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Insights into the processes and practices novice professors use to continually develop their pedagogical skills

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by
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Dedicated

Dedicated to the people whose strength has inspired me.

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Through the support of these generous individuals, as well as countless others, I have found a deeper, richer, and more confident person inside myself. Perhaps this person is best explained through the following poem, written by the Hopi nation:

TO MY FELLOW SWIMMERS:

Here is a river flowing now very fast.
It is so great and swift that there are those
who will be afraid, who will try to hold on to the shore.
They are being torn apart and
will suffer greatly.

Know the river has its destination.
The elders say we must let go of the shore,
Push off into the middle of the river,
and keep our heads above water.

And I say see who is there with you
and celebrate.
At this time in history,
we are to take nothing personally,
least of all ourselves.
for the moment we do,
our spiritual growth and journey come to a halt.

The time for the lone wolf is over.

Gather yourselves.
Banish the word struggle from your attitude
and your vocabulary.

All that we do now must be done
in a sacred manner and in celebration.
We are the ones we have been waiting for.

Abstract

This qualitative case study explored the processes and practices three novice professors used to develop their pedagogical skills after attending formal professional development activities or programs. Data for the study included transcriptions of two interviews, pedagogical artifacts, and field notes of classroom observations. The data set was analyzed using a combination of systematic coding, thematic analysis, and the development of grounded theory.

The study found that participants instinctively developed their pedagogical skills by engaging in a learning cycle that involved preparing to teach, teaching, reflecting on their teaching experiences, developing new pedagogical strategies that enhanced their instructional practice, and implementing new pedagogical strategies in subsequent teaching experiences. Overall, the participants identified that incidental learning opportunities were most influential in developing their pedagogical skills. Implications for theory, practice, and research are presented.

KEY WORDS

Novice professors, pedagogical skills, development, professional development programs, faculty development, learning, pedagogy, formal learning, informal learning, incidental learning, quality learning, effective teaching, teaching, experiential learning theory, knowledge

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Chapter 1: Introduction

In higher education, novice professors typically enter the profession with significant disciplinary knowledge and limited pedagogical training and skills (Blackburn & Lawrence, 1995; Kugel, 1993; Mundy, Kupczynski, Ellis, & Salgado, 2011). As a consequence, novice professors often face challenges as they learn the pedagogical skills necessary to be effective teachers and deliver quality education (Ramsden, 1992).

Quality education is defined with the following three characteristics: the enabling of "the total growth of the student" (Stark & Lowther, 1980, p. 284); the combination of good teaching and good learning (Ramsden, 1992); and finally, the navigation of the dynamic relationship between the subject discipline, the student, and the professor (Ball & Cohen, 1999; Kugel, 1993). Ball and Cohen (1999) asserted that teachers who delivery quality must understand their content "in ways quite different from those they learned as students" (p. 7). Further, delivering quality education requires that teachers hone the ability to "read" their students' thinking and learning and develop a variety of strategies to meet students' unique needs (Ball & Cohen, 1999).

Novice professors may develop the pedagogical skills needed to deliver quality education through formal and informal learning. Faculty development centers have historically provided opportunities for novice professors to develop their pedagogical skills through formally structured professional development programs (Bakutes, 1998; Garet, Porter, Desimone, Birman, & Yoon, 2001; Siegel, 1987). In addition to formal settings, research suggests that learning can also be informal, situated in " . . . everyday encounters while working and living in a given context" (Marsick & Watson, 2001, p. 29).

Providing opportunity for novice professors to develop their pedagogical skills, whether through formal or informal learning opportunities, is critical for the delivery of quality education. With the development of their pedagogical skills, professors will more likely be equipped with the tools necessary to be effective teachers and deliver quality education to students. This study is intended to better understand the processes and practices novice professors use to develop their pedagogical skills.

Statement of the Problem

Little is understood about the processes and practices novice professors use to develop the pedagogical skills needed to deliver quality education. There exists ample research regarding the skills and characteristics of effective teachers, as well as descriptions of effective professional development programs and their facilitation (Chickering & Gamson, 1987; Heron, 1993; Ramsden, 1992; Smittle, 2002). However, extant literature provides little insight into the activities that professors use to develop their pedagogical skills. Further, there is limited empirical assessment regarding how these activities impact professors' pedagogical skill development. Clarke and Hollingsworth (2002) acknowledged the need to understand how professors develop and identified a gap in the literature regarding current understanding of teachers' professional development:

> If we are to facilitate the professional development of teachers, we must understand the process by which teachers grow professionally and the conditions that support and promote that growth. . .The application of contemporary learning theory to the development of programs to support teacher professional growth has been ironically infrequent. (p. 947)

With greater insight into how professors develop their pedagogical skills, educational developers can more effectively design programs to support their pedagogical skill development.

Purpose

The purpose of this study was to better understand the processes and practices novice professors use to continually develop their pedagogical skills after attending formal professional development activities or programs. The study was guided by the following research questions:

1. What do novice professors identify as essential pedagogical skills for effective teaching?
2. How do novice professors describe what they do to enhance their pedagogical skills beyond their participation in formal professional development?
3. How do novice professors respond to the challenges they encounter as they work to continually develop their pedagogical skills?
4. What are the perceived pedagogical challenges novice professors identify?

