FORMATIVE ASSESSMENT STRATEGIES USED IN THE UNIVERSITY OF NORTHERN BRITISH COLUMBIA SCHOOL OF EDUCATION

by

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Abstract

This study explores the perspectives of professors and instructors using formative assessment strategies in the classroom. A qualitative phenomenology was used to utilize the data from nine (n=9) questionnaires and three (n=3) in-depth semi-structured interviews with UNBC School of Education professors and instructors. The questionnaire and the interview questions regarding the use of formative assessment strategies were drafted based on the strategies identified by Black and William (1998). The findings from the questionnaire revealed that professors and instructors were aware of the purpose of assessment, the importance of student-focused assessment, and the various ways of implementing formative assessment. Additionally, the interviews showed that professors and instructors were aware of the importance and impact of formative assessment when implemented in teaching and learning, which, in turn, could move students' learning forward by providing effective and continuous feedback. The findings from this research can increase understanding of assessment in post-secondary settings and may benefit educators who implement formative assessment practices, through continuous and regular professional development (Brancato, 2003).
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Chapter 1: Introduction

Over the past decade, assessments have been used to measure the academic abilities of students, and the results of these assessments have been utilized to make programming decisions (Earl, 2003). Assessment remains a fundamental aspect of teaching and learning in higher education, as well as an integral element that can provide an evaluation of student learning. Specifically, understanding the results of assessment has direct and lasting impacts on learners, teachers, and classroom activities.

The role of assessment in higher education is gaining attention, as assessments are increasingly recognized as having the potential to improve teaching and learning. In recent years, educators have begun to investigate the role assessment could play in enhancing student learning by encouraging learners’ active involvements in their own learning, thereby bridging the gap between what has been and what may be learnt (Colby-Kelly & Turner, 2007). This approach encourages students to take control over their learning with the educators providing and using descriptive feedback, self-assessments, portfolios, projects, and peer-assessments (i.e., formative assessment tools).

Several researchers have argued that the intentional use of formative assessment practices in the classroom enhances students’ learning (Black & Wiliam, 1998; Stiggins, 2002; Van de Watering & Van der Rijt, 2006). Furthermore, there is a link among improved learning outcomes, assessment, and classroom practice (Pellegrino, Baxter, & Glaser, 1999). Consequently, it is imperative for educators to establish the purpose for assessment, the criteria being measured, and the intended outcomes before meaningful assessment methods can be achieved (Gaytan, 2002).
Effective assessment strategies influence students’ approaches to study as well as serve to enrich students’ understanding of the subject content. The literature is consistent in showing that the goal of assessment should be to monitor the ongoing improvement of student learning and academic programs, and to enhance teaching and learning (Assessment Reform Group, 2002; Black & Wiliam, 1998; Corcoran, Dershimer, & Tichenor, 2004; Stiggins & Chappuis, 2002). As a result, formative assessment remains a vital element of classroom practice. Further, formative assessment provides regular feedback to students in order to stimulate learning and provide students with information, which will enable them to take responsibility for their learning.

Formative assessments have the potential to meet the demand for the increasing rigour in higher education, while at the same time, improve the quality of teaching and learning. Although there has been a great deal of research on formative assessments in higher education, very little has been written on formative assessment strategies used in higher education, in general, and in faculties of Education, in particular (Colby-Kelly & Turner, 2007; Yorke, 2001, 2003).

**Purpose of Study**

Finding effective assessment strategies remains a significant challenge to the education sectors, particularly when the benchmarks for assessing students’ achievements are constantly evolving and the complexities around and about students are confounding, such as their ability to assimilate, analyze, and make a conclusion. Thus, investigating effective assessment strategies in the UNBC School of Education could inform policy. This study furthers the researcher’s understanding of effective assessment strategies by studying professors’, terms instructors’, and sessional instructors’ assessment strategies in the UNBC
School of Education. It should be noted that the sample used in this study was small (e.g., nine questionnaire respondents and three interviewed participants) which could be perceived as a limitation. The purpose of qualitative research is not generalizability but rather complementarity with the professional literature so that the results of this study should be viewed as support for other researchers’ work.

Research Question

This research was focused on effective assessment strategies in the School of Education, so the central research question was: To what extent do the professors and instructors use effective assessment strategies in their classrooms as represented in the professional literature? The research results from this research enhanced our understanding of effective assessment strategies which could further inform decisions for the School of Education.

Significance of the Research

Formative assessment has the potential to make learning more rigorous and relevant for higher education because it has resulted in an increase in student achievement that has been acknowledged to date (Black & Wiliam, 1998, 2006; Marzano, 2006; Meisels, 2006; Stiggins, 2002; Van de Watering & Van der Rijt, 2006). On the one hand, the professional research points to the argument that when formative assessment is embedded into instruction, it can lead to the implementation of effective assessment strategies that improve student learning. On the other hand, the effective implementation of formative assessment at the classroom level will require an intentional use of it.

The results from the present study provided information that may be used to improve assessment practices of an academic program that might lead to change in student performance (but was not a focus of this study). Finally, this study provided educators with
an awareness of educational strategies that could improve student learning and understanding.

The Researcher

To better describe the context of this proposed study, I am including this section as an introduction to me as the researcher and as an explanation as to what role I played in relation to this study. My professional background and experiences as a teacher and student may be seen as influential in my decision to conduct research in this area. From my undergraduate degree, my research project was on the effect of assessment on students and migrating to Canada has given me a broader perspective. I have noticed how the teachers and schools in Canada are being held accountable for students’ performance and also the call for formative assessment rather than summative assessment in the schools. I have often wondered if the right environment and conditions could lead to improvements in student learning.

My interest in classroom assessment also comes from being a student and the fact that there is now a major call globally to incorporate formative assessment strategies such as timely feedback, self-assessment strategies, peer-assessment strategies, rubrics, portfolios, and models that can guide learning as part of teaching and learning. I believe that the combination of my professional experience as a teacher and personal experience has allowed me to gain an understanding of how formative assessment strategies can help enhance student learning.

Summary

The purpose of this study was to investigate the formative assessment strategies, if any, used in the UNBC School of Education. A qualitative methodology was used to explore the professors’ and instructors’ perceptions regarding the use of effective formative
assessment strategies (Patton, 2002). The study aimed to provide educators with an awareness of educational strategies to increase student learning and understanding. Further, this study related to the goals of the institution and students, and the formative assessment strategies instructors use in providing feedback. The sample size of nine (n = 9) professors and instructors for questionnaires and three (n = 3) for qualitative semi-structured interviews was utilized.

Formative assessment is significant to teaching and evaluation of student learning in the higher education. Understanding the outcomes of assessment has a direct and lasting impact on learners, teachers, and classroom activities. The role of assessment in higher education is gaining attention, as assessments are increasingly recognized as having the potential to improve teaching and learning (Colby-Kelly & Turner, 2007). The goals of formative assessment are to monitor the ongoing improvement of student learning, and of academic programs, and to enhance teaching and learning. Furthermore, formative assessment provides regular and timely feedback to students in order to stimulate learning and, in turn, enables them to take responsibility for their own learning. In addition, formative assessment leads to improving the quality of teaching and learning.

Chapter 2 discusses the literature concerning formative assessment (i.e., overview of assessment, formative assessment, and assessment in higher education) and Chapter 3 explains the methodology and methods employed in this study. Chapter 4 outlines the results of the two methods employed: questionnaires and semi-structured interviews. Chapter 5 presents the interpretation of the results in the form of a discussion. The last chapter concludes the project with implications, recommendations, and a personal reflection.
Chapter 2: Literature Review

The role of assessment in higher education is central to any area of academic endeavour, even though assessment practices that support both quality and equity may be compromised in the higher education setting (Goos, Galbraith, & Renshaw, 2011). One of the key developments in current assessment studies has as its focus the relationship between classroom learning and assessment rather than measurements of learning. Wiliam, Lee, Harrison, and Black (2004) established that adjustments to teachers' classroom assessment practices, while complex in higher education, could lead to improvements in student learning.

One of the key purposes of this chapter is to review the literature that is relevant for this study to show some of the complex patterns involved in formative assessment practices in higher education. A second purpose is to see whether the practical problems of changing instructors' assessment practices in higher education can be resolved from the results of different studies that have been reported.

The literature review reported in this chapter is organized into three sections. First, I will outline studies on the definition of assessment, its purpose, principles, and forms, and the key assessment practices in higher education. Second, I discuss formative assessment, elements of formative assessment, and formative assessment in the classroom. Third, I review prior research on the effectiveness of formative assessment practices in higher education.

Overview of Assessment

Assessment still remains a very significant aspect of education because it is used as a channel to provide quality indications for institutions about the effectiveness of teaching and
learning. Over the last 50 years, assessment has been used to measure the academic abilities of students and has been through a lengthy line of structural changes intended to add quality control into education (Earl, 2003). Since stakeholders are holding schools accountable, assessment still remains a powerful educational tool for promoting learning, if used in the right way. Furthermore, assessment can provide evidence to stakeholders that students are knowledgeable (Goubeaud, 2009); however, there remains no proof that increased testing can improve students’ learning. In recent years, educators have begun to look more closely at the role assessment could play in improving student learning instead of just measuring it.

**Purpose of assessment.** There are a diverse number of reasons why educational assessment is carried out and the nature of the assessment often reveals its purpose. Parents, students, the education system, government, society, business, and industry are all calling for accountability (Brady & Kennedy, 2009). Each of these groups, for different reasons, needs to be aware of the progress in students’ learning.

Black and Wiliam (1998) identified three purposes of assessment. First, assessment promotes teaching and learning because the students are central point, and assessment revolves around student performance. To meet this purpose, the information gathered from the assessment of the students’ learning is used to enhance that learning, determine the students’ strengths and weaknesses, assess and improve the effectiveness of curriculum programs, and gauge teaching effectiveness (Brady & Scully, 2005; Eisner, 2001; Masters & Forster, 2000; Woolfolk, 2004). This first purpose identified by Black and Wiliam (1998) is to use feedback to move students’ learning forward while that learning is still developing. Students and teachers can play active roles in enabling learning by constantly working to
build and enhance understanding during the lesson (Heritage, 2011). As students use descriptive feedback to learn and set goals, they take ownership of their learning.

Second, assessment is used to record the achievements of individuals for certification (Black & Wiliam, 1998). The purpose of this certification is to direct the student along a certain path in education for a specific job or for a better job or for moving forward in his or her educational pursuit. Furthermore, this might be understood to be business- or industry-supported and concerned with acquiring knowledge and skills that can be applied to a specific job requirement (Brady & Kennedy, 2009; Eisner, 2001).

Third, a purpose of assessment is to gratify the demand for public accountability (Black & Wiliam, 1998). This purpose can be seen as the interest of governments and affiliated interest groups. In addition, collecting and analyzing the information gathered serves the purposes of undertaking policy review for the government; information for the next plan for teaching and learning, and progress been made for parents; using assessment information for school improvement for the education system; using assessment information to improve teaching and learning for teachers; and using assessment information for school planning, supporting teachers as to what professional development is needed.

All three purposes fall into two groups of assessment: formative and summative. Formative seeks a feedback mechanism, which is used to support learning and improve the quality of instruction, while summative is given to determine how much a student has learned at a particular time for the purpose of communicating the student’s performance to others (Brady & Kennedy, 2009 & Eisner, 2001).

**Forms of assessment.** Assessment remains an essential part of a consistent educational experience. Assessment can take one of two forms (i.e., summative and
formative) both forms can improve learning however their implementation in classrooms will often depend on the individual teacher (Black & William, 1998). In a balanced assessment system, both summative and formative assessments remain an integral part of information gathering (Garrison & Ehringhaus, 2007) and can create significant potential for improving student learning (Assessment Reform Group, 2008).

The goal of a summative assessment is to measure the level of achievement or skill that has been acquired at the end of an instructional unit or by comparing against a certain standard. It can also be used to establish the learning abilities of students to further guide their development in a particular program (Jenkins, 2010). In addition, summative assessments in the classroom are used as an accountability measure that is generally part of the grading process. A summative assessment can also be referred to as an “assessment of learning”, which is regarded as high stakes and occurs at the end of a program where the information collected is used to judge both the students’ and teacher’s performances (Ahmed & Teviotdale, 2008).

In contrast, a formative assessment is a part of the instructional process that is integrated into classroom practices to provide information on the students’ learning and what adjustment might be required in teaching to improve the learning outcomes (Athanasou & Lamprianou, 2002; Black & William 1998; Stiggins, 2002). Furthermore, since formative assessments are integrated into classroom practice, they provide the opportunity for immediate evidence to be gathered on a student’s learning at any particular time during the program so timely adjustments can be made. A formative assessment can also be referred to as an “assessment for learning” (AfL), is regarded as low stakes, occurs in the classroom during instruction and improves learning by providing the opportunity for immediate
performance feedback (Ahmed & Teviotdale, 2008). Additionally, assessment for learning involves both students and teachers giving descriptive feedback, dialoguing, and reflecting throughout the teaching process in order to make timely improvements.

However, the result of a summative assessment can be used for formative purposes by storing the information and using it to stress learning and to plan learning opportunities at later stages. Finally, summative assessments are high stakes in nature and are usually applied at the end of a term or lesson, whereas teachers use formative assessments daily by integrating them into their classroom practice.

**Assessment in higher education.** Assessment is an intricate phenomenon that plays a crucial role in enhancing instruction and student performance, admission and selection, placement and instructional guidance, acquisition of learning and proficiency, program appraisals, and career guidance and decision making at all levels of education (Boud & Falchikov, 2006; Jenkins, 2010; Johnson, 1999; McArdle, Walker, & Whitefield, 2010). Assessment in higher education is part of the foundation of education because it evaluates student learning, and the efficiency of teaching techniques and the program of study being offered.

Assessment in higher education allows for faculty to decide on ways to improve teaching techniques, to see what and how well the student is learning, and to appraise the efficiency of a program. Subsequently, the role of assessment has become an important aspect of higher education because it incorporates everything from the beginning to the end of the semester, the course and curriculum design, and the expectations of what students are to achieve. Assessment guides much of what takes place in higher education (Brew, Philip, & Caroline, 2009; Fook & Sidhu, 2011).
Furthermore, the methods of assessment in higher education can have a great influence on student learning if the assessment looks at the values or abilities being brought about in the learners or if it aids in the development of life-long learning (Craddock & Mathias, 2009). Moreover, the idea “if you want to change student learning, change the methods of assessment” should become the basis of improving learning and teaching (Brew et al., 2009, p. 644). In other words, since students are seen as active players in assessment, the methods of assessment should aid student development, improve teaching practices, and recognize that learning happens in informal environments (Craddock & Mathias, 2009; Johnson, 1999).

Goos et al. (2011) argued that assessment practices that aspire to support both worth and fairness in student outcomes may be compromised because, due to the increasing competition in higher education, students are often viewed as consumers who must be kept satisfied and grades are becoming the currency to exchange for employment. Assessment in higher education thus becomes complex because it serves various functions and implies different meanings to different people (Asghar, 2010; Brew et al., 2009; Tara, 2008; Yorke, 2003). Formative assessment aims to assist students in identifying areas of strength and weakness so as to better achieve their learning goals during learning and teaching (Prins, Sluijsmans, Kirschner, & Strijbos, 2005). Recently, higher education has been undergoing reform (Crook, Gross, & Dymott, 2006; Fook & Sidhu, 2011) and increasing attention is being given to the purposes of assessment, as educators hope to prepare learners with the skills and proficiencies required to succeed in their future workplaces (Fook & Sidhu, 2011).

In their research on assessment preferences and practices in Malaysian Higher Education, Fook and Sidhu (2011) used 42 undergraduates, 27 postgraduates, and 30
lecturers from a Faculty of Education to answer three main research questions: which assessment procedures do students prefer in higher education?; which types of alternative assessment procedure do students like in higher education?; and, what are the positive impacts of formative assessment in higher education?

