and give feedback, ask more questions, “why do you have this there instead of that there?, what’s your thinking?”, so to engage in the thinking of their students and it’s a very different type of feedback and some of them naturally are the cheerleader type and then you have to go, “You know what, sometimes you actually need to interact with the content of what students are doing.”

To summarize the assessment-for-learning strategy of feedback, one instructor shared this succinct and profound insight about what good feedback is: “...descriptive feedback for me is just, and I describe it to them, as saying the right thing at the right time in the right way to the right person to help them take the next step in learning.

Peer Assessment

The next question was, “What do you expect your students to know about student peer assessment?” This was a potentially tricky question and I was concerned that most respondents would confuse *peer assessment* with *peer evaluation*, even after explanation on my part during the interview. Peer evaluation is defined here as the practice of

students marking each other's work for a grade and is a highly undesirable practice for a number of reasons.

Peer assessment can be a difficult practice to implement, requiring a safe and non-competitive learning environment. Once the trust has been established, and students have learned to provide meaningful and supportive descriptive feedback to each other, peer assessment can be a powerful tool to improve learning. It can even take some of the feedback workload off of teachers.

...it always strikes me that when you want students to do peer assessment or self-assessment, particularly peer assessment, you first have to get over this hurdle of they want to be nice, and they somehow seem to think, "I can be nice or I can be honest" and so you have to have these conversations about what does feedback look like, how can it be helpful, because so many, them included, take feedback and especially if it's kind of constructive and go, you know, "You can pull this through a little clearer, you can go a little deeper," they take that personally.

... [Peer assessment] is meant to be, for example, if you're working with a piece of writing, someone will read that piece of writing and say "this is clear, this is clear, this is clear, what did you mean by this and what did you mean by that; maybe you want to try and clarify that."

Like teacher feedback, peer feedback needs to be based on outcomes, exemplars or criteria, or any combination.

... so again, we're kind of modeling that, how you could set that up in your own classroom. So the purpose of it, and then we do give them a bit of a checklist based on the rubric that they will be assessed on. And then we talk about, you know, what's the most... what were the things that were helpful to you, what was not, and so we really get at peer assessment by just doing it.

...it's an honest look at each other's work in order to help improve the work in you. I'd hope that you'd have a rubric of sorts, some guidelines, so the students are focusing on the specifics...

One instructor identified a problem for student teachers that could extend to all of the other practices, namely, why bother? "What they had a hard time believing is that it would take so much work to train students to do that, and they didn't particularly think

that would be valuable.” Of course, the onus is on the instructor to help student teachers understand the underlying research, as well as the practical considerations of this or any of the practices under consideration. Many student teachers may have difficulty understanding these practices as it is possible that they themselves have never experienced them before.

Most respondents highlighted the need for carefully training student teachers, and, by extension, students in how to effectively provide peer feedback. One respondent summed up the challenges and hopes of peer assessment beautifully:

We’ve got to teach each of those children to be respectful when they do peer editing or providing feedback. Because a lot of them don’t at first, they don’t know what that’s about. “I don’t want to push my friend away”... helping is what this is about so again it’s getting the attitude of making something which might be good even better. So you would need clear guidelines, the students know where they’re going in this. And that might take a bit of practice, depending on the class you get but a lot of that you have to teach the children, a bit like in giving assessment and helping them understand; it’s to improve learning. And don’t expect the children to do it well, right off but they will by the end of the time you’ve had with them.

Self-Assessment

The question, “What do you expect your students to know about student self-assessment?”, elicited what I felt were the richest and most meaningful responses. Clearly, this is a practice seen by most to have great value. Only one respondent answered this question negatively, as she interpreted self-assessment as self-grading.

Respondents identified various aspects of the practice, including basing the self-assessment on learning targets, the need for students to set goals in their learning so that they can see growth over time, and the need to teach this practice carefully to students.