Significance of the Study

This study specifically contributed to the field of literature in professional development in education and, more generally, in adult learning, by describing the processes and practices three novice professors used to develop their pedagogical skills. Through a discussion of the processes and practices these novice professors used to develop their teaching skills, the study identified the challenges these novice professors faced teaching with little or no pedagogical training and discussed how the professors responded to these challenges.

The findings in this study may be useful for educational developers as they design formal and informal programming that more effectively addresses the challenges novice professors face and better supports their pedagogical skill development. Moreover, the information provided in this study may inform policy in higher education institutions that more aptly supports novice professors' pedagogical skill development as a means to become more effective teachers and deliver a higher quality education to the students they serve.

Chapter Organization

This qualitative dissertation is presented across five chapters. Chapter 1 provides an introduction of the study. Chapter 2 comprises the literature review, which focuses on pedagogical development, an overview of experiential learning models, formal and informal learning, reflection and learning, and concludes with a reference to this study's conceptual framework. Chapter 3 reviews the methodology used in this study. Chapter 4 introduces the participants and their teaching contexts and concludes with theoretical insights into the learning process the participants used to develop their pedagogical skills. Finally, Chapter 5 presents a summary of the research findings and relates these findings to existing literature. Furthermore, the findings presented in this final chapter are organized by research question, and the chapter highlights what the findings contribute to the field of literature, concluding with implications for faculty development centers, higher education institutions, and for myself as a professional, as well as recommendations for future research.

Chapter 2: Overview of Related Literature

This chapter begins with an overview of five critical areas of research. First, this section examines the literature related to pedagogical skills with sub-sections relating to the conceptions of teaching and learning, the stages through which professors develop, and a review of pedagogical skills and characteristics of effective teachers. Second, the chapter explores an analysis of professional development programs and what constitutes effective professional development facilitation. Third, the chapter presents a summary of experiential learning theories, which references the work of seminal theorists, Kolb (1984), Jarvis (1987), Boud (1994), and Heron (1999). Fourth, the chapter examines formal and informal learning, and fifth, the role reflection plays in learning. Following the overview of literature, the chapter concludes with the conceptual framework referenced in this study, used to inform an understanding of how context and experience influence individual learning.

One of the significant challenges novice professors face is entering the profession with limited or no pedagogical training. Rather, professors in higher education typically begin their careers as experts in their discipline and novices in terms of their teaching skills (Blackburn & Lawrence, 1995; Kugel, 1993; Mundy, Kupczynski, Ellis, & Salgado, 2011). New professors' lack of training naturally poses challenges that are faced as they learn the pedagogical skills necessary to be effective teachers and deliver quality education (Ramsden, 1992).

The expectation that professors deliver quality education with limited training is a phenomenon that has been studied for decades. The existing literature in the field provides descriptions of the professional development programs novice professors attend and identifies how effective programs are facilitated. Clarke and Hollingsworth (2002) argued for a better understanding of how teachers develop and identified a gap in the literature:

> If we are to facilitate the professional development of teachers, we must understand the process by which teachers grow professionally and the conditions that support and promote that growth. . .The application of contemporary learning theory to the development of programs to support teacher professional growth has been ironically infrequent. (p. 947)

In addressing this research gap, this case study identified the processes and practices novice professors use to develop their pedagogical skills, thus narrowing to the gap Clarke and Hollingsworth referenced above.

In this type of qualitative research, a literature review provides the contextual background and conceptual framework for the study. This chapter offers an overview of the research that explores the topics and theories relevant to the processes and practices novice professors use to develop their pedagogical skills. More specifically, this section offers three broad themes: pedagogical skills, professional development programs, and experiential learning. The first theme, pedagogical skills, is presented through an exploration of three sub-topics: (1) drawing from one's conception of teaching and learning; (2) stages of development; and (3) skills and characteristics of effective teachers.

Pedagogical Skill Development

As professors pedagogically develop, they learn pedagogical skills. In the existing literature, the term "pedagogical skills" has many synonyms. Ramsden (1992) suggested that pedagogical skills are "characteristics of effective university teaching" (p. 88) and "properties of good teaching" (p. 89). Chickering and Gamson (1987) defined pedagogical skills as those "principles for good practice" (p. 75), and Smittle (2002) described pedagogical skills as "principles of effective teaching" (p. 11).

Ramsden (1992) suggested that becoming an effective teacher takes years of effort and practice and argued that, even after years of effort and practice, professors "will not have learned enough" (p. 12). Without experience to help guide their teaching practice, many novice professors navigate the challenges inherent in teaching by drawing on their own experiences as students and relying on their conceptions of teaching and learning, discussed in the following section (Blackburn & Lawrence, 1995; Entwistle & Walker, 2002; Smittle, 2002).