First, the authors found that all three groups agreed to more formative assessment and less summative assessment. Second, they reported that the respondents agreed that formative assessment could provide information for teaching and learning. Third, they agreed that assessment had a higher positive impact on learning if it is used formatively. In addition, the respondents indicated that formative assessment provided feedback that would motivate a student to learn, reduce test anxiety, and enhance learning and student self-esteem.

Furthermore, Fook and Sidhu (2011) argued that university educators have been advised to seek different methods and models of assessment processes to both facilitate and to promote assessment practices in higher education. Currently, it is widely accepted that the integration of learning and teaching should be at the heart of assessment (Craddock & Mathias, 2009; Goos et al., 2011). For best results, the learners should be actively connected to the assessment process as well as to the product of learning (Fook & Sidhu, 2011; Goos et al., 2011). Institutions of higher education are being advised to shift their focus from assessment of learning to assessment for learning (Offerdahl & Tomanek, 2010). McArdle et al. (2010) argued that the actual implementation of assessment for learning is much more multifaceted than earlier considered since many see new assessment styles as being more time-consuming, creating a larger workload, as well as greater expectations for accountability.
A study carried out by Taras (2008) was aimed at understanding how perceptions and assessment practices relate to theory. The participants were lecturers in an Education department at an English university. The author concluded that one of the greatest sources of confusion and contradiction was that lecturers could not define how summative and formative assessments related to each other in the assessment process, which led to the lecturers not being confident that students would understand the issues of summative and formative assessment. However, the study also showed the extensive use of formative assessments by the lecturers, mainly in the classroom, which implied a clear focus on promoting assessments that supported learning. Furthermore, Craddock and Mathias (2009) revealed in their study that, compared with summative assessment, formative assessment had a greater impact on the learning process.

Recent studies in higher education have built on the primary and secondary school literature in examining the assessment practices (Offerdahl & Tomanek, 2010). Furthermore the implementation of the assessment practices by teachers in promoting student learning by using evidence collected on students’ understanding to improve teaching (Offerdahl & Tomanek, 2010). Thus, exploring instructors’ thoughts about the use of formative assessment strategies in schools of education would be valuable.

**Formative Assessment**

Formative assessment is a concept that can be considered more complex than it might appear in connection to theoretical understanding and practices (Laight, Asghar, Aslett-Bentley, 2010; Yorke, 2003). The nature of formative assessment and its role in higher education has been debated and characterized by its purpose, feedback, and ability to
enhance learning and teaching (Black & Wiliam, 1998; Brookhart, 2001; Buck & Trauth-Nare, 2009; Laight et al., 2010; Mutch, 2003; Rust, 2002; Wingate, 2010).

Black and Wiliam (1998) conducted a meta-analysis of studies and identified 250 studies that proved that all assessment strategies, which included the practice of formative assessment in the classroom, produce significant and often substantial learning gains. The studies ranged broadly in terms of research context and style, relevant area, and formative assessment practices. The authors identified five major strategies that could inform students on what to do, when to do it, and how to do it.

The first strategy was to clarify and share with students the learning intentions and criteria for success. In order to be successful, students need to know what is to be learned and what is expected of them (Garrison & Ehringhaus, 2007). The expectation is that the learner will be able to describe the purpose of the lesson or task in his or her own words and connect it to his or her own life and to what he or she is expected to learn. Both the teacher and the learner establish the criteria for success, so that the learner understands what is expected of him or her in terms of quality, grade level and learning outcomes (Clarke, 2005).

The second strategy is thoughtful feedback, either through written, verbal, or gestured means that is linked to rubrics, when appropriate, and encourages the learner to continue to meet the expected criteria and understand how he or she can and will move his or her learning forward (Clarke, 2005).

The third strategy, engineering effective classroom discussions, learning tasks, and questions, should be embedded into the lesson planning. Educators need to model and encourage thoughtful discussion about and questioning of the content and process that engages their learners. This strategy establishes the expectation that every learner needs to
participate in and be accountable for his or her own learning because he or she is an integral part of the learning process and he or she must provide information to the teacher in order for the teacher to be able to appropriately adjust the instruction.

The fourth strategy, encouraging students to be instructional resources for each other, creates a learning community within a classroom (Garrison & Ehringhaus, 2007). Having internalized the expected criteria and being able to self- and peer assess their work or ideas in relation to the criteria, students are now able to coach each other to meet the individual criteria as well as to provide feedback to their co-learners and to help meet or set new goals (Black, Harrison, Lee, Marshall, & Wiliam, 2003).

The fifth and final strategy, to activate students in becoming self-evaluators through self-assessment of their work using the expected criteria, will help them understand and take ownership of their learning. All of these strategies are integral parts of formative assessment.

Black, Harrison, Lee, Marshall, and Wiliam (2004) carried out a study to measure the effect on student achievement results of implementing formative assessment practices and to examine how teachers implemented such practices in their classrooms. Twenty-four secondary Math and Science teachers were selected from six high schools, and the researchers found positive evidence that classroom formative assessment use increased student achievement for each teacher when compared to achievement in the control classrooms, thus supporting the comprehensive research by Black and Wiliam (1998).

Wiliam and Thompson (2007) summarized the five aforementioned strategies into three key processes in formative assessment: (1) establishing where the learners are in their learning; (2) establishing where they are going; and (3) establishing what needs to be done to get them there. In ascertaining where the learner is going, teachers need to engage students in
the instruction and learning process by setting explicit expectations. In establishing where the learners are right now, teachers need to engage the students through strategies such as effective classroom discussions, dialogues, and activities and through direct observation to gather evidence on student learning so as to inform instructional planning (Garrison & Ehringhaus, 2007). Student engagement in the process and content establishes the expectation that every learner needs to participate, thereby making them owners of their own learning as well as instructional resources for one another (Wiliam & Thompson, 2007).

Finally, in establishing what needs to be done to get there, teachers need to provide thoughtful feedback that moves the learners forward, thereby, again. making them owners of their own learning as well as instructional resources for one another (Wiliam & Thompson, 2007). Moreover, when formative assessment and learning are incorporated effectively into the learning environment and meta-cognitive strategies are clearly taught to and practiced by learners, positive habits are formed. It makes students life-long learners and coaches of learners.

Gaytan and McEwen (2007) used a survey from students and faculty to enrich their understanding of the instructional and assessment strategies that were most effective in online learning environments. They used descriptive research methods to enable them to investigate student and faculty perceptions regarding online instructional and assessment techniques. They identified the top six strategies for faculty and the top five strategies for students to maintain online instructional quality. They concluded that effective assessment strategies were rubrics, self-assessments, immediate feedback, peer evaluations, portfolios, projects, and quizzes. This finding also supports earlier studies by Black and Wiliam (1998),
Black et al., (2004), and Stiggins and Chappuis (2005), all of which support the use of a variety of assessment strategies to enhance student learning.

The Assessment Reform Group (ARG), which has played an important role in bringing the research evidence to the attention of education communities, developed 10 principles for assessment for learning (AfL) in 2002. Formative assessment is used synonymously with “assessment for learning” (AfL) to designate it as an element of a strategy to improve student learning and to make learning focus-oriented (Asghar, 2010; Black & Wiliam, 1998; Black et al., 2004; Colby-Kelly & Turner, 2007; Earl, 2003; Kennedy et al., 2008; McMillan, 2007).

The 10 principles developed by ARG are: (1) AfL should be embedded in instruction; (2) AfL should focus on how a student learns; (3) AfL has to be recognized as vital to classroom practice; (4) AfL is a key professional skill for teachers; (5) AfL has an emotional impact; (6) AfL should affect the learner’s motivation; (7) AfL should promote a commitment to the learning goals and to an understanding of assessment criteria; (8) AfL should help learners know how to improve; (9) AfL should encourage self-assessment; and (10) AfL should recognize all of the educational achievements of the learners. Hence, AfL is integral to the teaching-learning process because it is ongoing and seeks to interpret evidence for use by the learners and teachers in deciding where the learners are in their learning, where they need to go, and what they need to do to get there (ARG, 2002; Chappuis & Chappuis, 2002).

**Types of formative assessment.** Formative assessment is fundamental to the teaching and learning process, to improving instruction, and to facilitating student learning. It
can take different forms, such as self-assessment, feedback, portfolio, peer assessment, and rubrics.

**Self-assessment.** Formative assessment is also a means of activating students as owners of their learning (ARG, 2008; Chappuis & Stiggins, 2002; Wiliam, 2006). The power of formative assessment comes from the addition of feedback because, as the students receive descriptive feedback on their performance from their teacher, they start to learn how to self-assess, thereby empowering them to own their learning (Brookhart, Andolina, Zuzu, & Furman, 2004; Kozak, 2010).

A key element of formative assessment is the cultivation of a life-long learning mindset in students by asking them to assess their own progress, which helps the teacher find out what the learners have internalized and what must be improved upon. In a study carried out by McDonald and Boud (2003) on the use of self-assessment practice in curriculum areas, 256 students in a treatment group received self-assessment training and a matched control group did not receive any such training. Overall significant impact was found in each curriculum subject for students trained with self-assessment.

Subsequently, one way to promote self-assessment techniques is by providing a rubric or by building one with learners, giving them a set of criteria to be used for rating the quality of work. The use of a rubric as a self-assessment tool for learners will benefit all because when learners know where they are trying to go, where they are, and what they need to do in order to improve, an environment is created where students take greater responsibility for their own learning (Chappuis & Stiggins, 2002).

Formative assessment is about sharing information, so the more experience learners have with teacher-to-student communication (descriptive feedback), the more the learners’
natural love of learning is restored, the more students benefit from becoming independently self-regulating and confident learners, and they gain a deeper understanding of the required learning (Brew et al., 2009; Brookhart et al., 2004).

**Feedback.** Feedback remains a key fundamental element in formative assessment because it provides information for both the learner and the teacher. The literature is consistent in stressing the importance of feedback (Brookhart et al., 2004; Chappuis & Stiggins, 2002; Higgins, Hartley, & Skelton, 2002; Taras, 2002; Wiliam & Black, 1998; Wingate, 2010; Yorke, 2003).

For example, Higgins et al. (2002) argued that written feedback is commonly used in higher institutions because the workload for teachers is expanding alongside an increase in the number of students, and because of the widespread use of distance learning and new technologies. Feedback remains a vital part of online assessment; therefore, it must be meaningful and timely (Gaytan & McEwen, 2007). Furthermore, Laight et al. (2010) believed that the use of peer assessment feedback is a useful tool in formative assessment because, by encouraging and guiding others, the learners can make judgements about their learning and they are empowered to become self-regulated learners.

Research carried out by Higgins et al. (2002) found that students perceive feedback negatively because it does not provide enough information that is helpful and because the responses are difficult to read. Students, however, do believe they deserve feedback. Giving feedback to students and believing that they will understand it is not enough. It is also important to help the learner actively engage with feedback (Rust, 2002). McMillan (2007) argued that the aim of formative assessment is to improve student learning and motivation, and for that goal to be achieved, the feedback to students must be immediate and specific.
Taras (2002) argued that three conditions must exist for feedback to be effective: (1) students must know the expected standard required of them; (2) students must be able to assess their learning and progress with the expected standard; and, (3) the gap must be closed between the student’s current level of knowledge and what is expected to be known. Furthermore, Nicol and MacFarlane-Dick (2006) identified seven principles that empower students to become self-regulated learners through the use of formative assessments and feedback: (1) help clarify what good performance is; (2) facilitate the development of reflection and self-assessment in learning; (3) give high-quality feedback to students about their learning; (4) encourage teacher and peer dialogue around learning; (5) encourage positive motivational beliefs and self-esteem; (6) provide opportunities to close the gap between the current level of knowledge and what is expected to be known; and, (7) use feedback from learners to improve teaching.

Feedback can take different forms and use different strategies in order to gain further understanding (Earl, 2003). Therefore, it is important that students understand where they are in their learning and that they develop skills of evaluation that will make them better at judging their own work (Nicol, 2010; Sadler, 2010).

**Portfolio.** The portfolio can act as an assessment tool for promoting and supporting as well as framing expectations of personal and professional learning about teaching in higher education—a key dimension of academic practice (Trevitt & Stocks, 2011). Portfolios can be useful in co-operative learning settings because they allow students to evaluate their own impact on group results (Koller, 2005). Thus, a portfolio is a collection of work that a learner has collected, organized, selected, reflected upon, and presented to show understanding and growth over time (Barrett, 2006).
Portfolios have the potential to support a deeper level of engagement and self-awareness, making it easier for learners to assess their own learning and provide teachers with a picture of the learners' ongoing development (Barrett, 2006).

**Peer assessment.** Peer assessment can provide a strong way for students to provide feedback to their peers on their performance based on the present assessment criteria (Lew, Alwis, & Schmidt, 2008). Peer assessment also gives a student the opportunity to read carefully, consider and comment on their peers' work while comparing it with their own work (Basnet, Brodie, & Worden, 2010). In a study carried out by Ballantyne, Hughes, and Mylonas (2002), peer assessment was found to enhance the meta-cognitive skills of learners as well as improve the understanding of the subject matter.

Orsmond, Merry, and Callaghan, (2004) concluded that peer assessment was very useful in helping students reach their learning potential. The authors found that students felt increased responsibility towards their peers' learning and that feedback from their peers improved their own learning (Orsmond et al., 2004).

Lew et al. (2008) found in a study of 897 first-year students that 69% of the students agreed that peer assessment improved their learning and that the peer assessment process was a valuable learning experience. Lew et al. (2008) further suggested that a repeat of the study should be done but with second-year and third-year students to see whether any significant difference existed. Peer assessment can be used in a number of different settings, such as presentations, practical work, group projects, and essays or reports. For peer assessment strategies to work, teachers and students must agree on the assessment criteria. If learners are not involved in setting the criteria, the validity and reliability of the formative assessment are questioned as well as the learners' motivation.
Peer assessment may improve the reliability and validity of assessment (Topping, 2009) and may contain multiple learning goals and multiple beneficial effects (Prins et al., 2005). Furthermore, in peer assessment, the benefits create room for all learners to be involved; to be honest and challenging to one another; to be more objective; and to move from speaking the language of the learner to speaking the language of the subject (Black, 2004).

Rubrics. Rubrics are essential tools in formative assessment in indicating how a result might look when it is finished (Earl, 2003). Rubrics have two basic components: a list of criteria and gradations of quality, with the gradation ranging from excellent quality to poor quality for any particular assignment (Andrade, 2000). Rubrics can serve as a teaching tool that is used to motivate students to achieve higher standards and to develop sophisticated thinking skills (Andrade, 2000; Earl, 2003). Rubrics can be created by the teacher or created by the teacher with the involvement of the student.

Andrade (2007) argued that when rubrics are carefully designed in collaboration with students, they can provide important guidelines without limiting creativity and can lead to self-assessment (self-regulated learners). Furthermore, self-assessment supported by a rubric was connected to an increase in substantive learning. A study carried out by Gaytan and McEwen (2007) concluded that the use of rubrics served as a tool to aid assessments and to provide meaningful and quick feedback. Likewise, it was recommended that all major assignments should be accompanied by grading rubrics because students valued it. When rubrics are used for the sole purpose of giving a score, they are being used for summative purposes; rubrics are used formatively when serving as a tool to inform instruction.
When students are included in creating the rubrics, they are empowered to take ownership of their own learning. Using rubrics to promote thinking and learning is possible if the rubric provides students with more helpful feedback on their strengths and areas where they need improvement (Andrade, 2007). The use of instructional rubrics connects assessment and learning, which enables students to learn as they are completing their work.

**Formative assessment in classroom assessment.** Formative assessment is interchangeably called “assessment for learning” as indicated earlier in this review (Asghar, 2009; Black & Wiliam, 1998; Black et al., 2004; Earl, 2003; Ecclestone & Pryor, 2003). Formative assessment in the classroom is distinguished from summative assessment in terms of both methods and results (Earl, 2003). Feedback given to the student by the teacher shows formative assessment is effective when used to guide future learning (Black & Wiliam 2004). Subsequently, formative assessment is effective when used by individual teachers to meet the needs of their students, thereby promoting learning and not judging success (Davies, Herbst-Luedtke & Reynolds, 2008; Earl, 2003; McMillan, 2007; Stiggins, 2005; Wiliam, et al., 2004). Formative assessment in the classroom happens during learning and not after.