Self-assessment in that way is built around, “What do I know and what can I do?” So, they help them that way, and they help them kind of map that, so you know, “What do I know about this topic?”, and then they come back to that at the end

and say “Ok, given what you knew, what did you learn” and if you mark what they know or what they can do at the start and then you take a second mark at the end that helps the student see their growth and become aware of it, especially if you’ve got exemplars of student work when they started and exemplars – like a rough draft or a first go at a big project, and then the final kind of published piece, they can look at those two exemplars and say “Well, I learned how to do this and I learned how to do that and I learned how to do that.” So the meta-cognitive piece comes in at two places – at the start of something and at the end. And you have to make that concrete – you can’t just leave it as an exercise inside their heads; that’s where you need exemplars, because if you just leave it inside their heads they’re wildly inaccurate.

So, what’s talked about is the need for criteria and that criteria can be really specific or more general, it can be across the board for everyone, or it can be individualized, so those are kind of, in a sense, philosophical, theoretical conversations that are used then to help them create how they will do their self-assessment...

... Giving them an opportunity to self-assess, not always based on “I feel” because I’ve noticed that’s a real tendency for beginning teachers: instead of saying, “Now here’s the work that you did today; can you indicate how well you think you did based on this criteria; how well do you think you did?” Which is a very different question from “How do you feel about your work?” So, getting away from “How do you feel?”, to “How did you do in relation to these criteria?”

So, trying to get the student to try to think of the fact that they’re in this progression over the course of the unit, but tying it back again to the outcomes and the expectations and for the students...

... The self-assessment is meant to inform the student about themselves, and also, as the teacher, for you to get some insight into what they think in terms of their learning... It’s good information for the commentary on a report card. You know: “[Student’s name] has really grown in his confidence as a learner this semester and I’ve seen this in his self-assessment.”

And self-assessment, very much the same thing. And that could be done on a one on one or take this piece of work, think about it and give them guidelines or some points and get them to write about it, journal about it. Journaling is a good way for reflection.

... Then I say “Ok, tomorrow hand in a reflection or self-assessment or a kind of a journal of where you went with this and if you had to do this again would you improve, what went well, what didn’t work so well?” Or you know get them to really think about how to do better. They have to do that themselves...

... We did talk about keeping journals, how that could help a student evaluate, do some metacognition that way, so they can look at themselves and say “Hey, I could improve” or “I know I could’ve” or, “I worked so hard, how come I didn’t...?”

Student teachers are encouraged to reflect on their own practice on a regular basis, and it stands to reason that they should help their future students do the same. It is likely that the strength of the responses to this particular question is rooted in the culture of reflective practice that has been a part of the profession for some time now (Alberta Education, 1997, p. 3). In self-assessment, students are not just asked to reflect on how well they have done in their learning in relation to the outcomes; they are also asked to use their own mental skills to close the gap between what they know and can do, and what they are expected to achieve. This requires some self-knowledge on the part of the learner as to how they learn best and what tools they have available to move forward in their learning.

Modeling

Modeling good assessment practices is an important component of teaching programs, and each of the respondents identified that they tried to model good practice in their own courses. One instructor in particular mentioned modeling in almost every question, and this before I solicited a response to modeling specifically. Another respondent identified this as a weakness in her own practice along with a commitment to improve:

... so this is the first time I’ve taught this class, so I think I’m modeling very badly. Because I was teaching still, and I think I’m still battling with it, but teaching the deficit model, where I’m here to disperse information and you’re here to receive it and so the next time I’m going through, guaranteed, I will create rubrics.

One pleasant surprise awaited me in the data. Two respondents mentioned that in addition to modeling the practices themselves, they explicitly connect all their modeling to what they expect their student teachers to do in turn, that is, model in *their* classrooms once they enter either practica or professional service. I did not ask about doing this; I only asked if they model the practices. This is a powerful insight that should have bearing on what all teacher preparation schools should be doing.

This is [my rubric] for my students, and they are expected to model that. I say what we do here is what you do in the classroom. You get the same thing with the peer assessment, self-assessment, and that's all upfront. I want them to know this is a very practical course. What we do, is what you would do.