Conceptions of teaching and learning. Professors' teaching conceptions are informed through their past experiences. With limited or no pedagogical training, novice professors commonly rely on their past experiences as students. Prebble et al. (2005) argued that conceptions of teaching and learning "are the most important influences on how they teach" (p. 91). The tendency to rely on existing conceptions of teaching and learning can limit one's openness to seeing situations differently and reduce novice professors' ability to develop the pedagogical skills necessary to deliver quality education (Bess, 1997; Eble, 1988; Fink, 2003; O'Meara, Terosky, & Neuman, 2008; Ramsden, 1992). Developing new conceptions is challenging because "it involves coming to know something familiar in different ways, or to know something altogether new, from within one's self and often with others" (Neumann, 2005, p. 65).

The research suggests two strategies to extend professors' conceptions of teaching and learning. First, Boud (1994) maintained that social interaction can help individuals question their existing teaching conceptions. "Working one-to-one or with a group for which learning is the raison d'être can begin to transform perspectives and challenge old patterns of learning" (Boud, 1994, pp. 4-5). The second strategy involves acquiring additional knowledge, which serves two purposes: 1) to extend novice professors' conceptions about teaching and learning and 2) to serve as a catalyst to question old assumptions and develop new conceptions of teaching (Åkerlind, 2003; Åkerlind 2007).

Although the literature does not provide any systematic way through which novice professors develop new conceptions of teaching and learning, Kugel (1993) offers six stages that broadly capture how professors develop, discussed below.

Stages of development. Research suggests that educators develop their teaching skills over time (Feiman-Nemser, 2001; Kugel, 1993; Ramsden, 1992). Fieman-Nemser (2001) argued that "achieving initial mastery even of conventional teaching takes much longer than most people believe, that it requires 5 to 7 years" (p. 1039). The concept that educators develop their teaching skills is captured through Feiman-Nemser's continuum to strengthen and sustain teaching and Kugel's (1993) model of professional development.

Feiman-Nemser's (2001) continuum to strengthen and sustain teaching offers three stages of development: induction, experimentation and consolidation, and mastery and stabilization. The induction stage generally refers to the first three years of teaching and involves the development of five critical skills: 1) "gaining local knowledge of students, curriculum and school context" (p. 1028); 2) "designing responsive curriculum and instruction" (p. 1028); 3) "creating a classroom learning community" (p. 1029); 4) "developing a professional identity" (p. 1029); and, 5) "learning in and from Practice" (p. 1030).

The second stage, experimentation and consolidation, as well as the third stage, mastery and stabilization, involve the development of the following four skills: 1) "deepening and extending subject matter knowledge for teaching" (Feiman-Nemser, 2001, p. 1039); 2) "extending and refining one's repertoire" (p. 1039); (3) "strengthening dispositions and skills to study and improve teaching" (p. 1040); and, 4) "expanding responsibilities for leadership

development" (p. 1040). The skills identified in Fieman-Nemser's continuum describe teaching skills that are developed within three stages and are influenced by the educators' experiences teaching.

Kugel's (1993) model offers another insight into how teachers develop through an emphasis on six stages of skill development; however, Kugel's model does not delineate how long it takes for teachers to develop these teaching skills. The six stages of professors' teaching skill development are summarized below:

1. The first stage: novice professors transition from "*how* they are teaching to *what* they are teaching – from self to subject" (Kugel, p. 318);
2. The second stage: novice professors shift their thinking, beginning with a focus on themselves and transitioning to include one that considers the subject and students;
3. The third stage: novice professors become aware that each student is unique with differentiated learning needs;
4. The fourth stage: novice professors perceive that students are active learners and perceive their role as professors "more like coaches than like experts" (p. 322);
5. The fifth stage: novice professors begin to view students as independent learners; and,
6. The sixth stage: novice professors "revisit the concerns of each stage and 'tune' each aspect of their teaching as the need arises" (p. 326).

In summary, Feiman-Nemser (2001) described a continuum to strengthen and sustain teaching that emerges over approximately seven years. Kugel's (1993) model presents six stages of development, which describe how professors shift from a focus on themselves to a focus on their students. Both models presented in this section do not offer specific insight into specific skills that effective teachers need to deliver quality education. An awareness of the pedagogical skills and personal characteristics needed to deliver a quality education is a necessary step in developing teaching skills.

Skills and characteristics of effective teachers. Chickering and Gamson (1987), Ramsden (1992), and Smittle (2002) identified the characteristics and skills of effective teachers. Chickering and Gamson (1987) summarized the pedagogical skills critical to quality teaching, synthesizing "over 50 years of research" (p. 3). Smittle (2002) argued that Chickering's and Gamson's (1987) work is "perhaps the most widely used college teaching guidelines relative to general principles of effective practice in teaching" (p. 10). Ramsden (1992) also provided an insightful depiction of the pedagogical skills and traits essential to effective teaching in his book, *Learning to Teach in Higher Education,* which provides further insight into the pedagogical skills and traits that are essential to the delivery of quality education. Finally, Smittle's more recent work supplemented a deeper understanding of the pedagogical skills and character traits essential to effective teaching.

Each of the publications captures the pedagogical skills essential to effective teaching and the delivery of quality education. Cumulatively, the authors highlighted eight pedagogical skills and three personal characteristics of effective teachers. The first two principles for effective teaching may warrant greater emphasis as all three researchers cited them. The first principle identifies the importance of holding high standards and expectations for students. The second principle summarizes the importance of professors recognizing the diversity amongst students. The reference to diversity includes appropriately responding to students' learning needs as well as respect for the student as an individual with emotional and academic needs (Chickering & Gamson, 1987; Ramsden, 1992; Smittle, 2002).