Wiliam and his colleagues (2004) carried out research in which they measured the effect of implementing formative assessment practices on student achievement results. They found a positive increase in student achievement as compared to student achievement in the control classrooms. Formative assessment is used to determine where the students are in their learning, where they are going, and what to do to get them there, thereby making the learning fundamental to both the concept and to the development (Davies et al., 2008; Earl, 2003; Taras, 2002; Wiliam & Thompson, 2007; Yorke, 2003).
Wiliam et al. (2004) identified five key strategies that enhance student learning in the classroom: (1) making the learning expectations clear and sharing the criteria for success; (2) using classroom discussion data and learning tasks to plan future instruction; (3) teachers providing feedback that clearly and precisely identifies what needs to be improved in order to move the learner forward; (4) encouraging the students to take ownership of their learning; and, (5) encouraging the students to become instructional and learning resources for each other. Formative feedback is vital to the assessment process because it is ongoing, relevant, and continuous, which allows teachers to collect the data they and their students need (Black & Wiliam, 1998; Bradford, 2010; Stiggins & Chappuis, 2005; Taras, 2002; Wiliam et al., 2004; Yorke, 2003).

Leahy, Lyon, Thompson, and Wiliam (2005) explored a number of ways to introduce teachers to the key ideas of assessment for learning by holding a three-day workshop during the summer at which they shared specific techniques that teachers could use in their classrooms to bring assessment to life. Likewise, they met with the teachers monthly to discuss and learn from the teachers what works best for them, they offered suggestions about ways to develop their practice and they observed the teachers in their classroom.

Leahy and colleagues went further in suggesting that assessment for learning may include a diversity of methods, such as exit tickets, the use of whiteboards and exits, and traffic lights. Nevertheless, due to the unique nature of each classroom, teachers must adapt and modify these practices to meet the needs of their students. Finally, the authors identified five non-negotiable principles as the territory of assessment for learning: (1) clarifying and sharing intentions and criteria for success; (2) engineering effective classroom discussions, questions, and learning tasks; (3) providing feedback; (4) activating students as owners of
their own learning; and, (5) providing instructional resources for one another. It should be noted that assessment can only be formative if the feedback given to the learner is used to improve future learning (Black & Wiliam, 2004).

Finally, formative assessment recognizes that students learn in different and individual ways; therefore, it is expedient that teachers use the evidence to solely meet the needs of the students, thereby promoting learning for all learners. Thus, for teachers to identify the gap between where they are and where they are going, they need to understand the learners’ current level of knowledge is important (Davies et al., 2008; Earl, 2003; Stiggins & Chappuis, 2005; Wiliam & Black, 1998). Formative assessment involves an intentional, structured plan that is designed to improve learning, thus making decisions that put the learner at the central focus of the learning process and empowering the learners to take responsibility for their learning through all of the guided information provided.

**Formative Assessment in Higher Education**

A limited number of studies have focused on formative assessment in higher education. This section will present five key studies.

Higgins, Hartley, and Skelton (2002) focused on students’ understanding of feedback in two institutions across the north of England. They found that the potential for formative assessment to improve students’ learning remains high because students are eager to read their tutors’ feedback and to improve based on what they learn from that feedback.

Furthermore, in a study carried out by Wingate (2010) on the impact of formative feedback on the development of academic writing among first-year undergraduates at King’s College, it was found that students who acted upon feedback improved in the area that was previously
criticized; however, students who did not act upon the previous criticism still had the same problems.

As well, Laight et al. (2010) built on research carried out in an institution concerning how academics perceived and then put formative assessment into practice. The purpose of this article was to investigate conceptions and practices of formative assessment in higher education through in-depth semi-structured interviews with 25 lecturers exploring their formative assessment practices at the university. Questions about formative assessment as a pedagogical strategy, the definition of formative assessment, and the value of formative assessment were asked of the participants.

The authors used a phenomenological methodology to explore the participants’ experiences and practices of formative assessment. The researchers’ findings suggested that the dialogue of formative assessment is deeply shaped by the cultural context of the courses and their communities of practice. The authors also found that internal practices are influenced by the context of the subject-based environments and that the understanding and approaches to formative assessment differ across the university. Furthermore, feedback was strongly mentioned by the participants as the power of formative assessment in the development of self-efficacy. The authors further argued that more studies should be carried out based on their findings.

Brew, Riley, and Walta (2009) examined education students and their teachers’ views on participative assessment practices and found that staff were more supportive of peer assessment and self-assessment practices than their students even though peer assessment was more widely used than self-assessment. Keefe and Eplion (2007) studied the effect of
on-line formative assessment and found that formative assessment serves as a tool in motivating students to read and attend classes, therefore leading to higher achievement.

While not explicitly focusing on formative assessment, Craddock and Mathias (2009) evaluated an initiative to introduce assessment choice within a taught unit in an undergraduate healthcare program. The study addressed poor performance, especially in students diagnosed with dyslexia. The results revealed that formative assessments had an impact on the learning process. The participants felt that formative assessments were ‘free of threats, which encouraged them to expose their strengths and weaknesses rather than disguise them’. This may be considered as a type of formative assessment since students obtain feedback on their knowledge or performance. In addition, the participants felt that their personal, individual learning style was influenced by their choice of assessment option, which led to a dominant advance in learning.

Furthermore, Prins et al. (2005) in their case study, focused on the attitude of students towards peer assessment and the practical use of peer assessment assignments and tools in computer supported collaborative learning. The results showed that students had a positive attitude towards peer assessment, the assessment assignments had added value and, as a result, there was an increase in students’ involvement.

**Summary**

This literature review was divided into three central sections. The research synthesized here indicates that formative assessment, whether intentionally included in a teacher’s practice or not, can have a major impact on student achievement and on the teacher’s knowledge.
The research on assessment, in general, examined the purposes of assessment, the principles of assessment, and the forms of assessment. The research on assessment in higher education shows the sole purpose of summative assessment is to determine the success or failure of student and teacher performance (Prins et al., 2005). Key practices in higher education include portfolios, peer-assessments, self-assessments, examinations, and the like. The research on formative assessment shows that classroom assessment that includes effective feedback, criteria, student involvement, and student ownership can impact both learning and the teaching, and can close the gap between high-performing and low-performing students.

Finally, the most recent studies point to the need for formative assessment to be implemented in higher education because it can turn students into lifelong learners as well as into teachers. In order for formative assessment to be effective, teachers must intentionally implement formative assessment strategies in instruction because embedding assessment in instruction allows educators to individualize that instruction. Rather than focusing on just what the overall objectives are, teachers should focus on what their objectives are for each student (Gallagher, 2008). Indeed, one synthesis study (Wiliam, et al., 2004) concluded that the use of formative assessment brings about increases in student achievement. Nonetheless, it must be pointed out that all of the various forms of formative assessment, if well understood by students and teachers, are shown to have positive effects on student learning.
Chapter 3: Research Methods

In this chapter, I describe and discuss the method I used to investigate my research question. I further discuss the rationale for choosing a qualitative approach, research design, data collection (i.e., participant selection, description of survey instruments), and data analysis procedures. The consideration of ethical guidelines and the confidentiality of respondents are also reviewed.

Rationale for Qualitative Approach

My decision to adopt a qualitative approach for the study was informed by several reasons. A qualitative methodology helps the researcher gain an in-depth understanding of an experience, a culture, or the meaning that people give to a phenomenon (Mutch, 2005; Patton, 2002). Therefore, the researcher’s presence at the field of study is fundamental to understanding the sites, institutions, and settings, and to observe behaviour in its natural setting. Bogdan and Biklen (2007) defined qualitative research as collecting descriptive data in an actual setting as the direct source of data, being concerned about the process rather than simply the outcome, and analysing the data inductively.

Likewise, qualitative research has been said to have the following common characteristics which make it unique and help the researcher gain more understanding: (1) the researcher is the key instrument; (2) the research is conducted in a real setting and there is concern for the process; (3) data are analysed inductively; (4) there is concern with the perspectives of the participants; (5) there is flexibility; and (6) data collection and analysis can be achieved from different sources of data and from different experiences (Bogdan & Biklen, 2007; Creswell, 2007, 2008; Denzin & Lincoln, 2005; Patton, 2002; Richards & Morse, 2007). Moreover, a qualitative researcher can change his or her design, can read just
Creswell (2007, 2012) suggested that the researcher's choice of method depends on the research question the researcher hopes to answer. In this study, the focus is on effective formative assessment strategies and only to achieve this aim, the study requires the ability to access the experiences of the participants in relation to their formative assessment practices. To achieve this, a phenomenological approach was chosen.

A phenomenological approach has become an important research method when one needs to understand a specific phenomenon. In order to understand this, we must understand a person's actions and expand our appreciation to see things from his point of view. As well, a phenomenological approach can provide understanding of the values, norms, culture, and beliefs of the subject's world (Richards and Morse, 2007; Van der Zam & Bergum, 2000). Furthermore, Bogdan and Biklen (2007) indicated that in using a phenomenological approach, the researcher does not assume that he understands the participant's point of view but he attempts to gain access to understand the "how" and to understand what that means in the person's life.

A phenomenological methodology is used in this study to explore in-depth the participants' experiences and their use of formative assessment. Phenomenology helps to address questions of human behaviour within complex variables and the need to be understood from individual and relative points of view. Although phenomenology is not designed with the intention of producing generalizable findings, it is important to enrich transferability by including a variety of participants, both in terms of disciplines and years of
experience. For this study, I am using hermeneutic phenomenology because it provides me with an understanding that the way we view things is how we perceive them. I feel comfortable in using hermeneutic phenomenology because it is interpretative and concentrates on the historical meanings of experience and progress and their accumulative effects on the individual.

Hermeneutic phenomenology. The term hermeneutics is derived from the Greek messenger god Hermes, whose duty was to convey the understanding of divine matters to the mortals (Rathswohl, 1991). The core idea of hermeneutics is to provide a way of understanding texts. It referred originally to divine texts, primarily the Bible, and was in fact established in an attempt to understand the Bible as it was written to be understood (Ricoeur, 1978). Contemporary hermeneutics has moved away from the hope of being able to produce the right understanding to discovering a more appropriate interpretation of the texts. However, some questions may arise when the meaning of a text is not self-evident (Hirschheim & Klein, 1989).

Subsequently, like phenomenology, hermeneutic phenomenology is more concerned with the human experience as it is lived, and aims towards revealing details and seemingly minor aspects within experiences in our lives that we may take for granted (Wilson & Hutchinson, 1991). The method of the investigation of lived experiences is where Husserl and Heidegger disagreed. While Husserl focused on understanding beings or phenomena, Heidegger focused on ‘Dasein’, which is translated as ‘being-in-the-world’. Husserl was interested in acts of attending, perceiving, recalling, and thinking about the world and understanding human beings as primarily knowers. It caught my interest that Heidegger, in contrast, perceived humans as being mainly concerned creatures with an emphasis on their
fate in an alien world (Annells, 1996). My work will focus on Heidegger's (1962) approach, which aims to reveal details and seemingly minor aspects within experiences in our lives that we may take for granted (Wilson & Hutchinson, 1991).

Furthermore, Heidegger (1962) believed that the fundamental form of human existence understands, and that interpretation is not a way we know the world, but rather the way we actually are. Every encounter involves an interpretation that is influenced by an individual's background or history. He also added that pre-understanding was a structure for being in the world, and this pre-understanding is not something a person can step outside of or put aside, as it is understood as already being with us in the world. Furthermore, Heidegger strongly believes that nothing can be encountered without reference to a person's background understanding. As well, all understanding is connected to a particular set of fore-structures, including one's history, which cannot be eliminated (Heidegger, 1962). Finally, phenomenological hermeneutics does not aim to clarify and predict but instead to understand, explain, and make sense of phenomena as well as demonstrating the reasons for the meaning of a particular text (Myers & Avison, 2002).

The focus of my research is the formative assessment strategies used in the University of Northern British Columbia School of Education. In order to discover which strategies are effective, it is necessary to engage with the faculty members in the School of Education. Therefore I believe qualitative research is an appropriate way to do this research.

**Participant Selection**

The study's participants—tenured and tenure-track professors and term and sessional instructors—were purposefully and deliberately selected because they could provide information about their experiences with formative assessment in the university classroom. A
purposeful sample is used when the researcher aims to understand the question under study and needs a sample from which the most can be learned (Patton, 2002). Creswell (2008) argued that when sampling for a qualitative study, the researcher is better off using purposive sampling rather than random sampling as it helps the researcher understand the current phenomena under study. Therefore, a random sampling will not be appropriate for exploring the central phenomenon of this study because the aim is not to generate the sample and then generalize the results in other contexts. The aim is to learn from people who have experiences or rich information that will help me find answer to the research question (Creswell, 2007).

Thus, for this study, participants were being purposively selected among School of Education faculty at the University of Northern British Columbia. The participants must have been teaching in the School of Education for more than one year to ensure that they have enough teaching experiences as well as adequate knowledge about formative assessment. The researcher sent consent forms to all participants who voluntarily agreed to participate in this study and obtained the forms back from those participants prior to their participation.

The sample size for this study was nine faculty members who responded to the questionnaires that were sent out through the school email database and three faculty members who volunteered to be interviewed. Consequently, email reminders were sent to all faculty members about the questionnaire and those willing to participate in the interview. A thank you email was sent to all faculty members who responded to the questionnaire and volunteered to be interviewed. The general rationale for this type of selection is that qualitative research is interpretative research, where the inquirer has sustained and
meaningful experiences with the participants who can provide appropriate clarification about the phenomena being studied (Patton, 2002).

Furthermore, this research produced three themes from the analysis of the questionnaire and six major themes from the analysis of the interviews with the professors and instructors in the UNBC School of Education discussed in Chapter 4 and Chapter 5.

**Ethical Concerns**

Ethical issues are important principles that guide the researcher in planning and implementing the research and, because of their importance, careful attention was given to ethical issues in this study. I strictly followed the ethical principles established by the University of Northern British Columbia Ethics Board and also basic ethical principles when planning and conducting my research from the beginning to the end including receiving permission from the School of Education, UNBC. All participants were informed of the purpose of the study and guaranteed confidentiality and anonymity (see Appendix B). The participants expect that the information shared with the researcher will be handled confidentially and the anonymity of the participants the research data protected (see Appendix C). Confidentially is all encompassing (Cohen Morrison & Manion, 2000; Litchman, 2010).

As a researcher, I used codes for the questionnaire and the interviews instead of names so that no one could be identified. Participation in this study was voluntary and the objectives, and methods for this study were explained (see Appendix B). Consent forms were sent to all participants to be signed. All questionnaires and taped interviews were kept in a secure place at the researcher's residence. Participants were advised of the voluntary nature
of the interview and that they could withdraw from the study at any time without penalty (see Appendix F).

Research Design

The research question in this study asked: To what extent do the professors and instructors use effective assessment strategies in their classrooms as represented in the professional literature? This study looked at formative assessment within its real-life context, the classroom. The qualitative method was also chosen for this research study because it addresses the gap in previous research, as much of the previous research has been quantitative in nature (Black & Wiliam, 1998; McMillan & Hearn, 2008).

Data Collection

In this study, I used qualitative methods in addressing the research question. First, the questionnaire was chosen as the first data-gathering instrument in order to get data from as many instructors as possible in the limited period of time. The questionnaire (see Appendix D) helped the researcher collect data from a large number of instructors in order to gain more knowledge of their experiences, which may have been difficult to collect relying solely on individual interviews. Thus, formative assessment data was examined from the instructor as was done in previous studies (Brookhart, Long & Moss, 2008; Yin et al, 2008).

Next, I used a semi-structured interview to explore participant experience. The semi-structured interview (see Appendix G) allowed the participants to share their experiences in more detail, use their preferred natural language, and enjoy equal access to the researcher in their conversations (Burns, 2000). The design of the questionnaire and interview questions was related to the findings of the literature review on formative assessment. The questionnaire and the interview questions regarding the use of formative assessment
strategies were drafted based on the strategies identified by Black and Wiliam (1998). The purpose of the research design was to provide for a general exploration of the faculty members’ perspectives regarding formative assessment in UNBC classroom instruction. The use of multiple methodologies provided for data triangulation and validation of the research findings. However, more details will be discussed in the following sections.