... we really try to build onto what they experienced as a student. It reminds me of that migration across the desk, right? As you're becoming now a teacher, so then how can you build on the experiences that you liked as a student as well as putting your feet down in the literature now and how you're going to develop, now, your own approach.

Student teachers have had many years of experience with different teaching styles in their educational careers prior to entering teacher training programs. Not all of these experiences have shown them what high-quality classroom assessment should look like. Therefore, it is vital that teacher preparation instructors explicitly help student teachers understand that what they experience in their education faculty courses is what they themselves will be expected to do once they enter professional service. The necessary corollary is, of course, that the faculty courses do in fact model those high-quality assessment behaviours. Teacher preparation programs should consider connecting the dots for their students as part of the modeling.

General Observations

Overall, most instructors are using the language of assessment for learning. However, the responses show some minor inconsistencies, especially in the areas of

sharing outcomes and co-constructing criteria. These inconsistencies do not, however, represent a high level of misunderstanding about the practices. It just appears as though some instructors place greater emphasis on certain aspects of a given practice over others. For example, one instructor talked about feedback only in the area of written work, while most others described feedback in more holistic terms. As noted in some sections above, a few instructors expressed uncertainty or at least ambiguity about how much they actually teach some of the practices. The practices really go together in the research and the professional literature, so it is a little surprising to find inconsistencies like this.

Other than the areas of sharing outcomes and co-creating criteria, teaching of assessment-for-learning practices appears strong across the board. Self-assessment is especially strong. The interview responses indicate that instructors generally have a strong understanding of the practices and that they model them well for their students.

Areas for Further Reflection

The questions about sharing outcomes from the program of studies and co-creating assessment criteria with students revealed a slightly greater need for improvement than the other areas. It would be beneficial for instructors in teacher preparation programs to examine this further.

Another aspect of this study that I find somewhat puzzling is finding any inconsistency at all. Assessment-for-learning practices go together in most of the research and literature on the subject, so one might assume that if student teachers are being taught well about, say, descriptive feedback, that they would be taught equally well about sharing outcomes and co-constructing criteria. This may be linked to some uncertainty about definitions, given that in much of the literature on the subject there are minor

differences in how the practices are defined or understood. The problem of inconsistency could also be associated with the difficulty of implementation identified in Chapter 3. For example, education faculty instructors may have difficulty applying what they teach about a given practice to every possible context that student teachers may encounter, and this may prevent exploring assessment-for-learning practices in depth.

Program Strengths

I started this study because I had observed that many new teachers were lacking in knowledge and experience in the area of assessment-for-learning practices. The responses that I have received have largely confirmed that student teachers in Alberta are in fact being taught about these practices. Some areas, like self-assessment are especially strong. All but one of the programs are teaching self-assessment and teaching it well. The outlier example noted above highlights the need for common language around assessment-for-learning practices. Other areas of strength include the use of exemplars, providing descriptive feedback, and modeling. Even peer-assessment, which I feared would be a very thorny issue, came out strong in this study. Overall there are lots of things happening in Alberta teacher preparation programs around teaching these practices, much more than I expected when I began this study.

Chapter 6: Conclusions and Recommendations

Conclusions

I began this study because I perceived a lack of understanding around the principles of assessment for learning in beginning teachers in our school jurisdiction. The school district in which I work places a very high priority on teachers using assessment-for-learning practices in their classrooms. Also, I have used these practices to great effect in my own teaching. My concern, therefore, was that universities may have been missing something important in their teacher preparation programs.

As I met with the seven instructors, it became clear that the practices were in fact being taught in each institution. My concerns about the teacher preparation programs turned out to be largely unfounded. As well, in the short time that has passed since I started the current research study, I have noticed a dramatic improvement in the area of assessment for learning in our newly hired teachers. This is not a scientific assertion, given the limited number of beginning teachers I have worked with recently; rather it is just something that I have observed. It is also anecdotally noteworthy that the beginning teachers that I have worked with recently in my various administrative and peer coaching roles have come from no less than four different teacher preparation programs in the province. I suspect that the improvement in our teachers is a result of several variables, not least of which is what they learned during their university training. (Other variables would likely include induction and mentorship, school leadership or prior assessment experiences, but to make an accurate determination would require further research.)