The third principle for effective teaching is "reciprocity and cooperation among students" (Chickering & Gamson, 1987, p. 3), which is based on the understanding that learning is collaborative and social. The collaborative nature of learning leads to the fourth and fifth principles of effective teaching. The fourth principle stresses the importance of interaction between professors and students to increase student motivation (Chickering & Gamson, 1987). Smittle (2002) argued that, through the interaction between professors and students, professors may foster environments that are "open and responsive [to] learning" (p. 12). Smittle (2002) emphasized the importance of students feeling like they belong and that the professors "recognize them as individuals" (p. 12). The fifth principle underscores the importance of teachers giving prompt feedback to their students so that the students can better assess their current knowledge base and make improvements (Chickering & Gamson, 1987; Ramsden, 1992).

The sixth and seventh principles of effective teaching focus on encouraging students' independence and involvement in their learning. More specifically, the sixth principle highlights the professors' responsibility to help students acquire time management skills (Chickering & Gamson, 1987). The seventh principle, active learning, fosters students' independence in and control over their learning (Chickering & Gamson, 1987; Ramsden, 1992).

Regardless of students' involvement in their learning, Ramsden (1992) acknowledged that professors must convey content in ways that students understand, which is the eighth principle of effective teaching. Smittle (2002) enhanced the eighth principle by suggesting that, in order to convey complex concepts, professors need a strong foundation of disciplinary knowledge.

In addition to the eight effective pedagogical skills, the literature introduces three personal characteristics of effective teachers. Ramsden (1992) argued that effective teachers demonstrate a solid understanding of the relationship between teaching and learning. Furthermore, Smittle (2002) suggested that effective teachers demonstrate these two characteristics: a commitment to teaching and learning and engagement in ongoing professional development. The research suggests that teachers who acquire these pedagogical skills and personal characteristics are more effective at delivering quality education. One way that institutions have intended to support professors' development of such skills and characteristics is through professional development programs, which are introduced and analyzed below.

Professional Development Programs

Higher education institutions have historically offered professional development opportunities as one strategy to support professors' development of the pedagogical skills necessary to be effective teachers and deliver quality teaching (Bakutes, 1998; Bess, 1997; Francis, 1975; McKee & Tew, 2013; Mundy, Kupczynski, Ellis, & Salgado, 2011; Siegel, 1987). Mundy et al. (2011) argued that faculty development centers were intended to respond to a pressing need to "enable the scholar who teaches his subject to become a meaningful teacher of students, a true educator" (p. 2). Similarly, Bakutes (1998) suggested that faculty development centers existed to "expound on faculty members' content expertise in their own disciplines and to combine that expertise with effective teaching practices" (para. 4).

Professional development programs became more common in the 1960s. During the 1960s, such programs tended to focus on scholarly work (Austin & Sorcinelli, 2013; Dobbie & Robinson, 2008; Siegel, 1987). Over time, however, the focus of professional development programs shifted, which was spurred by two critical factors (Siegel, 1987). First, professors faced an increasingly diverse student population and needed help responding to students' needs

(Austin & Sorcinelli, 2013). Second, students pressured institutions to provide a higher quality education (Siegel, 1987). These two factors continue to drive professional development programs' focus today (Gardiner, 2005; Ramsden, 1992).

The literature regarding professional development programs and assessment of the impact of such programs on teaching practice includes three critiques. First, the traditional design of professional development workshops and seminars has been criticized. The workshop and seminar design follow a traditional model where the facilitator establishes a "hierarchical expert-client relationship" (Smith & Geis, 1996, p. 147) with the attendees. In such traditional models, the program facilitator is the expert, and the client is the participant attending the program (Palmer, 2007). Traditional models' critiques are based on their inappropriate structure and for not considering the role context plays in professors' learning. For example, Smith and Geis (1996) argued that the traditional hierarchical model "probably never was the best one for the faculty developers to adopt" (p. 145).

Heron (1999) criticized the traditional model of professional development for its reliance on participants' experiences, which does little to help individuals develop beyond their own experiences. He supplied this description and critique of formal professional development programs:

> The learner's emotional base is suppressed and narrow, not in any way attended to by the teacher, and is a disconcerting *ad hoc* mix of conflicting positive and negative emotion. The imagery is reduced: perception is restricted to listening to teachers and looking at books, and memory is confined to the content of these perceived images. Intelligence is only involved in grasping the minimal conceptual geography of the topic; and action is exclusively word-oriented. So the individuating functions themselves, especially emotion, perception and action, are underdeveloped and inadequately integrated. (pp. 49-50)

The literature's second critique of traditional professional development programs is their inadequate consideration of how context supports professors' development (Boud, 1994; Ellinger, 2005; Knight et al., 2006). Stes, Clement, and Van Petegem (2007) asserted that the "setting in which participating faculty members are working must be taken into account when designing educational development initiatives" (p. 107). Knight, Taint, and Yorke (2006) emphasized the "interplay between individuals and their environment" as an influence in professors' pedagogical development (p. 320). Given the interplay between professors and their teaching context, Knight and others argued that formal professional development programs complement learning, but do not replace the importance of learning in the context of individuals' work environments.