**Questionnaire design.** Questionnaires have played important roles in research as methods of collecting data in a statistical form and are used to examine the relationship of particular variables to outcomes and to describe behaviours, attitudes and trends about responses to research questions (Creswell, 2008; Lumley & Brown, 2005). According to Brown (2004), questionnaires can add to qualitative research if they have open-ended questions that allow the participants to describe their experiences openly. Questionnaires were my first data-gathering instrument and involved professors and instructors in the School of Education at UNBC. A pilot questionnaire was sent out to a few professors and instructors to obtain feedback on the clarity of directions, the response format, and the actual questions. The feedback obtained was used to amend or revise where necessary for this research.

Once permission was received from the Chair of the School of Education and the UNBC Research Ethics Board, an email was sent out through the school email database to all professors and instructors in the School of Education to learn who was willing to complete the questionnaire and be interviewed regarding the use of formative assessment. Furthermore, the letter of invitation and the informed consent form explaining the aim and the objectives of my research project were also sent to all professors and instructors in the School of Education. The participants who voluntarily agreed to participate in the survey filled it out and emailed it back to the researcher, and participants who agreed to an interview
sent the researcher their name, email, and contact number. Consequently, an email reminder was sent to all professors and instructors in the School of Education. Drawing on the literature review, I used these five effective formative strategies identified by (Black & Wiliam, 1998; Wiliam et al., 2004) to design the questions for the questionnaire:

- Clarify and share learning intentions and criteria
- Effective feedback
- Effective classroom discussion questions to plan future instruction
- Peer-assessment
- Self-assessment

For this study questionnaire, I used a four-point Likert scale including 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree. It consisted of 37 items in three sections. Part One of the questionnaire started with general questions about the participants' background, years of experience teaching in higher education, and so forth. Parts Two to Four consisted of Likert-scale items that required participants to relate the purposes of assessment; assessment to students, and formative assessment strategies. Part five was an open-ended question intended to contribute to the qualitative research. I also ended the questionnaire by asking participants to add any comments or further questions if they wished. In order to process the data and to report the findings, I collapsed strongly disagree and disagree into one category of general disagreement; likewise, agree and strongly agree were collapsed into one category of general agreement. I also added a third category of not applicable (N/A) for the data processing and reporting of questions that were not answered by the professors and instructors. Finally, I used Excel to record and analyze the frequency
and percentage of the professors and instructors’ answers to the questions as set forth in the next chapter.

**Semi-structured interview.** Interviews are a direct and powerful way to understand and collect information about participants related to their experiences and perceptions. They can be semi-structured, un-structured, or structured, depending on the aim of the research. I chose to use semi-structured interviews to gather descriptive data about the different experiences of the participants. In interviewing, the interviewer enters into a discussion with the participants, by asking questions and by the participants expressing their lived experiences in their own words (Creswell, 2012; Kvale & Brinkmann, 2009).

Similarly, semi-structured interviews allowed the participants to share their experiences in more detail, use their preferred natural language, and enjoy an equal access to the researcher in their conversation (Burns, 2000). Subsequently, Fontana and Frey (2005) argued that semi-structured interviews allow the researcher and the participants to go into the depth of the subject of the study through precise questions either formally or informally. In this semi-structured interview, all of the participants were asked the same questions in the same order. The interviews were conducted in the participant’s office at UNBC, where other people or school activities would not easily interrupt the interview and in some cases on the phone due to the participant’s location and schedule. The guideline for using interviews as a data-collection tool in this research followed Creswell’s (2009) and pursued key areas relevant to formative assessment as described by Black and Wiliam (1998):

- Give instructions to the participants that are the same for each interview.
- Initiate conversation and pre-interview questions to establish rapport with the participant. Introduce the research question(s).
• Guide the interview with probing questions.
• Draw the interview to a conclusion (p. 183).

The interview protocol questions started with the topic of assessment strategies used in the participant’s classroom and how often they encouraged students to take charge of their learning. The body of the interview protocol questions was focused on the different strategies of student-focused formative assessment used in their classroom. The protocol concluded with a question asking for any other comments on formative assessment.

The interviews were tape-recorded and transcribed to enable a thorough checking of responses and to have a reliable record of the qualitative data for the research. The use of the interview as a data source added depth to this study because of the complementarity of the survey responses. A limitation of using semi-structured interviews as qualitative data is that the planning and conducting of the interviews is time consuming. It is time-consuming and hard work to transcribe and analyze the data, and it requires the researcher to be skilled and experienced.

Data Analysis

Data analysis in qualitative research presents a number of challenges for a qualitative researcher (Creswell, 2012), as it may require being thoughtful and logical rather than methodical (Taylor & Bogdan, 1998). It involves working with the data, coding and organizing the data into themes, representing the data, searching for patterns and interpreting them. The interconnectedness of everything helps in the representation and interpretation of the data (Bogdan & Biklen, 2007; Creswell, 2012).

Firstly, for the questionnaires, I counted the number of responses for each of the categories of the Likert scale and tallied the count together for each category, then calculated
them in percentages for each category and then summarized them. I then analyzed the data to see if there were any significant and meaningful trends and patterns as well as comparisons.

Secondly, each interview was audiotaped and the transcript was typed and saved on a computer hard drive. Although transcribing the interviews was time-consuming, I chose to transcribe the interviews myself so as to familiarize myself with the materials in the interviews and gather data about the instructors’ opinions on effective formative assessment strategies. Furthermore, transcribing the data myself allowed me to omit identifying information such as names.

In transcribing the data, I listened to the recorded interviews several times so as to transcribe accurately, and I read and re-read the transcripts to search for similarities and differences in responses, to generate a list of codes, and to analyze further to identify themes for categorizing and seeking patterns in the events. Thematic analysis was used to analyze this data, and it is inductive because the themes emerge from the data and not from the researcher imposing on the data. Thematic analysis is a qualitative method, which aims to uncover patterns in data, and it is a flexible and useful tool in obtaining detailed and rich data from participants (Braun & Clarke, 2006; Patton, 2002).

I used the guide by Braun and Clarke (2006) in conducting the thematic analysis: (a) I read and re-read the data, noting down initial ideas, until a sense of the participants’ overall experiences emerged (familiarize yourself with the data); (b) I began to generate an initial list of items that have reoccurring patterns through highlighting with a pen and writing notes on the transcripts. The orderly fashion of organizing and gaining meaningful parts of the data as it relates to the research question is called coding. In generating the list for reoccurring patterns, I looked for similarities (things happening in the same way), frequency (things
happening often), differences (things happening in a different way), causation (appearance of code A causing code B), and association (they happen in relation to other events) (Hatch, 2002) (generate initial codes) (c) I classified the codes into potential themes, and gathered all data relevant to each potential theme, or merged (e.g., codes “A” or “B” became “A”) and split (e.g., code “A” became “A1” and “A2”) the codes into potential themes (search for themes); (d) I checked to see if the themes worked in relation to the coded extracts (Level 1), and the entire data set (Level 2), and I generated a thematic map of the analysis (review themes); (e) I conducted continuous analysis to perfect the specificity of each theme and the overall story the analysis told, as well as to generate clear definitions and names for each theme (define and name themes); and, (f) I included a selection of vivid, compelling extract examples, a final analysis of selected extracts, and a relating back of the analysis to my research question and literature (produce the report). Using this type of analysis also helps to reduce the researcher’s bias and allows topics important to the participants to arise (Braun & Clarke, 2006; Patton, 2002).

This research was conducted in a rigorous and trustworthy manner because of its importance in making qualitative research transparent. The existence of rigour in this phenomenological research was to provide an in-depth understanding of effective formative assessment strategies used by instructors in the UNBC School of Education. In qualitative research, the researcher is the instrument and the trustworthiness of the research is dependent on the researcher being careful to maintain the reliability and validity of the research (Patton, 2002).

Summary

Higher institutions can benefit from a better understanding of formative assessment
because it has been identified as an effective means to assess student learning (Black et al., 2003; Black & Wiliam, 1998; Marzano, 2006; Stiggins & Chappuis, 2005, 2006; Yorke, 2001, 2003). The purpose of this study was to further our understanding of the effective assessment strategies used in UNBC School of Education classes and how these strategies related to student performance. The instruments used were questionnaires and semi-structured interviews, and the population of this study was the professors and instructors in the School of Education at UNBC.

The research methodological approaches that were used in this study included phenomenology and thematic analysis, which helped shed light on the details, experiences, comparisons, overall trends, patterns, and possible differences. As well, the research design provided for data complementarity and validation of the study’s findings, and findings may be used to inform professional development and support best practices of formative assessment implementation in the classroom (Brancato, 2003). Ethical issues were carefully considered throughout the whole process of the research. The specific findings of this research will be presented in the next chapter.
Chapter 4: Research Findings

The purpose of this study was to explore formative assessment strategies if any, used in the UNBC School of Education by professors and instructors. Examining instructors' understanding and utilization of formative assessment strategies in their classrooms is crucial, as it provides data for the adoption of effective formative practices in higher education (Black et al., 2003; Black & Wiliam, 1998; Heritage, 2007; Yorke, 2001, 2003). Formative assessment is an effective practice to assess learning and increase student achievement and retention, and research also shows that improving the quality of classroom assessment practices has positive effect on student achievement (Black et al., 2003; Black & Wiliam, 1998; Heritage, 2007; Stiggins & Chappuis, 2005; Yorke, 2001, 2003). Hence, exploring the effectiveness and usefulness of formative assessment strategies from an instructors' perspective is imperative to inform professional development.

This study used qualitative methodology, including both quantitative data in the form of survey results (n = 9), and qualitative data in the form of interviews (n = 3). The survey provided quantitative data regarding instructor intentions, significance of formative assessment strategies for students’ development, and formative assessment strategies employed by instructors. Qualitative data regarding the impact of assessment were generated from individual interviews with faculty, as well as from comments regarding formative assessment provided by survey respondents.

This chapter is organized into three sections. The first section provides demographic data of instructors that responded to survey as well as some background regarding educational background and context of their teaching environment regarding assessments and students, purpose of assessment, and formative assessment strategies. The second section
Table 1

Demographic Information of Survey Respondents (n = 9)

<table>
<thead>
<tr>
<th>Demographic Data</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of years teaching in university</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to 5</td>
<td>3</td>
<td>33.33</td>
</tr>
<tr>
<td>11 to 15</td>
<td>2</td>
<td>22.22</td>
</tr>
<tr>
<td>15+</td>
<td>4</td>
<td>44.44</td>
</tr>
<tr>
<td>No of years teaching in public secondary school</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to 5</td>
<td>3</td>
<td>33.33</td>
</tr>
<tr>
<td>6 to 15</td>
<td>2</td>
<td>22.22</td>
</tr>
<tr>
<td>15+</td>
<td>4</td>
<td>44.44</td>
</tr>
<tr>
<td>No of courses taught per year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>12.50</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>37.50</td>
</tr>
<tr>
<td>5+</td>
<td>4</td>
<td>50.00</td>
</tr>
<tr>
<td>Teaching platform frequently used</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom/face to face</td>
<td>8</td>
<td>100.00</td>
</tr>
<tr>
<td>Blackboard</td>
<td>2</td>
<td>25.00</td>
</tr>
<tr>
<td>Online</td>
<td>1</td>
<td>12.50</td>
</tr>
</tbody>
</table>

outlines the methods and coding systems for analyzing and interpreting the interview data. The third section outlines additional considerations regarding the rigour of the project, in addition to issues of trustworthiness.

**Demographic Data**

Nine faculty members from the School of Education at UNBC were volunteer participants in this study. These volunteers represented a respective 30% response rate of full-time, part-time, termed faculty member in the department invited to participate. Table 1 below describes the demographic data gathered about professors and instructors and their most preferred method of teaching at the beginning of the study.
Interestingly, twice as many had over fifteen years of experience as those who had eleven to fifteen years of experience teaching in the university. Also twice as many had over fifteen years of experience as those who had eleven to fifteen years’ experience teaching in the public schools. As shown in Table 1, 89% of faculty respondents use classroom/face-to-face platforms while teaching and 25% use Blackboard as the platform for teaching.

**Formative Assessment Survey Items**

The approaches to the survey consisted of 36 statements in three sections; the purpose of assessment, students and assessment, and formative assessment strategies. As stated earlier, the instrument used a four-point Likert scale, ranging from “strongly disagree” to “strongly agree” as responses to the 36 statements. Table 2 outlines nine statements on what the faculty members perceived as the purpose of assessment.

Table 2 shows how respondents replied. The study participants were asked if assessment motivated students to learn; 75% agreed and 25% disagreed that it motivates students to learn. Sixty-seven percent of respondents agreed that assessment provides valuable information to central administration, while 33% strongly disagreed that assessment provides information to central administration.

Study participants were asked if the purpose of assessment was to determine a student’s final grade. About 33% strongly disagreed that the purpose of assessment helps determine final grades, while about 22% disagreed, agreed and strongly agreed that this was the purpose of assessment. About 33% of survey respondents strongly disagreed and disagreed that the purpose of assessment was to prepare students for future tests.
Table 2

Purpose of Assessment as Reported by Survey Respondents (n = 9)

<table>
<thead>
<tr>
<th>Question</th>
<th>Frequency Percentage</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Obtain information on student progress</td>
<td>0</td>
<td>0</td>
<td>55.56 (5)</td>
<td>44.44 (4)</td>
</tr>
<tr>
<td>2) Motivate student to learn</td>
<td>0</td>
<td>25.00 (2)</td>
<td>37.50 (3)</td>
<td>37.50 (3)</td>
</tr>
<tr>
<td>3) Provide feedback to student</td>
<td>0</td>
<td>0</td>
<td>22.22 (2)</td>
<td>77.78 (7)</td>
</tr>
<tr>
<td>4) Provide information to central administration</td>
<td>33.33 (3)</td>
<td>0</td>
<td>44.44 (4)</td>
<td>22.22 (2)</td>
</tr>
<tr>
<td>5) Help determine final grade</td>
<td>33.33 (3)</td>
<td>22.22 (2)</td>
<td>22.22 (2)</td>
<td>22.22 (2)</td>
</tr>
<tr>
<td>6) Help determine student strength and weakness</td>
<td>0</td>
<td>0</td>
<td>33.33 (3)</td>
<td>66.67 (6)</td>
</tr>
<tr>
<td>7) Plan instruction</td>
<td>0</td>
<td>0</td>
<td>44.44 (4)</td>
<td>55.56 (5)</td>
</tr>
<tr>
<td>8) Prepare student for future test</td>
<td>33.33 (3)</td>
<td>33.33 (3)</td>
<td>22.22 (2)</td>
<td>11.11 (1)</td>
</tr>
</tbody>
</table>

Table 3 represents explored assessment as it relates to students. Approximately, 75% of the faculty respondents agreed that student-focused assessment is most beneficial and 25% disagreed that student-focused assessment is beneficial. Additionally, 87% and 57% of the respondents agreed that positive and negative feedback respectively are imperative for student progress while 12% and 43% disagreed that positive and negative feedback respectively are important for progress. Similarly, about 63% of the respondents agreed that use of rubrics is important while about 38% disagreed that the use of rubrics as important.