One of the challenges in this study is understanding the connection a student teacher makes or does not make to what he or she has been taught in university. Many

variables come into play that are beyond the direct control of the universities, including the teaching style and expectations of the cooperating teacher during practica, the prior educational experiences and beliefs of the student teacher, and the inherent difficulties of applying everything they have learned to their teaching all at once. Just because a student teacher was exposed to a given skill or principle does not necessarily mean s/he learned it or is willing or able to apply it. Further research is necessary to address the issue of how to ensure more fully that teacher preparation leads to teacher practice.

It is clear from the interviews that there is much being taught around assessment for learning, and, given the strong and continuing research base on assessment-for-learning practices, this is a significant positive finding. Most of the answers I received demonstrated that the instructors each had a solid understanding of most or all of the practices I was exploring, and that they felt it was important to share and model these practices with their students.

As noted in the analysis, some growth may be necessary, especially around strategies dealing with sharing outcomes and criteria with students. This finding was not consistent with my expectations; I expected greater deficiencies in the programs based on what I was seeing in the teaching field from our beginning teachers. The only major deficiencies that I found were in a very few negative responses where an instructor either did not teach a given principle, or did not believe it was of value.

...actually I don't talk about [Sharing learning outcomes].

I'm not a rubric fan, so we were going through an example of building a rubric to evaluate a party. That's just what we did in our curriculum class and so, you know, they came up with the categories and the standards and the weighting, and the first one was the cake and so we were all going through, you know, well what does it take to be a 4 for a cake or a 3, and all of a sudden someone says, well what if I want to bring a cheesecake because that's not the kind of cake we were

talking about, so that was just a perfect example of exactly, here are some of the problems with rubrics, cause what if you're not even in this box and you're out here and certainly what we always tell our students is you might have some kind of preconception of how students are going to understand your assignment but they might come at it completely different, completely outside the box that you've constructed; how open are you going to be to recognizing that that's a very legitimate response. It's just different from what you have imagined. So this was just a little thing that brought home to the entire class cause you go, yes, there it is, what happens if you want to bring a cheesecake. It's still a cake, so someone could say, I don't know, whatever. But it was still the point that we still have the whole thing of what's a 4, 3, 2, 1 and it doesn't fit at all. It doesn't fit at all with the type of cake I would bring.

To go back to your question about self-assessment and peer assessment: peer assessment I would not use on certain evaluations. Specifically, if there was something based on perhaps Bloom's higher levels of taxonomy. I don't think a peer is able to judge that.

I'm not sure that self-assessment is always a valid assessment; it's very subjective.

Some of the challenges around teaching assessment-for-learning practices in our universities could be attributed to a lack of commonality around how these practices are defined, and I did find some evidence of inconsistent definitions. For example, one instructor felt that peer assessment was not an appropriate practice, as she defined the practice as peer grading. In this particular instance, I explained the definition I was using in my interview, which was also based on the Alberta Assessment Consortium definition (Hogg et al., 2005), and still received a negative response.

Given the complexity and ever-evolving nature of teacher preparation programs, any minor deficiencies could easily be attributed to an instructor just not yet being informed about a given practice, or just not having sufficient time in a course to explore particular practices in depth. For example, as described in the previous chapter, one respondent admitted to some deficiencies around how she models the assessment-for-

learning practices and she felt as though she needed to make some improvements in the future.

I was pleasantly surprised by the strength of the responses around sharing exemplars and student self-assessment. The instructors that I interviewed seemed to be especially knowledgeable about these two areas. The continuing emphasis placed on reflective practice in Alberta schools, as noted in the Teaching Quality Standard, is a possible reason for the strong responses around self-assessment. The strength of the responses dealing with the practice of using exemplars could be linked to the fact that Alberta teachers of certain grades and subject areas are required to use exemplars, along with rubrics, to score some of the Provincial achievement and diploma tests.