Third, the literature critiques professional development programs' assessment of their impact on instructional practice. Levinson-Rose and Menges (1981) argued, "Workshops and seminars are probably the most frequent but least evaluated instructional improvement activities" (p. 406). Further, there is limited empirical assessment regarding how these activities impact professors' pedagogical skill development. Clarke and Hollingsworth (2002) acknowledged that the existing literature offers little insight into how professors develop.

Even in those limited cases when professional development programs and activities are evaluated, the assessments often rely heavily on descriptive data (Aleamoni, 1997). Concurring, Weimer and Lenze (1997) asserted, "In college and universities across this country and others, instructional interventions are being used with virtually no empirical justification as to their effectiveness" (p. 234). In attempting to evaluate a program's effectiveness, facilitators collect

descriptive data, including the participants' levels of satisfaction while attending the program and the participants' self-reported claims of changes in their practice (Prebble et al., 2004; Weimer & Lenze, 1997). Several studies concluded that the participants perceive they have improved their teaching practice, but they fail to provide any evidence that confirms changes in practice (Brew & Lublin, 1997; Gibbs & Coffey, 2004; Weimer & Lenze, 1997). Finally, researchers critiqued that there is a deficit of literature attesting to the ideal length of professional development program (Weimer & Lenze, 1997). Researchers warned against the trustworthiness of short-term programs, or those programs lasting less than six hours, "Given the paucity of well-designed studies into the medium- and long-term outcomes of short courses, it would be dangerous to rely on such interventions to effect significant and enduring change in teaching practice" (Prebble et al., 2004, p. 28). Summarizing what little research does exist, Prebble et al. (2004) attested to the potential impact of longer programs:

> Intensive and comprehensive staff development programmes can be effective in transforming teacher's'beliefs about teaching and learning and their teaching practice. In particular, teachers can be assisted to shift from a teacher-centred approach to a learner-centred approach, and to align all the elements of the teaching situation in order to achieve positive student outcomes. (p. 48)

In response to the aforementioned critiques, researchers have more recently encouraged educational developers to create a less traditional model of professional development programs (Boud & Middleton, 2003; Heron, 1993; Knight et al., 2006). The emerging models of professional development call for more participant-centered and less facilitator-guided designs (Austin & Sorcinelli, 2013; Heron, 1999; Smith & Geis, 1996) and emphasize the role of context within educational settings (Boud, 1994; Knight et al., 2006). Describing a new model that includes a participant-focus and values context, however, is only part of what constitutes effective professional development programming. The facilitator's role is critical in supporting the learning process. The following section outlines effective professional development program facilitation.

Effective professional development program facilitation. A program's facilitation impacts the participants' learning (Heron, 1993; Miller & Boud, 1996). Heron (1999) described six dimensions that contribute to effective facilitation.

1. The planning dimension: Facilitators ensure that learners have the support needed to fulfill their goals;
2. The meaning dimension: Facilitator support professors in making sense of their learning and "with their reasons for doing things and reacting to things" (p. 6);
3. The confronting dimension: Facilitators are involved in raising "consciousness about resistances to, and avoidances of, things that need to be faced and dealt with" (p. 179).
4. The feeling dimension: Facilitators manage the emotions of the learners within the group;
5. The structuring dimension: Facilitators choose a program structure that will best support the learners; and,
6. The valuing dimension: Facilitators create a safe environment "in which group members feel valued and honoured, so that they can become more authentic, disclosing their true needs and interests, finding their integrity, determining their own reality and humanity" (Heron, 1999, p. 297).

In addition to the aforementioned six dimensions, Miller and Boud (1996) argued that effective facilitators are self-reflective. Being self-reflective helps facilitators have the desired

impact on participants' learning for two reasons. First, facilitators become "sensitive to constructions within which learners operate and assist learners to work within the constraints of the powers and oppression which are present in all settings" (Miller & Boud, 1996, p. 10). Second, self-reflection supports facilitators realizing the ways in which "they are part of the culture and context and may act in ways which are oppressive and unawarely reinforce power, thus closing possibilities for learning as well as acting to counter such effects" (p. 10).

The research suggests that effective professional development facilitation engages professors by facilitative active learning. The Center for Research on Learning and Teaching (2014) defined active learning as, "a process whereby students engage in activities, such as reading, writing, discussion, or problem solving that promote analysis, synthesis, and evaluation of class content." The following paragraphs describe the following active learning activities that the research recommends effectively supports professors' learning in professional development programs: 1) social learning; 2) holistic learning; 3) reflection; and, 4) opportunities to give and receive feedback.