Approximately, 87% of respondents agreed that using a wide variety of assessment techniques is beneficial to students' learning styles, while 13% of them disagreed that using a variety of techniques benefits students' learning styles.
Table 3

Assessment and Student Survey Respondents (n = 9)

<table>
<thead>
<tr>
<th>Question</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Student-focused assessment most beneficial</td>
<td>0</td>
<td>25.00 (2)</td>
</tr>
<tr>
<td>2) Assessment impact student learning</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3) Positive feedback required for student progress</td>
<td>0</td>
<td>12.50 (1)</td>
</tr>
<tr>
<td>4) Different instructional strategies important for addressing various learning styles of students</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5) Assessment supports student to take an active role in their learning</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6) Peer feedback important for learning</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7) Use of rubrics is important</td>
<td>12.50 (1)</td>
<td>25.00 (2)</td>
</tr>
<tr>
<td>8) The Use of formative assessment encourages positive motivational ideas and self-esteem</td>
<td>0</td>
<td>11.11 (1)</td>
</tr>
<tr>
<td>9) Variety of assessment techniques are used (e.g., journals, portfolios, email)</td>
<td>12.50 (1)</td>
<td>0</td>
</tr>
<tr>
<td>10) Negative feedback is important for student progress</td>
<td>14.29 (1)</td>
<td>28.57 (2)</td>
</tr>
</tbody>
</table>

Table 4 outlines responses to the different types of formative assessment strategies used by faculty respondents as indicated by Black and Wiliam (1998). Seventy-five percent of all respondents agreed that continual, immediate, and descriptive feedback is also necessary for student understanding of course outlines, while 25% disagreed. Eighty-nine percent agreed that various assessment methods should be used continuously, including portfolios, emails, and journals while 11% disagreed.

The study participants were asked about rubrics and 88% agreed that rubrics are
Table 4

Formative assessment strategies Survey Respondents \( (n = 9) \)

<table>
<thead>
<tr>
<th>Question</th>
<th>Frequency Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Teacher feedback is effective in promoting student learning</td>
<td>Strongly disagree: 0</td>
</tr>
<tr>
<td>2) Formative assessment contributes to student learning</td>
<td></td>
</tr>
<tr>
<td>3) Continual, immediate, and descriptive feedback is necessary for student understanding of course outlines</td>
<td></td>
</tr>
<tr>
<td>4) Various assessment methods should be used continuously</td>
<td></td>
</tr>
<tr>
<td>5) Assessment method used encourages students to take charge of their own learning</td>
<td></td>
</tr>
<tr>
<td>6) Pairing students contributes to their learning</td>
<td></td>
</tr>
<tr>
<td>7) Making students self-assessors is done to determine if learning criteria are met</td>
<td>14.29 (1)</td>
</tr>
<tr>
<td>8) Rubrics are used to determine if learning criteria are met</td>
<td></td>
</tr>
<tr>
<td>9) Use of rubrics supports assessment, provides important and immediate feedback, and adds to student learning</td>
<td></td>
</tr>
<tr>
<td>10) Formative assessment provide information for improvement of teaching and learning</td>
<td></td>
</tr>
<tr>
<td>11) Formative assessment can have an impact on learning and is part teaching and learning process</td>
<td></td>
</tr>
<tr>
<td>12) One method of formative assessment should be used continually</td>
<td>37.50 (3)</td>
</tr>
<tr>
<td>13) Teachers and students should share understanding of assessment goals</td>
<td></td>
</tr>
<tr>
<td>14) Assessment focused on learning helps students become aware of their own learning and supports the learning of others</td>
<td></td>
</tr>
<tr>
<td>15) Student self-evaluation can foster learning</td>
<td></td>
</tr>
<tr>
<td>16) Formative assessment helps students know how to improve their learning</td>
<td></td>
</tr>
<tr>
<td>17) Student peer-review feedback is useful for learning</td>
<td></td>
</tr>
<tr>
<td>18) Self-assessment is effective when teacher provide students with support and guidance</td>
<td></td>
</tr>
</tbody>
</table>
used to determine if learning criteria are met while one of the study participant disagreed; 13% of study participants disagreed that the use of rubrics supports assessment, provide important and immediate feedback, and adds to student learning, while 88% of faculty respondents agreed to it and one study participant did not respond. Approximately 75% of respondents disagreed that instructors should use only one formative assessment strategy, and 25% of them agreed with instructors using only one assessment strategy. Forty-three percent of faculty respondents disagreed that making students self-assessors is done to determine if the learning criteria are met, while 29% agreed, 14% strongly agreed, and 14% strongly disagreed to the question. Further, twice as many faculty members agreed that student peer-review feedback is useful for learning. However, one faculty member disagreed that formative assessment helps student know how to improve their learning, while one faculty member did not respond to that question.

Respondents were asked to respond to an open-ended question about the extent they used formative assessment strategies (i.e., descriptive feedback, self-assessment, peer-assessment, rubrics, portfolio, and any other formative assessment strategies) in teaching. Of all the respondents, 19% use rubrics, 15% use portfolios, 23% use feedback, 19% use rubrics, 15% use portfolios, 23% use feedback,

Table 5

Summary of All Respondents to the Survey by Theme and Number of Responses

<table>
<thead>
<tr>
<th>Themes Present</th>
<th>Disagreement</th>
<th>Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose of assessment</td>
<td>16</td>
<td>55</td>
</tr>
<tr>
<td>Assessment and students</td>
<td>11</td>
<td>66</td>
</tr>
<tr>
<td>Formative assessment strategies</td>
<td>19</td>
<td>135</td>
</tr>
</tbody>
</table>
15% use peer-assessment, 19% use self-assessment, and 8% use other forms of formative assessment strategies in their classrooms.

Table 5 represents the questionnaire summary based on the data collected from the questionnaires that led to the findings listed in the table. In order to process the data and to report the findings, I collapsed “strongly disagree” and “disagree” into one category of general disagreement; likewise, “agree” and “strongly agree” were collapsed into a category of general agreement. I also added a third category of not applicable (N/A) for the data processing and reporting for questions that were not answered by the professors and instructors.

**Analysis of Semi-Structured Interview Data**

Four faculty members responded with the survey that was sent out via the email database to all faculty members in the School of Education to request that they consent to participate in an interview. However, three faculty members were interviewed due to limited time on the researcher’s part. All faculty respondents have extensive years of experience in teaching. Interviews were scheduled with faculty participants via email. Interviews were conducted through telephone or at faculty offices (Feb 11-14, 2015). Each interview lasted 25 – 35 minutes. All interviews were tape-recorded. The protocol for the semi-structured interview can be found in Appendix F. In this section, the coding schemes used to analyze a variety of interviews are described. Coding of all interviews was performed manually. Interview data were used to support claims related to effective formative assessment strategies. The researcher encouraged participants by asking probing questions in response to expressed comments, and also encouraged detailed
responses to interview questions, since phenomenology involves rooting out individual experiences of common phenomena, as well as defining similarities and differences in those experiences.

**Question 1: What assessment strategies do you use in your classroom?** After asking an opening question regarding participant’s well being, the researcher asked each participant “what assessment strategies do you use in your classroom?” This open-ended question began with a dialogue about the different strategies of formative assessment professors and instructors use in their classroom. The participants shared their experiences willingly, including considerable detail in their answers. All participants use different assessment strategies in their classroom. Two participants use summative assessment data in formative ways to improve learning and teaching.

**Question 2: How often do you use feedback in your teaching?** All study participants used one form of feedback (i.e., written, oral, formal, and informal) everyday in their teaching.

**Question 3: How do you provide learners with clarity and understanding of the learning intentions of the work being done?** The study participants acknowledged using course outline or “syllabus” (as one participant calls it) at the beginning of the semester and throughout the semester to explain the learning outcomes, an assignment that will be due, and expected criteria. Two of the faculty members sometimes co-created the learning criteria with students. Two of the faculty members admitted using rubrics in co-creating the learning criteria with students.

**Question 4: How do you design classroom questions to lead discussions in your teaching?** All faculty members acknowledged using questioning that led to
learning. All participants used questioning in their teaching either by writing the questions themselves or by encouraging students to write their questions as assignments to be discussed, or by asking questions during teaching. All participants agreed that open-ended questions from students could lead to lots of interpretations. One participant believed that the room set-up is important in questioning. Two respondents stated that students exhibited poor questioning skills in their classroom. Two respondents agreed that in terms of the use of questioning it differs between B.Ed. and M.Ed. students because most people in the graduate program come with various experiences, so questions tend to flow naturally.

**Question 5: How often do you put students to work as learning/teaching resources for each other?** All faculty put students to work as learning and teaching resources to their fellow students daily, weekly, and all through the semester. Furthermore, faculty members paired students for discussions, group work, and presentations, and they all acknowledged that peer assessment was an effective tool that could help the students move forward in their learning.

**Question 6: In what ways are the learners the owners of their own learning at the end of the class?** One faculty member used journals by requiring students to reflect on their performance and writing reflective comments about their performance. One faculty member believed that if students are able to teach to others what they understood by video presentation or demonstrating their understanding in their own words.

**Question 7: What are your beliefs about formative assessment?** All faculty members agreed that formative assessment was important and essential; however, they
had their own perceptions about formative assessment, which I will discuss in detail later in this chapter and the next.

**Question 8: Is there anything else you would care to add?** One faculty member added that the answer would differ in all the interview questions between B.Ed. and M.Ed. students. Another faculty member added that “.... as long as we force students in the education department to fight for a limited resource (grades) our students will not truly internalize what it means to create a learning environment that cherishes learning for their future students”.

**Themes and Sub-themes**

From the data collected in the three interviews, six themes emerged: formative assessment, feedback, self-assessment, peer-assessment, questions, and learning outcomes. Below are the research interview questions, emerging codes, sub-themes, and themes. Each of these themes is divided into sub-themes with no specific order. The emerging themes and sub-themes in this research are presented below in Table 6. The data derived from this research are centred on the identified themes and quotations from faculty members.

**Formative assessment.** All of faculty members interviewed in this research study identified using various assessment strategies including feedback, lesson plan/unit plan,

**Table 6**

*Interview questions and emerging codes, sub-themes, and themes*

<table>
<thead>
<tr>
<th>Interview Questions</th>
<th>Codes</th>
<th>Sub-themes</th>
<th>Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you use feedback in your teaching?</td>
<td>Daily, Verbal feedback, Written feedback, Peer feedback</td>
<td>Feedback</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>------------------------------------------------------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>How do you provide learners with clarity and understanding of the learning intentions of the work being done?</td>
<td>Course outline, Syllabus, Rubrics, Verbal discussion, Co-creating list of outcomes, Clear expectations, Emphasis on expectations, Communication of learning expectations</td>
<td>Feedback, Rubrics, Course outline</td>
<td></td>
</tr>
<tr>
<td>How do you design classroom questions to lead discussions in your teaching?</td>
<td>Open-ended questions, Poor questioning skills, Inquiry</td>
<td>Question</td>
<td></td>
</tr>
<tr>
<td>How often do you put learners to work as learning/teaching resources for each other?</td>
<td>Daily/weekly/all through the semester, Group work, Study group, Questions, Peer feedback/peer review, Class presentation, Group discussion, Critical partner, Observation</td>
<td>Time, Feedback, Group, Partner</td>
<td></td>
</tr>
<tr>
<td>In what ways are the learners the owners of their own learning at the end of the class?</td>
<td>Reflection, Self evaluation, Self-feedback, Rubrics, Portfolio, Teaching others, Learning log</td>
<td>Reflection, Self evaluation, Learning log</td>
<td></td>
</tr>
<tr>
<td>What are your beliefs about formative assessment?</td>
<td>Central to teaching, Feedback, Takes place all through the teaching/learning, Teacher changes from giver of knowledge to facilitator, Teacher gains information about student learning, Essential/Important, Assessment for learning, Assessment as learning, Network, Not done at the end of term or at an assigned time</td>
<td>Time, Teaching, Learning, Assessment of learning, Assessment for learning</td>
<td></td>
</tr>
</tbody>
</table>

self-assessment, peer-assessment, rubrics, portfolio, presentation, questioning, written assignment, and group work in their classroom. All the different strategies as identified by faculty members are associated with formative assessment as indicated in the literature review. During the interviews, two participants described using summative assessment in formative way by “allowing student to rewrite their written test while receiving feedback”. Another participant discussed how

The major summative assignments of all my courses are written but they’re not
always essays, um, they take the format of lesson plans and unit plans and, um, occasionally concept maps and, um, in one or two instances they are presentations—in-class presentations—either individually or in teams. And in one instance the presentation is actually video recorded then critiqued by the student—we call that microteaching—that’s a very powerful assessment strategy.

**Feedback.** The entire faculty members agreed that they use feedback daily in their teaching. One participant described using feedback “...daily in the oral discussions that take place in the classroom (between myself and students, as well as between students).” Another participant explained using feedback

Every day. Um, depending on how you—what you mean by feedback, what form of feedback. Feedback by informal conversation and discussion, yeah, every day and I really don’t see how a teacher can avoid that. The moment you walk in the class you start communicating with the students, right, and that inevitably results in feedback. Because the student says something, the instructor says something—responds in some way—and even if it’s just a smile or a frown, right, and there’s your feedback.

Faculty members described that feedback is important as it informs student learning, and believed is most effective when received quickly. During the interview, faculty members described that the quicker they were able to provide feedback either verbally or written to students, the better the response from that feedback:

Usually this is done one-on-one or sometimes in small groups where the student suggests, “Ok here is the topic that I have thought of that I’d like to write my essay about this.” And then I give them feedback on how appropriate the topic is, what they might include, what they might exclude and then they take it from there and maybe write a summary—like an abstract. And then they come back a week later, show me the abstract or email it to me and I give them some more feedback. How appropriate, how—to what extent it actually covers the important aspects of the topic. And then they go back and they write the actual essay. So, for written assignments I think formative feedback is very important and I use it often.

One concern perceived from one faculty was:

In terms of feedback they’re quite willing to have me give them feedback, um, but how do you make sure that it’s embedded in the next task? See, they understand that feedback is to move you forward but they’re not willing to make that
commitment to have that improvement imbedded in the next task. So, that’s where I’m struggling with my Education students right now, is that they, um, I give them the same assignment basically for the whole term, and each time we basically talk about feedback and feed-forward and the next steps and, um, so now it’s week five or six - I think – and this is the fifth time round with feedback or feed-forward and it’s still not be imbedded.

Learning outcomes. Faculty members described learning outcomes as essential because they are required at the university to “put certain information into their course outlines and among that is a list of learning outcomes”, as described by one participant. During the interviews, faculty members described rubrics as one of the most significant ways of co-creating the learning criteria with students. One participant stated:

I definitely start everything with, ah – actually I have an overarching inquiry that I am trying to build knowledge to, in each class, so we start each class with that big question and then, um, I’m trying to help support them that learning is led through inquiry, right? And then I have learning intentions of course, and criteria. I use rubrics. I try to co-create the rubrics and co-create the criteria whether I’m in an elementary school or in the university here.

Another faculty member said:

Sometimes I show my expectations as a list of points on a slide, a PowerPoint slide in class, and we talk about it before the students go and actually do the assignment. In some cases I have been using rubrics and for the communication of learning expectations I think the rubric is still very close to the top because in the rubric the instructor has to describe very concisely what their expectations are at each performance level and so I find the rubric a great communication tool to clarify my expectations and the expected learning outcomes for each assignment.

As the interview progressed, perspectives were gained on the specific uses of rubrics in creating learning outcomes. However, one participant noted his concern:

I use rubrics in the second year of the program, I don’t use them during the first year because, well, a lot of beginners beginning students are not comfortable with interpreting rubrics, I like to sort of discuss the principle of a rubric before I actually spring it on them in their own assessment.

In a similar manner, another perspective from the faculty member was:
As well I periodically will take time in class to discuss the relevance of assignments, topics, etc. so that students can see the overall picture of what it is I’m trying to provide for them and how they might want to begin to think like teachers rather than students and how those lenses are different. Often they are focused entirely on “what is due and when” in order to get marks or for time management and they often do not take the time to sit back and think about why certain topics are covered or why in that order or how are the topics related and how so.

**Question.** Faculty members described and agreed that questioning is important and can lead to learning, and also agreed about using questioning in their teaching either by writing out the questions themselves or by encouraging students to write out their questions as assignments to be discussed, or by asking questions during teaching. As the interviews progressed one participant stated with regards to using questioning in teaching:

I think I provide a variety of questions that allow students of different abilities or preferences to be able to participate. I attempt to create a learning environment that is more about learning and less about grading. I come right out and tell them at the beginning of the term that my goal is to “mess with your minds” and to get them thinking about teaching and specifically about teaching math in ways that promotes thought and understanding rather than correct answers and speed.