A third area of strength, as noted in the analysis, was how instructors claim to model the practices in their own courses. Student teachers have lived through many years of education and their experiences are highly varied. They may have developed understandings and habits that are not consistent with effective research-based teaching. It is absolutely critical, therefore, that university instructors in teacher education programs consistently model appropriate teaching practices, in spite of any institutional constraints the instructors may labour under, such as questionable grading practices. I believe, however, after examining two very insightful responses, that there is a need to make the connection explicit between modeling and what the student-teachers will be expected to do in their own practice.

This is [my rubric] for my students, and they are expected to model that. I say what we do here is what you do in the classroom. You get the same thing with the peer assessment, self-assessment and that's all upfront. I want them to know this is a very practical course. What we do is what you would do.

... we really try to build onto what they experienced as a student. It reminds me of that migration across the desk, right. As you're becoming now a teacher, so then how can you build on the experiences that you liked as a student as well as putting your feet down in the literature now and how you're going to develop, now, your own approach.

Although a few of the responses did indicate a need for the instructor to provide more clarity in teaching about certain practices (for example, the challenge concerning the definition of peer-assessment noted previously), overall, teacher preparation programs in Alberta are providing instruction to prospective teachers about assessment for learning as it is understood in the Alberta context. My initial assumptions were that student-teachers were not being taught about assessment for learning and that the deficiencies I observed in new teachers existed because of a lack of preparation in their university training. Based on the data, my assumptions have proven incorrect: teacher preparation programs in Alberta are all aware of the benefits of assessment for learning and provide at least some instruction in it. It would therefore be difficult to make the argument that universities are responsible for the lack of implementation of assessment-for-learning practices on the part of graduates. We must therefore look elsewhere for the explanation if we are dissatisfied with the implementation of assessment-for-learning practices in some Alberta classrooms.

While I was working through this thesis, I came to better understand an assessment-for-learning practice that I did not include in this study: the practice of questioning students to find out exactly where they are in their learning and adjusting teaching to address their specific deficiencies. Dylan Wiliam refers to this as "eliciting evidence of learners' achievement" (Wiliam, 2011, p. 71). When I began the study my own understanding of this practice was limited. I believed that it was just part of the feedback cycle, and therefore I did not ask a separate interview question about the

practice. However, through my own classroom teaching experience, I have come to understand that this practice of eliciting evidence of learning and adjusting my teaching accordingly is a discrete practice that is the essence of assessment for learning. Given the opportunity to begin the study over again, I would have addressed this key practice in my interviews. Having not included this practice in my study, I cannot draw any conclusions about whether this practice is being taught in Alberta teacher preparation programs. This is a further limitation of my study and the practice of eliciting evidence of learning and adjusting teaching to address learning deficiencies is something that should be included in any future study on the topic of assessment for learning.

Recommendations

Most of the instructors that I interviewed are modeling excellent assessment-for-learning practices for their students. One area identified in the findings as requiring improvement, is to make the modeling of assessment-for-learning practices explicit. Student teachers should be directly informed that whatever assessment practice they are experiencing in a course is what they will be expected to do in their practica and when they become certified teachers. Many students will likely make this connection themselves, but for those who may not, stating the connection explicitly is a necessary strategy.

Teacher preparation programs should continue to disseminate assessment-for-learning practices. It is difficult, given the amount of content in any teacher preparation course, to explore many concepts deeply. It is also perhaps undesirable to dig too deeply into assessment-for-learning practices without knowing the context in which the student teacher may find herself in in her future practice. A preferred course of action may be to

teach the general theory and research around assessment-for-learning practices and then help student teachers apply this understanding to the specifics of their practicum assignments. As student teachers engage with the research, they may come to value assessment-for-learning practices simply because they have been proven to work so well. They should be taught to be very mindful about using the practices, including the exploration of what might not work in a given classroom circumstance, as well as what does. Another way to achieve depth of understanding is to have student teachers collaborate with their peers about how these practices may be actualized in practice. Many schools and districts encourage their teachers to collaborate to improve practice and it may help future teachers to be exposed to collaborative processes in their pre-service training.