First, actively engaging professors in social learning opportunities is critical in professional development programs because social learning has "a positive effect on [professors'] performance and early career success" (Boice, 1991, p. 61), in addition to professors' learning and motivation (Ramsden, 1992). The research suggests that social learning experiences may lead to professors' creation of and involvement in learning communities (Brancato, 2003). Prebble et al. (2004) suggested that learning communities are "generally the most effective setting for developing the complex knowledge attitudes and skills involved in teaching" (p. 91). If professional development programs do not facilitate the opportunity for participants to socialize and build learning communities, the risk is that new faculty may become "less fulfilled as they seek, but do not find, the enrichment of a community of scholars in their home departments or institutions" (Austin, Sorcinelli, & McDaniels, 2007, p. 62).

Secondly, holistic learning is another type of active learning activity that enhances professional development participants' learning. In holistic learning activities, facilitators address specific content and connect that content to the participants' emotional processes. By tapping into the emotional and cognitive processes participants use in learning, facilitators engage the participants in whole person learning and orchestrate a richer learning experience (Heron, 1999).

Reflection is the third activity that fosters participants' development, which is discussed in greater detail later in this chapter. The fourth active learning activity engages professors in an analysis of their "records of practice" (Borko, 2004, p. 7). Records of practice are teaching artifacts, such as: lesson plans, videotapes of lessons, and samples of student work (p. 7). Analyzing records of practice can be "powerful tools for facilitating teacher change" (Borko, p. 7).

The final active learning opportunity promoted in the literature involves assessment and evaluation. Providing participants with an opportunity to be evaluated and to receive feedback is critical to professors' development. Kolb (1984) suggested that receiving and giving feedback could shape professional development programs in emergent rather than prescriptive ways. There are five ways through which effective professional development programs can create evaluation and feedback opportunities: 1) self-evaluation; 2) peer evaluation; 3) evaluation of student feedback; 4) peer learning; and 5) evaluation of peers.

First, self-evaluation helps educators "raise consciousness" (Levinson-Rose & Menges, 1981, p. 419) about their teaching practice, or, as Brancato (2003) stated, "broaden their

knowledge of themselves as professionals and become more enthusiastic about their teaching" (p. 61). Secondly, peer evaluation "can be conducted by either formal or informal means" (Berquist & Phillips, 1975, p. 187). Prebble et al. (2004) suggested that peer feedback can support the improvement of teaching "through obtaining feedback, advice, and support for their teaching from a colleague or academic development consultant" (p. 92). Participants in professional development programs can evaluate each other and provide feedback. Third, by providing opportunity for professors to analyze their students' feedback, program facilitators create spaces for participants to dialogue about their students' feedback with their colleagues. Berquist and Phillips (1975) suggested that discussions about students' feedback could heighten accountability and be catalytic for changes in professors' practices. Levinson-Rose and Menges (1981) emphasized the importance of receiving critical feedback and argued, "Most workshops and seminars . . . are unlikely to produce lasting changes in teacher behavior or lasting impact on students unless participants continue skill practice and receive critical feedback on those skills" (p. 419). Fourth, peer learning is described as a "two-way, reciprocal learning experience" with mutual benefits that enable colleagues to share "knowledge, ideas and experience" (Boud, 1999, p. 6). Peer learning activities focus on concrete events, such as the experiences professors have while teaching. The focus on concrete events provides an opportunity for professors to "reflect upon. . .insights and feelings about themselves" (Kolb, 1984, p. 198).

Effective program facilitation can promote professors' growth. Lewin (1974) presented a developmental model that captures three phases of development: consciousness-raising, focal-awareness, and subsidiary-awareness. Francis (1974) summarized the first stage, consciousness-raising, which focuses on challenging professors' current attitudes in ways that "unfreeze traditional faculty disinterest in the methodology of instruction and. . .establish a critical awareness of the necessity and desirability of instructional improvement" (p. 722). The second stage, focal awareness, emerges as workshop facilitators help professors become aware of their pedagogical strengths and weaknesses (Francis, 1975). Francis argued that in this stage, "Expert scrutiny and diagnosis lead to specific skill training and intensive counselling [with professors]" (p. 724), thus strengthening the program's efficiency. The third stage, subsidiary-awareness, involves professors habitually and unconsciously incorporating effective pedagogical skills

The content presented in this section provides a historical summary of the literature regarding professional development programs' purpose and design, identifies the characteristics of effective facilitation, and describes the activities that enhance learning. Designing and facilitating programs can lead to professors' development, which is described in Francis' (1975) stages of development. Additionally, the above paragraphs critiqued the inconclusive literature relevant to ascertaining the length and specific professional development activities that have the greatest impact on teaching practice. The critiques and gaps in the literature notwithstanding, McKee and Tew (2013) affirmed that focusing on professors' pedagogical development can transform colleges and universities, "When properly designed and implemented, faculty development is a process that will move higher education from where it is to where it is capable of being" (p. 13).

The following section transitions this literature review from the practical application of learning in professional development settings towards a theoretical understanding of learning. More specifically, the ensuing paragraphs explore experiential learning theory and summarize how theorists Kolb (1984), Jarvis (1987), Boud (1994), and Heron (1999) apply experiential learning theory to their particular areas of expertise.

Overview of Experiential Learning Theory

Experiential learning theory examines the important role experience plays in the learning process and explores how individuals use their experiences to build knowledge (Faculty Development Center and Instructional Design Center, n.d.). Experiential learning is defined as "the process whereby knowledge is created through the transformation of experience" (Kolb, 1984, p. 41).