Similarly, a faculty member said:

I assume. I suppose a general rule that applies to all is that I try to design my questions prior to the class—prior to a particular session because I like to spend time to think about these questions how exactly to phrase them how to sequence them and I don’t like to do that at the moment, I like to do that as preparation. I write those questions down in my notes. Often I also put them on PowerPoint slides so the students don’t have to listen to me they can look at the slide and they see the question and then think about it and discuss it.

Another faculty member said:

So that whole piece of personalizing the learning happens through the questioning, right? And, so we practice questioning, we write questions and...I do a whole class at the beginning of each of my courses on what’s questioning look like, what’s the purpose of questioning, what is a deep question, right? Thick and thin questions, um, how do you use questions to clarify your thinking and how do you use questions to divert the educator because questioning ...that’s one of our
natural uses of questioning is for our own purposes and how do you recognize when questioning is serving an individual purposes rather than the group's purposes?

In a concluding statement, a participant noted the success with questioning that could lead to discussions in teaching will be the “.... use of open ended questions and parallel tasks to allow students to access their knowledge and apply it at a comfortable level...”, while another participant stated:

What has happened to questioning? Because we have three year olds who just question nonstop and then we come into Kindergarten and there’s no question so what is it about our culture, first of all, in education that discourages asking of questions, right? And then how do we get to that point when questioning is actually leading the learning, right, so that we’re opening learning instead of closing learning down. Because questioning actually allows for lots of interpretations; it opens the learning so that it’s no longer me talking about “this is what you’re supposed to learn” it’s questioning – it makes it very personal. And so, I write quite a few, I do think that it’s something that’s discouraged in our system so I don’t give tests at all but I will ask a very open question “show me what you know around something,” right, whether I’m in an elementary school or up here it’s just more of a, “OK, it’s time for me to check in with where you’re at, show me what you know around...so that its more open ended and you bring your content to your table rather than me looking for a right answer”.

As the interview proceeded, two faculty members agreed that students exhibit poor questioning skills in their classroom. One of the participants stated:

It’s a complex phenomenon. What holds students back, um, is – as you say – there’s a degree of shyness; a lack of self confidence. Especially in first year university, students rarely speak up in class unless their personality is very outgoing but also I think there could be a certain deficiency in questioning skills that are not promoted adequately in secondary schools and some students never learn to ask proper questions, um, so there is an affective component to this but there is also a cognitive component. It is important that the students learn to ask pertinent questions not only in university education but in general schooling, um, the asking of questions I find is a very important learning outcome that needs to be practiced often.

Likewise, another faculty member continued:

That whole thing, it’s so hard – and I’m trying really hard and I don’t know how to do it – the basketball thing of questioning rather than Ping-Pong back and forth.
Sometimes it happens naturally with our older students, right, they will start – but even I find with the first years – they all look to me. They all look to me. So one student will ask a question. Another student will ask a question but everyone’s looking at me. “No no this conversation belongs to you and so you’re asking each other the questions and I’m just part of the group.” They still are trained to look to the educator as being the lead all the time and so questioning itself should lead to that whole basketball effect – pass the ball to each other rather than Ping-Pong back and forth with me. Yeah, that’s hard, that’s really hard because that’s a habit that has been formed for years and years and years— and putting up your hand to ask questions “No no no if you have a question we are having a discussion here whether there are 30 or 3 of us we’re still just having a discussion we’re going to move beyond that putting up a hand and just recognizing each other and participating.

One faculty member believes that the way the room is set up is important for questioning, stating:

So how the room is set up is really important because if you’re in rows it closes down that questioning you cannot have questioning happening if you’re in rows right? I often make everybody come bring their chair into the circle to have discussions so that everybody is looking at everybody because that whole – as soon as you get into that room then that’s already set according to how the room is set up.

Faculty members also agreed the use of questioning differed between B.Ed. and M.Ed. students, as described by one participant “… students in the graduate program are much more purposeful with their questions and have some teaching experience…”

Another faculty member expanded on the experience of graduate students saying:

The graduate students are mostly practicing teachers, right, so the student population is a different one. Um, and that means that the teaching methodology is different and the assessment strategies are different because we’re dealing with professionals of different ages, um, some of them are, well definitely in their middle age, right, so they’re different kinds of learners. And what goes on in the classroom has to reflect that.

Peer assessment. All faculty members put learners as learning and teaching resources to their fellow learners daily, weekly, and all through the semester by pairing students for discussions, group work, and presentations, and seeing peer assessment as a
tool that could help the students move forward in their learning. One participant put it this way regarding how often he uses peer-assessment:

Daily, weekly, semester. Most of their assignments are graded on an individual basis yet they can work together to create their own work for grading purposes. They have created study groups and we are working on creating after hours “study sessions” where I will be available to lend a hand if necessary. A few assignments have been group work and have been graded partially in that way, though even then I try to have information either from my own observations or from theirs to assist me in giving individual grades in those circumstances.

Questions discussed in class are often started with the “turn to your neighbour and discuss” phrase.

Another stated:

Ah, OK. Occasionally—well, no, I should say more than occasionally—quite often in my courses I use during the lecture I use what we call “think-pair-share” that I’m suggesting a question and they get a minute to just think about it, right, in silence then the turn to their neighbour in class and they discuss their ideas and then, sort of as a third stage, we have a class discussion about what the pairs of students have concluded. And we call that “think-pair-share.” Um, there is some informal peer evaluation going on there because obviously when your neighbour says something to you in class you think about that, is that a good answer is that an important thought, or no my idea is actually much better that sort of thing.

The faculty member then continued:

One area where we give feedback is with class presentations. Often class presentations are accompanied by peer feedback where I give out scoring sheets around the class and then the presenters being evaluated anonymously and students rate their performance on a rating scale and they also get the opportunity to write informal comments usually that follows the SSG format—a strength a struggle and any area of growth—SSG—and they get to write one idea on each, on that little piece of paper, then I collect the papers, the peer evaluation sheets, and I return those sheets to the presenters. There are no names involved so everything is anonymous but that is more like a formalized way of implementing peer evaluation formatively only, as I said, this does not influence grades at all.

As the interview progressed, more perspectives were gained on the specific use of partnering and it was noted by a participant that

Yeah, in the past, and I go by the comments that I get back from students. They find these peer comments rather useful especially during first year because the in-class presentations that students give—and there are a couple courses where they
do that – mostly in science, that prepares them for their practice teaching in schools, right? So whatever feedback they get from their peers helps them prepare for their actual teaching out in the real world.

However, one faculty member had some concerns:

OK, so it’s... when I assign readings and things like that they are not doing them. So it is pretty difficult when they don’t come to class prepared. I call them on it and we talk about it but you know “Here’s what I’ve got planned for today and this A-B partnership is never going to work because neither of you have read the required resources or you haven’t watched the video” or...you know, “you’re not coming to class prepared. So if you’re not coming through that door with background knowledge then I have to spend my time giving you that ground knowledge that will enable you to participate in this activity.” And that’s what I find with the first years is that I’m spending a lot of time around background knowledge and many things that I would have expected somewhere along the line you would have picked that up, you know, yeah...but not so and, um, if the students come prepared for class then I’m all for small group A-B debates discussions etc. but I find that I’m having to provide that background knowledge.

**Self-assessment.** Faculty members were asked: “In what ways are the learners the owners of their own learning at the end of the class”? One participant noted:

OK, now self-assessment, in many ways it’s like peer assessment. I use it a lot in just about every course I teach. Self-assessment is performed routinely in the form of just reflection. Students reflect on their own performance in whatever situation or respect is appropriate. And they often do that reflection even in writing. They write a reflective comment on their own performance.

Another participant noted that:

In this semester the students regularly have to demonstrate that they understand what has been discussed in class to a level that they are capable of teaching it to others. This often takes the form of their own videos demonstrating their knowledge in their own words.

The faculty member continued saying: “...They also send me ideas or suggestions for improving the class and that may include what changes they would like to see from me to improve their learning or possible variations to show me what they have learned”.

Another faculty member stated that she thinks students are not there yet:
These guys haven’t got there yet but they don’t get to participate inquiry, right, even within each class there’s so much content that really they – I think that the whole undergrad education should be a question for them to explore as they move through the program. So it could be as simple as “who will I be as a teacher” so we collect artifacts and interesting articles and ways that would contribute to that end product of being a teacher, right? Now they’re being told “this is what you need to do to succeed this is what you need to do to succeed.” That’s not the way we learn, right, we, through inquiry we learn through our interests and, um, so we need to somehow move our students here so that they understand the benefits of assessments for learning so they slow down.

The faculty member further said: “… And there’s no appreciation for the active learning, and it is a slow journey and it should be enjoyed, right?

**Formative assessment requirement.** When faculty members were asked about their beliefs about formative assessment, although they all saw it as being very important and essential, all had different ways of perceiving the requirement. One participant described it:

I think formative assessment has always been around. As the role of the teacher has changed from the giver of the knowledge to the facilitator of learning, it is imperative that we the teachers need to understand what our students know and don’t know if not prior to our teaching then certainly during our teaching. Any activity that will assist the teacher in gaining information about where their students are is formative assessment. One does not “do” formative assessment. It is inherent in the process of teaching. There are some tools that can assist the teacher that can be incorporated into the classroom procedures that can facilitate the gaining of this information.

Another participant responded:

I think formative assessment is more important than summative because it extends into every bit of teaching that takes place. Every class, every session, um, must include—by definition—formative assessment because formative assessment is nothing but feedback that takes place between the instructor and the student. Though it’s an absolute unavoidable outcome of teaching and learning and in that sense I see it as more central to the teaching and learning process compared to summative assessment, which takes place only at selected opportunities, occasionally, at the end of certain instructional units or even at ending term.
A final participant gave this description: "... I believe it's essential and it's not just because it's worked for me. It's because it gives students the skills to work independently to develop their interests to follow their own passions and to develop skills beyond".

The faculty members discussed their concerns about formative assessment still perceived the wrong way. As one participant summarized, "...A lot of discussion around formative assessment unfortunately circles around 'grading' or 'evaluating' practices. This is not surprising since historically that was the purpose of school: to rank our students. This is still true especially at the university level". Another participant said:

I'm not trying to downplay the importance of summative assessment because at the end we need grades information. We need reports on the level of performance that the student has achieved and that's what summative assessment is good for. But for the learning process, formative assessment is so instrumental and, not only unavoidable, but absolutely essential.

Similarly, another statement revealed:

I don't see engagement in our classrooms; we see compliancy. I don't even see engagement in my classroom very frequently; I see compliancy. I think that we can't maintain that. It's just something that we can no longer maintain. And so if we don't have those assessment for learning strategies in place then they don't have that foundation — that's a foundational skill for our students, to be able to move into inquiry to project-based learning whether you're into environment sustainability or, you know, what technology — whatever it is you want to pursue that interest in you still has to have some basic foundational skills and so, you know, when we talk about reading fluency and numeracy fluency then I think assessment for learning is one of those foundational skills.

Summary

This qualitative study sought to explore the professors' and instructors' perspectives regarding the use of formative assessment strategies in the University of Northern British Columbia's School of Education. Through the use of questionnaires and the responses to the questionnaire were calculated in percentage for each category and
then summarized. With the use of semi-structure interviews, qualitative sub-themes and themes were coded and summarized regarding the use of formative assessment strategies.

The questionnaire and semi-structured interview findings are very important because it provides an all-inclusive representation of the professors and instructors’ perspectives. This all-inclusive representation offers different ways at which the use of formative assessment strategies by professors and instructors may be examined. This research maybe used to inform professional development and professors and instructors pedagogy in the area of effective formative assessment strategies or practices.
Chapter 5: Discussion of Findings

Introduction

The primary objective of this research project was to examine the use of formative assessment strategies amongst professors and instructors in the UNBC School of Education. Specifically, the study provides evidence to help answer the research question, as well as to gain understanding of the experience of professors and instructors, support existing research, and inform policy. This chapter will discuss the findings from the present study and its relationship to the professional literature.

Higher education administrators are faced with challenges within the market-driven economy because the bodies of accountability and stakeholders (e.g., students, provincial and federal governments, employers, and accrediting bodies) all require information and evidence of what students are learning (Mangino, 2012; Middaugh, 2007; Newman, Couturier, & Scurry, 2004; Shulman, 2007; Tagg, 2003). Thus, administrators of higher education need to promote a strong internal assessment system for learning to satisfy external accountability (Tagg, 2003). Formative assessment has been demonstrated in research to increase student learning and achievement (Black et al., 2003; Black & Wiliam, 1998; Reig & Wilson, 2009; Smith, 2005; Stiggins & Chappuis, 2005; Yorke, 2001, 2003). However, with significant information in the literature about formative assessment, there is still a lack of research on the use of formative assessment in university classrooms (Yorke, 2001, 2003). Therefore, understanding professors’ and instructors’ perspectives regarding the use of effective formative assessment strategies in their classrooms is essential to guide recommendations for change in practice, where warranted.
Discussion of Study Findings

The study explored formative assessment strategies based on professors and instructors perspectives in the university setting. In order to provide select School of Education faculty members’ perspectives, data were collected and analyzed using questionnaire and semi-structured interviews. The findings from the study are discussed below.

Questionnaire

The findings from the questionnaire are explained following the themes discussed in Chapter 4 that emerged from the participant responses.

**Purpose of assessment.** This theme from the questionnaires was important because it directly relates to the research question on formative assessment. From the questionnaire findings, more than half of the professors and instructors agreed that the purpose of assessment is to (a) determine student strengths and weaknesses, (b) plan instruction, (c) obtain information about student progress, (d) motivate students to learn, (e) provide feedback to students, and (f) provide information to the Chair. Understanding the professors’ and instructors’ perceptions of the purpose of assessment could guide in the recommendations as they relate to formative assessment.

The findings from this present study on the purpose of formative assessment mirrors the findings of previous research of Black and Wiliam (1998), in which three primary purposes of assessment were identified. Black and Wiliam (1998) found that one purpose of assessment is to promote teaching and learning. The learning system needs feedback since the students’ learning and performance are central formative assessment indicators. The other purpose of assessment according to these two researchers is that it
records the achievement of students for certification. Lastly, the authors argued that assessment provides information to gratify the demand for stakeholders’ accountability.

Formative assessment enables professors and instructors to identify the present status of students’ knowledge and competencies; make appropriate modifications in instruction to make success attainable; create appropriate lessons, activities, and peer learning; and provide feedback to students about their progress to assist them in reassessing their academic goals. Professors and instructors must understand the purpose of assessment in order to implement it correctly in their classrooms. The findings from formative assessment assist professors and instructors to adequately modify their instructional strategies, and pair students with appropriate learning material and environment. Additionally, the finding from this present study appears to buttress and solidify the requirement for frequent professional development regarding assessment since approximately half of the respondents identified purposes of assessment reflected in the extant literature which means that half did not.

Assessment and students. This finding from the questionnaires was important because it directly relates to the research question on formative assessment. The finding from the questionnaire indicated that more than half of the professors and instructors agreed that student-focused assessment is most beneficial through positive feedback, rubrics, peer-feedback, and self-assessment. All the respondents agreed that different instructional strategies are important for addressing various learning styles of students, and perceived that assessment has an impact on students.

Formative assessment may help the School of Education faculty members to access the learning needs of their students and to ascertain whether a student requires
additional or alternative learning material, how much time is required to complete an activity, what segment of the material needs to be re-taught to a particular student or which student should advance in the study material. The finding from faculty members about student-focused assessment is supported by key research.

Fook and Sidhu (2011) in their research on assessment preferences and practices in Malaysian Higher Education found that formative assessment had a higher positive impact on learning if embedded as part of the teaching and learning process. In addition, it provides feedback that will motivate a student to learn, reduce test anxiety, enhance learning as well as student self-esteem. As noted by these researchers, the integration of learning and teaching should be at the heart of assessment, and the learners should be actively connected to the assessment process as well as the product of learning for better results (Craddock & Mathias, 2009; Fook & Sidhu, 2011; Goos et al., 2011).