There were a few minor inconsistencies around some instructors' understanding of assessment-for-learning practices. To address this, there are a number of readily available resources that instructors can use to develop their own understanding, as well as to share with their students. Some of the works noted in the literature review are especially helpful, namely, *Embedded Formative Assessment* (Wiliam, 2011), *Making Classroom Assessment Work*, (Davies, 2007), *Refocus: Looking at Assessment for Learning* (Hogg et al., 2005), and *Building Better Rubrics*, (Bennett & Mulgrew, 2009). *Building Better Rubrics* would be especially helpful to address the previously noted deficiency around helping student teachers co-create success criteria. Sharing and using the literature will help create a common language of formative assessment and avoid the pitfalls of conflicting definitions. Using the available literature in instruction will also create clarity for instructors as they provide training to student teachers, and, if

instructors from different universities desired to collaborate about how they teach assessment for learning practices, this collaboration could help create consistency across the Province.

Another concept that comes out in the literature is the integrated nature of assessment-for-learning practices. They should be implemented in practice as a whole, along with other sound assessment practices. For example, students engaging in the process of self-assessment should have outcomes, exemplars and success criteria available to them during their reflections, and they should have peers and teachers available to provide feedback. Conversely, any feedback given to a student in the absence of clear learning intentions is unlikely to yield growth in learning. Student teachers need to understand how to plan for assessment for learning in a way that honors the holistic nature of the practices within a given classroom context.

To help facilitate reflection and planning for university teacher education programs, I have included in the Appendix C a self-reflection checklist for education faculty instructors to use as they plan for instructing their students in assessment for learning.

Areas for Further Research

As noted in the methodology section of the present study, my research was limited in its scope to what was taught by a single instructor at seven of the eight campuses. To generate more robust results would require interviewing many more instructors in each education faculty.

To determine the extent to which student teachers have internalized assessment-for-learning concepts would require interviewing program graduates or examining their

classroom practices in the field. Such information would be invaluable to universities as well as to those responsible for hiring, evaluating and supervising teachers.

University textbooks in the area of assessment are another possible area for further research. I did not examine textbooks as part of the present study, but exploring what is being presently used could be revealing. As well, a study of existing assessment textbooks in light of my research could lead to Alberta teacher preparation programs revising what they currently use.

A final area that may yield informative results is to compare the relative merits of having or not having an assessment course in teacher preparation programs. Presently, universities are split on the issue, some favoring a specific course, others preferring to integrate the teaching of assessment practices into other courses. It may not be desirable to establish any sort of province-wide consistency as a result of such a study, as Alberta universities differ widely in both size and philosophy. However, a conversation among different education faculties in the province about how they teach assessment-for-learning practices might provide valuable reflective data for universities with existing teacher preparation programs, as well as provide information to other universities seeking to establish a teacher preparation program in the future.

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Appendix A – Participant Consent Letter

**PARTICIPANT (ADULT) CONSENT FORM*****Instruction in Assessment for Learning Practices in Alberta Teacher Preparation Programs***

I am Nathan Sillito, a graduate student in the Faculty of Education at the University of Lethbridge. I would like to invite you to participate in a study entitled ***Instruction in Assessment for Learning Practices in Alberta Teacher Preparation Programs***. You can reach me by phone (403-485-1745) or email (nathan.sillito@uleth.ca).

As a graduate student, I am conducting this research as part of the requirements for a Master's degree in education. It is being conducted under the supervision of Robert Runte. You may contact my supervisor at 403-329-2454 or runte@ulethca.

The purpose of this research project is to determine what assessment and evaluation courses in Alberta education faculties teach their students about Assessment for Learning practices. Research of this type is important because it will help Alberta teacher preparation programs determine what they are teaching in relation to assessment for learning practices and provide possible direction for course design. The research may also help teacher professional development organizations refine the support they give to teachers in the area of assessment for learning.

You are being asked to participate in this study because you teach teacher preparation courses at [name of institution].