The following section summarizes four theories of experiential learning presented by Kolb (1984), Jarvis (1987), Boud (1994), and Heron (1999). Each theorist applied the theory to a specific setting. For example, Kolb's (1984) theory of experiential learning applies "to education, work, and adult development" (p. xi). Narrowing Kolb's theory, Jarvis (1987) examined how adults learn through experience by emphasizing the role of the social context in learning. Finally, Boud's (1994) theory was tailored to professionals who facilitate adult learning.

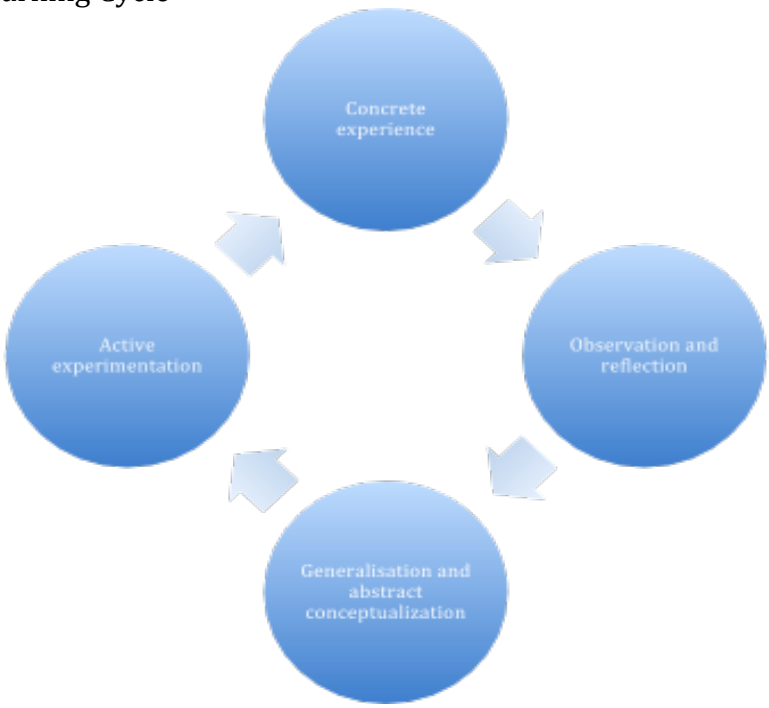
While Kolb (1984), Jarvis (1987), Boud (1994), and Heron (1999) investigated experiential learning within specific settings, their theories agree that experiential learning is cyclical, captured in Heron's (1999) description, ". . .there is a simple feedback loop during experience. You notice what is happening, take account of this in your intervention, notice the outcomes of the intervention, and so on" (p. 277).

Of the four theorists, Kolb's (1984) experiential learning theory applies to the most broad population and does not distinguish a specific setting wherein his theory ideally applies. His experiential learning theory is complex and merits much more than a summary; however, for the purposes of this chapter, the following paragraphs offer a brief introduction to this seminal theory.

Summary of Kolb's Experiential Learning Theory. In Kolb's (1984) theory of experiential learning, individuals create new knowledge, skills, and attitudes by addressing an inherent tension amongst four modes, which are: (1) concrete experience; (2) reflective observation; (3) abstract conceptualization; and (4) active experimentation.

In the first mode, concrete experience, learners involve themselves in the new experience "fully, openly, and without bias" (Kolb, 1984, p. 30). Reflective observation, the second mode, urges that learners "reflect on and observe their experiences from many perspectives" (Kolb, 1984, p. 30). Kolb (1984) described the third mode, abstract conceptualization, as the learners' ability to "integrate their observations into logically sound theories" (p. 30). His final mode engaged the learner in active experimentation, which is described as learners using their theories "to make decisions and solve problems" (Kolb, 1984, p. 30). The four modes are applied in a cyclical process, as captured in figure 1.1. Through the application of these four modes, Kolb (1984) asserts that learners become increasingly effective at learning and creating new knowledge.

Figure 1.1 Kolb's Learning Cycle



Though he identified four modes in the learning process, Kolb (1984) clarified that most learners do not typically enact all four modes in their learning processes. Determination of which mode is enacted is based on two factors: the learners' learning dispositions and their level of conscious engagement with the modes. The learning dispositions are influenced by the learners' consciousness related to these three factors: learners' genetic disposition, life experiences, and demands in the situation wherein the experience is taking place (Kolb, Boyatzis, & Mainemelis, 2001). The learner's level of consciousness influences the process of choosing which mode to enact. Kolb et al. (2001) described the learners' decision regarding which mode to enact as a "tension- and conflict-filled process" (p. 30).

Kolb (1984) suggested that how individuals choose to deal with the tensions inherent in choosing which mode can result in the creation of four types of knowledge: personal knowledge, social knowledge, acquaintance knowledge, and propositional knowledge. Personal knowledge is defined as "the individual person's subjective life experiences" (Kolb, 1984, pp. 36-37). An example of personal knowledge could be a professor who relates well to students experiencing trauma because of her own experiences with trauma. Social knowledge is defined as the "accumulation of previous human cultural experience" (Kolb, 1984, p. 36). For example, social knowledge may be the Ten Commandments, or moral rules that individuals use to guide their decisions. Knowledge by acquaintance is depicted as first-hand experience, such as professors' experiences as a student that are used to inform teaching practice. Alternatively, propositional knowledge is indirectly acquired and does not require any first-hand experience (Heron, 1999). An example of propositional knowledge may be acquired as professors learn about their students from other professors' anecdotal comments.