Formative assessment is mainly geared towards monitoring a student's knowledge acquisition and competencies during their educational preparation. Hence, making a student customized assessment (i.e., assessment varies by student) is beneficial. Pinchok and Brandt’s (2009) research found that a student-focused assessment resulted in academic gains and improved student learning attributes. Another study found that when effective feedback was employed, positive student outcomes resulted, and feedback to students was most beneficial (Hattie & Temperley, 2007). Additionally, feedback at the self-regulation level supported students in internalizing their thinking, getting better at self-assessment, and knowing when to ask for assistance.

Furthermore, the findings from this present research also revealed that half of the faculty respondents agreed that negative feedback is important for student progress, while
almost half of the faculty respondents disagreed that negative feedback was crucial for student progress. These findings are consistent with the findings of Plakht and colleagues’ research, since positive feedback was associated with higher grades, higher contribution of the clinical practice to the student, and over-self-evaluation while negative feedback was related to an accurate self-evaluation of the students’ performance (Plakht, Shiyovich, Nusbaum & Raizer, 2013). Consequently, it is important that educators pay close attention to the impact of administering positive and negative feedback in relation to student learning.

**Formative assessment strategies.** The present study showed that a majority of the professors and instructors agreed that using various forms of formative assessment strategies is important for teaching and learning. The professors and instructors also agreed that the following strategies were critical to student success: using continual, immediate, and descriptive feedback; utilizing rubrics, emails, journals, and portfolios; providing opportunities for peer-review feedback; using self-assessment when the instructors provide support and guidance; sharing an understanding of goals and co-creating criteria with the students. By contrast, the majority of the professors and instructors disagreed that only one method of formative assessment should be used.

The finding of this research supports the findings of previous research on formative assessment strategies. Several researchers noted that setting clear and attainable learning expectations (i.e., what students will learn as opposed to what they will do) and selecting specific learning targets are imperative to enhanced achievement in learners (Black & Wiliam, 1998; Clark, 2011; Heritage, 2011). Black and Wiliam (1998) concluded that students can only self-assess if they have sufficient, clear pictures of the
learning targets that they are supposed to attain and if learning instructions are based on learning expectations and learning targets. The authors also indicated that the following may enhance learning: monitoring and tracking student progress; providing planned continual, immediate, and descriptive feedback; and creating opportunities to help students become actively involved with their learning (Black & Wiliam, 1998; Clark, 2011; Heritage, 2011).

Semi-Structured Interviews

The findings from the semi-structured interview are outlined following the themes discussed in Chapter 4 that emerged from the transcriptions.

Formative assessment. All professors and instructors agreed that using various formative assessment strategies was important to teaching and learning; however, they had varying perceptions of the concept. The findings from this study support the evidence in the literature that formative assessment as a continuous process that regularly focuses on learning progressions. McManus (2008) described learning progressions as including the formative assessment component of clearly articulating the sub-goals of the ultimate learning goal. Further, McManus argued that the learning goals, criteria, and expectations should be clearly identified and communicated to students.

Similarly, participants of this present study shared the view that learning goals should be clearly articulated and attainable. Clarity of learning goals is significant to evaluate and assess the quality of the learning that is taking place in the classroom. For students to take control of their learning, it is imperative that both the instructor and students share clarity about what is being learned and the learning steps to be taken achieving it. When the learning process is clear, the students' motivation improves, they...
focus on the task, their attitude toward learning improves, and they take responsibility for their learning.

Another component of formative assessment mentioned by McManus (2008) was continual and descriptive feedback that is related to the intended learning expectations provided to students by teachers. Self-assessment and peer-assessment are important for providing students opportunity to reflect on their learning. Also important is a classroom culture in which teachers and students are partners in learning. In the present study, most faculty members shared their perception of the importance of this formative assessment component.

Faculty members were asked about their beliefs on formative assessment. All participants viewed formative assessment as being very important to teaching and learning; however, they had various perceptions of it. This finding was significant as it relates to all core elements of formative assessment and the research question. All interviewees were familiar with the term, *formative assessment*, and implemented formative assessment in their teaching but had varying definitions. Examining the views of professors and instructors on formative assessment has the potential to inform recommendations on effective practice and implementation of formative assessment strategies for future professors and instructors in the School of Education.

One study found that professors and instructors’ dialogue of formative assessment is deeply shaped by the cultural context of the courses and their communities of practice (Laight et al., 2010). The authors also found that the internal practices are influenced by the context of the subject-based environments. They found that the understanding and approaches to formative assessment differ across the university.
Finally, participants felt that formative assessments encouraged them to expose their strengths and weaknesses rather than disguise them similar to Craddock and Mathias’ (2009) finding that formative assessments had an impact on the learning process.

**Feedback.** The study participants of this present study viewed feedback as the core of formative assessment in the development of self-efficacy. Professors and instructors reported that they used feedback daily in their teaching by providing information to students that informs their learning. Exploring feedback in formative assessment from the perspective of the interviewees is important for recommendations that will inform future professors and instructors on how to provide effective feedback.

Analysis from this study revealed that professors and instructors acknowledge the importance of feedback and utilize various forms of feedback to inform student learning. Feedback has to be personal and fast. Whether feedback is verbal or written, it has to be practical, during lessons, sooner rather than later. Thus it is very advantageous to provide daily or weekly feedback rather than relying on only summative assessment. Feedback is important as it equips students with the resources to take personal responsibility for their own learning experience.

This finding of this present study echoes the findings of previous research that indicated that feedback remains a vital part of assessment; therefore, feedback must be meaningful and timely, clear, and detailed and should be designed to close the instructional gap (Gaytan & McEwen, 2007; Heritage, Kim, Vendlinski, & Herman, 2009). Feedback as a form of formative assessment should be instructive in nature in order to help students to revise and improve their work and deepen their understanding.
For feedback to be effective, it has to be related to the learning goals, timely and clear, and non-judgmental. Furthermore, feedback should be focused on driving the student toward learning and improvement rather than just informative. For educators, when it is viewed through the lens of teaching and learning opportunities, feedback helps to recalibrate their perspective on feedback, moving from the model of correction to cooperation aimed at not just fixing students' work but also pushing them forward toward learning.

**Learning outcomes.** All interviewees described learning outcomes as essential since they are required of them at the university and using rubrics was reported as one of the most significant ways of co-creating the learning criteria with students. One benefit of exploring learning outcomes from the interviewee perspectives is that it provides a first-hand view of the rationale for incorporating learning outcomes in their teaching. The main goal is that learning outcomes enhances students' learning goals. Learning outcomes are statements that predict in advance what students will gain as a result of learning. Hence, there should be an association between learning outcomes and assessment to achieve the desired goals.

When instructors and students have a clear and shared understanding of the expected learning outcomes, students are more likely to achieve their desired goals. One way to make learning outcomes and their expectations obtainable for students is the use of exemplars and rubrics. The use of rubrics must be carefully prepared to assess learning and promote critical thinking (Christopher et al., 2004; MacKinnon, 2002).

Similarly, the present study participants acknowledged the importance of using learning outcomes and making the learning expectations clear so students can understand
and succeed. Moreover, setting clear learning goals that are attainable and selecting specific learning targets based on the learning needs of each student can help him or her self-evaluate and have a clear picture of the learning target (Black & William, 1998; Heritage, 2011). A clear learning outcome is a good marker for the professors and instructors in this study of what kinds of assessment are applicable, and of the skills and knowledge required by students to succeed in the university classroom. In sum, the clearer the learning outcome, the easier it will be to craft a suitable assessment.

**Questions.** All study participants agreed that questioning is important and can lead to learning. The participants also agreed that they used questioning in their teaching by writing out the questions themselves, by encouraging students to write out their questions as assignments to be discussed, or by asking questions during teaching. Further, the respondents agreed that questioning is used not only as an instructional tool but also as a deliberate way for the educator to find out about student knowledge, understanding, and ability.

The finding from this present study supports the findings of previous research since questioning was described as a means to create opportunities for educators to identify what the student already knew, gaps in knowledge, and the supports needed for student success; all of which close the gap between their current knowledge and the learning goals (Sullivan, 2003). Additionally, probing important questions, increasing the wait time for students to answer the questions, and having robust follow-up activities that advance student thinking are all important aspects of the assessment process. In other words, using questioning should be intended to point out issues about which an instructor needs information or about which the students need to think. Indeed, the faculty members
implied that their B.Ed. students needed to learn to see questions as a tool of inquiry in their own practice teaching rather than a means of data mining.

**Peer assessment.** All faculty participants reported that they used pairing and group work daily for discussions, focused activities, and presentations. Additionally, all participants viewed peer assessment as a tool that could help the students move forward in their learning while working together in groups.

Several researchers have noted that peer assessment can provide a way for students to provide feedback to their peers on their performance based on present assessment criteria. Peer assessment also gives a student the opportunity to read carefully, consider, and comment on their peers' work while comparing it with their own work and the assessment criteria (Basnet et al., 2010; Lew et al., 2008).

When students are allowed to evaluate each other, it may motivate them to take greater responsibility for their learning. For instance, students may follow assessment criteria more closely or reflect on their own performance and that of their peers. Peer assessment allows students to learn from their past mistakes, recognize their strengths and weaknesses, and learn to target their learning appropriately. Furthermore, peer assessment motivates all learners to be more objective, be involved in their own assessment, and become more honest and challenging to one another. Getting students to become more active in their learning (i.e., peer-assessment) may help move them from being spectator to their learning to participants in their learning (Black, 2004).

Prins et al. (2005) showed that students had a positive attitude towards peer assessment, and perceived that the assignments had added value so, as a result, there was an increase in students' involvement. Brew et al (2009) examined education students and
their teachers' views on participative assessment practices and found that staff was more supportive of peer assessment and self-assessment practices than their students even though peer assessment was more widely used than self-assessment. The interviewees in this study reported similar experiences and perceptions.

Self-assessment. Self-assessment is an essential component of student-involved assessment as it is a key element of formative assessment. Exploring self-assessment in a classroom from the prospective of higher education professors and instructors could result in the development of tools to enhance effective implementation of formative assessment strategies and thereby improving self-regulation and student involvement with assessment. Some of the respondents acknowledged the benefits of self-assessment; however, most times, self-assessment was not included in their teaching because the students are perceived as not being ready for the practice given their few years in the Education program.

The cultivation of a life-long learning mindset in students involves asking them to assess their own progress, which helps the teacher to find out what the learner has internalized and what to improve on (Heritage, 2008; McDonald & Boud, 2003). Self-assessment requires students to reflect on their own work and assess how well they have performed relative to the assessment criteria. The primary goal of the self-assessment is not necessarily having students grade their own work, but rather, it is an opportunity for students to evaluate the quality of their own work.

Self-assessment offers students an opportunity to take responsibility for their own learning, as it enables learners to effectively internalize assessment criteria and academic
standards. Further, self-assessment helps students to better understand assessment
expectations, moving them forward towards improved performance and personal growth.

One main condition of an effective self-assessment is clarity of assessment goals.
Thus, to achieve an effective self-assessment, the assessment criteria have to be clear and
fully described to the students so they know and understand what is expected of them. In
sum, these findings were important as they directly related to an important component of
formative assessment (i.e., student involvement) but the majority of the School of
Education interviewees did not report using self-assessment in their teaching. This lack of
self-assessment could point to a need for more professional development of these faculty
members to ensure that they are up to date with current assessment practices.

Summary

The purpose of this study was to examine the use of formative assessment
strategies amongst professors and instructors in the UNBC School of Education. In order
to provide professors and instructors’ perspectives, data were collected and analyzed
using questionnaire and semi-structured interviews. Three themes emerged from the
questionnaire and six themes emerged from the semi-structured interviews. The next
chapter discusses recommendations and conclusions based on the findings and
interpretations of this study.
Chapter 6: Recommendations and Conclusion

When planned and implemented in a regular and continuous manner, formative can provide feedback on the learning process and increase student learning, achievement, and retention (Black et al., 2003; Black & Wiliam, 1998; Heritage et al., 2009; Stiggins & Chappuis, 2005; Yorke, 2001, 2003). Additionally, formative assessment evaluates learning while it is developing, and actively involves both the teacher and student (Black & Wiliam, 1998; Clark, 2011; Heritage, 2011). This study gained insight into a group of UNBC School of Education professors’ and instructors’ perspectives regarding the use of formative assessment strategies. In this chapter, recommendations will be made based on the findings from this study and then will conclude with a personal reflection.

Pedagogical Implications

A major finding from the current study was that professors’ and instructors’ perceptions strongly influenced their practice which carries pedagogical implications. For instance, some professors and instructors perceived that the students are not capable of engaging in self-assessment because “they are not there yet” and thus they decided not to use self-assessment in class until students were ready. Self-assessment is an essential aspect of one’s thinking and can cultivate a life-long learning mindset in students (Black & Wiliam, 1998; Heritage, 2008; McDonald & Boud, 2003). In other words, delaying or neglecting this formative assessment component can reduce the student’s possibilities of becoming more responsible, more aware, and more reflective (McNamara, 2001).

Teaching in higher education is a worthwhile career, yet it is not without challenges. For example, professors and instructors may avoid formative assessment in their classrooms, particularly if they perceive summative assessment as different from
formative assessment. Thus, it may be helpful for School of Education faculty to devote some time in their classes to discuss their views on certain aspects of formative assessment with their students, so they have shared learning goals and expectations. As mentioned earlier, formative assessment is necessary and essential in the teaching process; therefore, providing professional development and training to educate faculty on various formative assessments that can improve student involvement with assessment would be beneficial. Additionally, providing professors and instructors with time and incentives to attend training conferences is important (Brancato, 2003).

**Recommendations for Future Research**

This study is one of the first of its kind on the use of formative assessment by professors and instructors in a School of Education and holds promise in many areas. As indicated in the literature, continuous research of formative assessment practices in higher education is necessary (Yorke, 2003).

In relation to the present study, this research is limited in that it uses a small sample size as described in Chapter 1. It is also limited in its scope and participants may represent different demographics; however, the results of this study were not meant to be generalized to other faculty members but were meant to support the extant literature. Further research is needed to explore a larger sample size of professors and instructors in faculties of education, so the results could be generalized to a larger population. A more diverse and robust sample of professors and instructors would maximize and improve the significance of the results regarding the use of formative assessment strategies and their implementation.
Furthermore, based on the literature review, there is robust research on effective use of formative assessment in primary and secondary education (Black et al., 2003; Black & Wiliam, 1998), but there is paucity of research on formative assessment in higher education, particularly in the Canadian context.

Future studies should examine the use of effective formative assessment strategies in other departments at UNBC. Understanding the challenges and opportunities of effective formative assessments practices in other departments at UNBC could contribute to the body of knowledge regarding the implementation of formative assessment within the higher education setting.

Conclusion

This qualitative study explored professors and instructors perspectives regarding the use of effective formative assessment strategies in UNBC School of Education. The study uses qualitative methodology, including both quantitative data in the form of survey results (n=9), and qualitative data in the form of interviews (n=3). The survey provided quantitative data regarding instructor intentions, the significance of formative assessment strategies for students' development, and formative assessment strategies employed by instructors. Interview data regarding the impact of assessment were generated from individual interviews with faculty, as well as from comments regarding formative assessment provided by survey respondents.

The questionnaire revealed that professors and instructors were aware of the purpose of assessment, the importance of student-focused assessment, and the various ways of implementing formative assessment. The interviews showed that professors and instructors were cognizant of the importance and impact of formative assessment when
implemented in teaching and learning, which, in turn, can move students’ learning forward by providing effective and continuous feedback. These findings may benefit educators who implement formative assessment practices. As well, improving the use of formative assessment practices demands continuous and regular professional development (Brancato, 2003). Lastly, the results of this study may inform training and pedagogy in formative assessment for professors and instructors.