If you agree to voluntarily participate in this research, your participation will include one 30 – 45 minute interview conducted in person or over the phone. This will be a semi-structured interview, wherein we will begin with general questions about your course and move to more specific questions about certain areas of assessment. If applicable, I will also need a copy of your course syllabus.

There are no known or anticipated risks to you by participating in this research, and the potential benefits of participation include heightened awareness of the benefits of assessment for learning practices, improved teacher preparation programs, and greater student achievement.

Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time without any explanation or any consequences. If you do withdraw from the study your data will not be used in the study and the interview recording and transcripts will be destroyed.

In terms of protecting your anonymity you will be assigned a pseudonym, as will each institution. Every reasonable effort will be made to protect anonymity, but given the size of the sample (approximately eight participants), complete anonymity cannot be guaranteed.

Your confidentiality and the confidentiality of the data will be protected. The study does not solicit data of a personal nature. Your interview responses will be recorded and transcribed. The electronic recordings will be deleted after the transcription is complete and you have reviewed and approved the transcriptions or immediately if you withdraw from the study. The transcriptions will be retained by me until my thesis has been successfully defended and completed and then they will be destroyed.

It is anticipated that the results of this study will be shared with you, everyone at the University of Lethbridge involved in my thesis, other education faculties, the Alberta Assessment Consortium, the Alberta Teachers Association, Alberta Education, and any interested school boards.

In addition to being able to contact the researcher and the supervisor at the above phone numbers, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Chair of the Faculty of Education Human Subjects Research Committee at the University of Lethbridge (403-329-2425).

Your signature below indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researchers.

Name of Participant

Signature

Date

A copy of this consent will be left with you, and a copy will be taken by the researcher.

Appendix B – Interview Schedule and Blueprint

Opening question:

I would like to ask you to take me through the scope and sequence of your assessment course. As part of your response please include a brief description of the course assignments and their weightings.

Clarifying questions and prompts

Tell me more about...?

Could you please expand on...?

Could you share an example of ...?

What do you teach about formative assessment in your course?

Are your students expected to be familiar with assessment for learning practices?

How are your students expected to demonstrate their understanding of...?

What weighting is given for formative assessment practices?

Specific areas to be covered in the interview

Assessment Practices	Theoretical questions	Interview Questions
1. Clarifying learning intentions and criteria for success	Do teachers help students know what they are to learn? Can students and the teacher create a shared understanding of what constitutes success? (for example, using exemplars and rubrics)	What do expect your students to know about sharing learning outcomes? What do they need to know about using exemplars? What do they need to know about using scoring criteria?
2. Providing feedback that moves learners forward	Do teachers provide descriptive feedback that helps students achieve learning targets and make adjustments in their learning?	What are your students expected to know about descriptive feedback?
3. Activating students as instructional resources for one another (peer-	Are students taught how to assess their peers' work relative to the learning	What do you expect your students to know about student peer-assessment?

assessment)	criteria?	
4. Activating students as the owners of their own learning (self-assessment)	Are students taught how to assess their own work relative to the learning criteria and then set appropriate goals to improve?	What do you expect your students to know about student self-assessment?

How do you model these practices in your instruction?

Concluding questions

Is there anything in this interview that I may have missed or that you would like to add?

Appendix C - Reflective Survey

The following is a brief survey that can help teacher preparation instructors reflect on how well they are teaching their students about assessment for learning. I have adapted and modified the instrument from the self-reflection rating scale found in the Alberta Assessment Consortium publication *Refocus: Looking at Assessment for Learning* (Hogg, R. et al., 2005)

1. My student teachers understand and can articulate in advance of teaching the learner goals their students are to achieve.
2. My student teachers plan to inform their students regularly about those goals in terms their students can understand.
3. My student teachers know how to use classroom assessment information to revise their own instruction.
4. My student teachers understand how to provide frequent and descriptive feedback to their students, and they know what constitutes effective feedback.
5. My student teachers know how to help their students actively and effectively self-assess.
6. My student teachers know how to help their students effectively engage in peer assessment practices.
7. I actively model assessment for learning practices in my own instruction.