**Personal Reflection**

When my journey in UNBC started in 2009, I had to learn a great deal, from SPSS to proper referencing to avoiding “dangling modifiers”. The journey has been full of ups and downs but still rewarding. I never knew that, by now, I would still be working on finishing my Master of Education program. I started out with wanting to explore the ESL program at the College of New Caledonia for my research but it did not go as planned and I decided to try the ESL program at UNBC and did not go as planned again. I was really discouraged but discussed it with my supervisor and then I decided to explore the UNBC School of Education. I started the process and later had a baby, and a family reunion, and the whole process became slower. Some nights I would stay up so I could get back to writing my project but I could not concentrate. I really struggled with getting back on track with my project. My supervisor asked why it was taking too long and kept encouraging me as did my husband, parents, siblings, and friends. Finally, it came down to my last year in school and then that inner strength came and so did the concentration. I am thankful to God for all the people he placed around me to help me accomplish this work.
References


Paul Mangino, Jr. (2012) *Exploring the Four Core Elements of Formative Assessment in College Classroom Instruction: Faculty Member Perspectives*. Code ProQuest LLC. UMI 3540811


Letter of Invitation for Survey Participation

January 2015
Dear Participant,
I am a graduate student in the School of Education, UNBC. I am requesting your participation in the survey portion for a study I am conducting entitled *Formative Assessment Strategies in the UNBC School of Education*, for the completion of my Master of Education (MEd) degree. You have been selected to be part of this formative assessment survey because as a faculty member, you are aware of the formative assessment strategies that are most useful to you and other professionals in order to help advance formative assessment. Your participation is important to this survey and can greatly add to our understanding.

The purpose of this survey is to explore the use of formative assessment strategies in the classroom by professors and instructors. I want to measure the extent to which professors and instructors use effective assessment strategies in their classrooms, as represented in the professional literature. I will also look at what formative assessment strategies students can identify. My population is comprised of professors and instructors at the UNBC School of Education.

Your participation in this research is of course voluntary and you can withdraw from this survey at any time. Although best efforts will be made to protect your identity, due to the small sample size and the use of demographic information, it cannot be guaranteed. Please note that the use of the research data will be restricted to this study and only me will have access to the raw data. However, the results will be present in thesis format and maybe in journal articles, conferences, and presentations. Feel free to contact me, or my Supervisor, Dr. Andrew Kitchenham (Chair of Education) through this email address: kitchena@unbc.ca if you have any questions. If you have any concerns or complaints about the project, please contact the UNBC REB at 250.960.6735 or email at reb@unbc.ca.

I truly appreciate your participation in this survey research. Please see the “Informed Consent Form” for further details about your consent to participate. The attached survey will take approximately 15-25 minutes to complete. Please email back your completed questionnaire electronically within one week (by Date).

Thank you for your interest and participation in this research. I truly appreciate your time.
Sincerely,
Emem Umoh Eka
Graduate Student, Multidisciplinary Leadership (MEd)
University of Northern British Columbia
Email: ekae@unbc
Phone #: 2509617474

Dear Participant,
APPENDIX B

Informed Consent Form for Survey Participation

You are invited to participate in a study entitled *Formative Assessment Strategies used in the University Northern of British Columbia School of Education*. Please read this form carefully, and feel free to ask any questions you might have.

**Researcher/Supervisor:** Andrew Kitchenham, Ph.D.
University of Northern British Columbia
3333 University Way, Prince George, B.C. V2N 4Z9
Phone 250.960.6707 email: kitchena@unbc.ca

**Graduate Student/ Researcher:** Emem Eka
Program: Multidisciplinary Leadership (MEd)
University of Northern British Columbia
3333 University Way, Prince George, B.C. V2N 4Z9
Phone 250.961.7474 email: ekae@unbc.ca

**Purpose of the Research:** The purpose of this research is to examine professors and instructors’ classroom assessment strategies in the School of Education. The graduate student researcher will gather information from current professors and instructors regarding their current classroom formative assessment strategies. This consent form relates to the survey associated for this study.

I have emailed this questionnaire to you and request that you answer based on your current use of classroom formative assessment strategies. The attached survey will take approximately 15-25 minutes to complete and ask that you email back your completed questionnaire electronically within one week (by Date).

As a follow-up to this survey, in a semi-structured interview, I will be asking volunteers to describe the kinds of formative assessment strategies they use and how often. I have made the interview request at the end of the survey. The aim is to further our understanding of formative assessment strategies, which are used by professors and instructors that could enhance students’ learning and compare it to the professional literature and consider all the factors that could lead to effective formative assessment strategies.

**Potential Risks:** There may be some risk to you as participant of this study. The main is that of anonymity. By emailing me your responses, your identity will be identified to me as the researcher. There will be no identifying information included in the final study findings; however, personal experiences shared via the open-ended responses may be familiar to people you know. Please note, that the information being gathered in this study will be used exclusively for the purpose of research, and will not play any role in your academic performance evaluation.

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Although best efforts will be made to protect your identity, due to the small sample size and the use of demographic information, it cannot be guaranteed. Only I will have access to the raw data; however, be aware that my supervisor who is the Chair of Education might read the anonymized responses.

**Potential Benefits:** With the increasing focus on the use of formative assessment in higher education, it may be beneficial to better our understanding of formative assessment strategies that could enhance learning through the data that will be collected in the study. Hopefully, the data collected will aid in illuminating the rich context by which other educators can better improve on their classroom assessment practices or knowledge. In addition, you can receive a copy of the final report of this research from the researcher when it is completed.

**Storage of Data:** All data will be stored and retained by me on a password-protected computer in my locked office in my house in accordance with the guidelines defined by the University of Northern British Columbia. The data will be stored for five years and destroyed after the five-year period.

**Confidentiality:** All responses will be given a code so that only I can identify the person with the survey and no one else will have access to the code key.

**Right to Withdraw:** Your participation is voluntary, and you may withdraw your participation at any time without any sort of penalty. Since you will be emailing your responses from your email account, if you do withdraw, any information you have provided will be withdrawn and destroyed.

**Questions:** If you have any questions concerning this study, please feel free to ask at any point. You are also free to contact the researcher at the number provided above, and for concerns and complaints, please contact the UNBC REB at 250.960.6735 or email at reb@unbc.ca.

**Consent to Participate:** I have read and understood the description provided above. Via email, I have been provided with an opportunity to ask questions and my questions have been answered, if asked. I consent to participate in this study as described above, with the understanding that I may withdraw this consent at any time. By completing and submitting the survey, I am consenting to participate in the survey portion of this research.

You should keep a copy of this Consent Form for your records.
APPENDIX C

Formative Assessment Strategies Survey

Thank you for taking the time to complete this short survey. It is focused on the current assessment strategies that you use in the classroom in the courses you teach. By completing this survey it is understood that you do so voluntarily and that you consent to the use of your response in the study.

This survey will consist of three parts:

Part 1. Demographic Information.
Part 2. Purpose of assessment.
Part 3. Assessment and Students.
Part 4. Formative Assessment Strategies.
Part 5. Open-ended questions.

PART 1 In responding to the following questions, please tick the appropriate box that applies to your situation.

DEMOGRAPHICS:
1. Number of years of teaching in the university:
   _ a. More than 15
   _ b. 0-5
   _ c. 6-10
   _ d. 11-15

2. Number of years of teaching in public schools:
   _ a. More than 15
   _ b. 0-5
   _ c. 6-10
   _ d. 11-15

3. Number of courses taught each year:
   _ a. 1 course
   _ b. 2 courses
   _ c. 3 courses
   _ d. 4 courses
   _ e. more than 5 courses

4. Platform predominately used:
   _ a. Classroom/Face to Face
   _ b. Blackboard
   _ c. Online
Using the following 1-4 scale, please answer each item by circling the most correct response, the extent to which you agree with the statements listed below. The number stands for the following responses:

1 - Strongly disagree
2 - Disagree
3 - Agree
4 - Strongly agree

Part 2: Purpose of Assessment

<table>
<thead>
<tr>
<th>1. Is to obtain information on students' progress.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. To motivate students to learn.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. To provide feedback to students as they progress through the course.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. To provide information to the central administration.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. To help in determining the final grade for students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. To help in identifying students' strengths and weaknesses.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. Plan instruction.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. Prepare students for future tests.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Part 3: Assessment and Students.

| 9. Assessments that focus directly on student development are the most beneficial. | 1 | 2 | 3 | 4 |
| 10. Assessment can have an impact on student learning. | 1 | 2 | 3 | 4 |
| 11. Positive feedback is needed for student progress. | 1 | 2 | 3 | 4 |
| 12. A variety of instructional strategies are important to address the various learning styles of students. | 1 | 2 | 3 | 4 |
| 13. I am encouraged to take an active role in my learning. | 1 | 2 | 3 | 4 |
| 14. I value peer feedback in learning.            | 1 | 2 | 3 | 4 |
15). The use of rubrics is important. 1 2 3 4

16). The use of formative assessment encourages positive motivational ideas and self-esteem. 1 2 3 4

18). A variety of assessment techniques are used (e.g., journals, portfolios, email, discussion board postings, and chat-room conversations). 1 2 3 4

19). Negative feedback is important for student progress. 1 2 3 4

**PART 4: Formative Assessment Strategies.**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>20). Teacher feedback is effective in promoting student learning.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21). Formative assessment can contribute to student learning.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22). Continual, immediate, and descriptive feedback is necessary for student understanding of course outlines.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23). Various assessment methods should be used continuously.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24). The assessment method that I use encourages the students to take charge of their own learning.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25). Pairing students contributes to their learning.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26). Making students self-assessors is done to determine if learning criteria are met.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27). I use rubrics to determine if learning criteria are met.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28). The use of rubrics to support assessment and to provide important and immediate feedback adds to student learning.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29). Formative assessment can provide information for the improvement of teaching and learning.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>30). Formative assessment can have an impact on learning because it is part of the teaching and learning process.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
31). The use of one method of formative assessment should be used continually.
32). The teachers and students should share understanding of assessment goals.
33). Assessment that is focused on learning can help the student become aware of his or her own learning and able to support the learning of others.
34). Student self-evaluation can foster learning.
35). Formative assessment helps student to know how to improve.
36). Student peer-review feedback is useful for learning.
37). Self-assessment is effective if the teacher provide students with support and guidance.

PART 5: Open Ended Questions:
Please respond briefly to the following questions based on the academic rank you identified with in Part 1. Please use the back of this page if more space is required for answers.

38). Looking back at your teaching strategies, what are the most positive aspects of your current assessment practices?

39). To what extent do you use descriptive feedback, self-assessment, peer-assessment, rubrics, or portfolios, (or any other formative assessment strategies that are not mentioned in the survey) in your classroom?

40). General comments or suggestions?

If you are willing to be interviewed please indicate, thanks.

Name: _______________________

Phone Number: --------------

Email: ------------------------

THANK YOU VERY MUCH FOR YOUR TIME AND CANDID RESPONSES.
Interview Request Letter

Department of Education
University of Northern British Columbia
3333 University Way, Prince George, B.C. V2N 4Z9

Dear __________________________

My name is Emem Eka. I am a graduate student in the School of Education at the University of Northern British Columbia, and am planning my project research in partial fulfillment of my Masters of Education degree.

The purpose of this research is to find out the formative assessment strategies that are used in the School of Education in UNBC and compare them to what the professional literature indicates are effective formative assessment strategies.

You have been selected as one of the participants for the interview portion of this research study because of your knowledge of formative assessment. My hope is that you will be available for an informal interview that may take 30-60 minutes. A copy of the Letter of Informed Consent, which explains the risks and benefits of participating in this study, as well as how your personal information will be managed, will be attached.

If you have additional questions, please feel free to contact me, or my supervisor, Dr. Andrew Kitchenham (Chair of Education) at this e-mail address - kitchena@unbc.ca. For concerns or complaints about the project, please contact UNBC REB at this phone number, 250.960.6735, or send an email to reb@unbc.ca.

Your support is sincerely appreciated. If you accept this request, please sign the attached “Letter of Informed Consent” and scan or send me an email indicating your acceptance to participate in this study.

Thank you.

Emem Eka
Cell Phone: 250.961.7474
Email: ekae@unbc.ca
APPENDIX E

Letter of Informed Consent Form for Interview Participation

You are invited to participate in a study entitled *Formative Assessment Strategies used in the University Northern of British Columbia School of Education*. Please read this form carefully, and feel free to ask any questions you might have.

**Researcher/Supervisor:** Andrew Kitchenham, Ph.D.
University of Northern British Columbia
3333 University Way, Prince George, B.C. V2N 4Z9
Phone 250.960.6707 email: kitchena@unbc.ca

**Graduate Student/Researcher:** Emem Eka
Program: Multidisciplinary Leadership (MEd)
University of Northern British Columbia
3333 University Way, Prince George, B.C. V2N 4Z9
Phone 250.961.7474 email: ekae@unbc.ca

**Purpose of the Research:** The purpose of this research is to examine professors and instructors' classroom assessment strategies in the School of Education. The graduate student researcher will gather information from current professors and instructors regarding their current classroom formative assessment strategies.

As a follow-up to the survey, in this semi-structured interview, I will be asking you to describe the kinds of formative assessment strategies you use and how often. At a later time, I may follow up with you to confirm or clarify your responses. The aim is to further our understanding of formative assessment strategies, which are used by professors and instructors that could enhance students' learning and compare it to the professional literature and consider all the factors that could lead to effective formative assessment strategies.

**Potential Risks:** There may be some risk to you as participants of this study. The risks could include concerns about confidentiality and anonymity regarding the location of the interview, direct quotations, and demographic information.

To address the risk of confidentiality and anonymity with respect to the location of the interview, they will only take place in a setting where you feel comfortable. You will be given the opportunity to withdraw your responses after your interview or prior to publication of findings, and as well, to review the final transcript to confirm or clarify your responses or intentions.

In addressing social risk (e.g., loss of status/privacy), any potentially identifying information will be removed replaced by a code when inputting data into the computer to protect your identity. There will be no identifying information included in the final study.
findings; however, personal experience shared may be familiar to people you know.

Direct quotations will be minimized but, when used, will be attributed to a non-descript code (e.g., Participant 1). The recorded interviews were conducted by me and I will transcribe the interviews. Only I will have access to the transcribed interviews.

Please note, that the information being gathered in this study will be used exclusively for the purpose of research, and will not play any role in your academic performance evaluation. Only I will have access to the raw data; however, be aware my supervisor who is the Chair of Education might read the anonymized responses.

**Potential Benefits:** With the increasing focus on the use of formative assessment in higher education, it may be beneficial to better our understanding of formative assessment strategies that could enhance learning through the data that will be collected in the study. Hopefully, the data collected will aid in illuminating the rich context by which other educators can better improve on their classroom assessment practices or knowledge. In addition, you can receive a copy of the final report of this research from the researcher when it is completed.

**Storage of Data:** All data will be stored and retained by me on a password-protected computer in my locked office in my house in accordance with the guidelines defined by the University of Northern British Columbia. The data will be stored for five years and destroyed after the five-year period.

**Confidentiality:** As mentioned, all participants will be given a non-descript code so that only I can identify the person with the interview and no one else will have access to the code key.

**Right to Withdraw:** Your participation is voluntary, and you may withdraw your participation at any time without any sort of penalty and your responses will be withdrawn and destroyed.

**Questions:** If you have any questions concerning this study, please feel free to ask at any point. You are also free to contact the researcher at the number provided above, and for concerns and complaints, please contact the UNBC REB at 250.960.6735 or email at reb@unbc.ca.

**Consent to Participate:** I have read and understood the description provided above; I have been provided with an opportunity to ask questions and my questions have been answered. I consent to participate in this study as described above, with the understanding that I may withdraw this consent prior to or during the interview.

A copy of this Consent Form will be given to me for my records.
(Name of Participant)  (Date)

(Signature of Participant)  (Signature of Researcher)
APPENDIX F: Semi-Structured Interview Questions

Interview Questions

1. What assessment strategies do you use in your classroom?

2. How often do you use feedback in your teaching?

3. How do you provide learners with clarity and understanding of the learning intentions of the work being done?

4. How do you design classroom questions to lead discussions in your teaching?

5. How often do you put learners to work as learning/teaching resources for each other?

6. In what ways are the learners the owners of their own learning at the end of the class?

7. What are your beliefs about formative assessment?

8. Is there anything else you would care to add?

THANK YOU FOR PARTICIPATION AND CANDID RESPONSES.