In summary, Kolb's (1984) experiential learning theory examines how learning is constructed through experience and suggests that learning involves the interplay between four learning modes, which is influenced by the learners' level of consciousness and their genetic disposition to learning. While Kolb's (1984) experiential learning theory explored learning as a phenomenon that all individuals experience, Jarvis' (1987) adult learning theory focused

specifically on adults' learning processes. The following section explores adults' experiences, the social environment that influences learning, and adults' engagement in the learning process.

Summary of Jarvis' Experiential Learning Theory. Jarvis' (1987) adult learning theory claims that adult learning differs from how children learn for two reasons. First, Jarvis pointed out that adults have lived longer than children and can, therefore, draw from a deeper reservoir of personal and social experiences in comparison to children. Secondly, over the course of their lives, adults have a vast number of experiences that are continually shaped by their social settings, such as social class, ethnicity, gender, and interest. Exposure to different social contexts may influence the knowledge that individuals create and can affect individuals' reflection processes. Jarvis (1987) argued that engagement in reflection can be considered "a higher form of learning" (p. 27).

Jarvis (1987) suggested that adult learning processes engage affective and cognitive functions. Affective functions include the emotive responses to learning. Cognitive function involves situations where "the individual only responds to experiences in the life world in a cognitive manner" (Jarvis, 1987, p. 17). Jarvis (1987) suggested that engaging in the learning process may impact learners' cognitive function and enhance the learners' affect, thus learners "may associate learning with 'feeling good'" (p. 7).

Like Kolb (1984), Jarvis (1987) acknowledged the conscious role learners play in their learning and asserted that learners are actors in the learning process. In Jarvis' theory, the learners' conscious engagement in the learning process varies based on two actions: proactive reflection and reactive reflection. In proactive reflection, learners are considered actors in the learning process and may be intrinsically motivated to engage in the learning process. In reactive reflection, learners engage in learning when they feel "out of harmony with their socio-cultural milieu" (Jarvis, 1987, p. 66). While learners can consciously engage in their learning, Jarvis (2012) pointed out that learning is not typically pre-planned, "A great deal of our everyday learning is incidental, pre-conscious and unplanned" (p. 1). In other words, learners consciously seize learning opportunities that emerge out of daily life.

Jarvis (2004) suggested that Kolb's (1984) depiction of how knowledge is created is "a little over-simple" (p. 11). Jarvis (2004) emphasized that assessment is essential in the acquisition of knowledge. Learners assess their knowledge in four different ways: empirical, pragmatic, logical, and belief knowledge. First, learners may determine empirical knowledge, which is knowledge that is confirmed by what he terms "sense experiences" (Jarvis, 2004, p. 89). In other words, Jarvis (2004) advocated that learners hold the sense in their mind so that that sense can be recalled in another situation. Secondly, pragmatic knowledge may emerge from the learning process and can be assessed through experimentation. Thirdly, learners may claim logical knowledge, which can be judged by the validity of the process the learner used in creating an outcome. The last form of knowledge, belief knowledge, cannot be verified by the learner, but a person other than the learner can determine its rationality (Jarvis, 2004). While learning can create new knowledge creation, Jarvis (1987) clarified that knowledge does not guarantee a change in behavior.

In review, Jarvis (1987) presented an adult learning theory that emphasizes the influence previous experience has on the learning process and the learners' ability to consciously engage in the learning process. Boud's (1994) experiential learning theory also recognizes that individuals' experiences inform their learning processes. Unlike Jarvis (1987), however, Boud (1994) explored adult learning within formal professional development contexts.

Summary of Boud's Experiential Learning Theory. In capturing his theory of the learning process, Boud (1994) offered the Model for Promoting Learning from Experience, which includes three phases: preparation, experience, and the reflective process. The first phase addresses the behavior, ideas, and feelings of the learner and occurs prior to the learning experience. In this phase, Boud (1994) emphasized the assumption that ". . .learning is always rooted in prior experience and that any attempt to provide new learning must in some way take into account of that experience" (p. 2). The second phase, experience, focuses on the prior experiences learners bring into formal professional development learning settings (Boud et al., 1985).

The second phase, experience, includes three actions: noticing, reflection-in-action, and intervening. In the first action, noticing, the learner "becom[es] aware of what is happening in and around oneself" (Boud, 1994, p. 2). The action of being aware heightens the learners' sensitivity to what they are thinking and feeling and increases the learners' involvement in the learning process. The third action, reflection-in-action, is the product of the learners' ability to be conscious of their noticing and intervening actions. Boud (1994) argued that, as learners become more conscious of their noticing and intervening actions, they become increasingly aware of how they navigate their learning processes. The final action, intervening, is any action on the part of the learner that alters the learning setting.

The reflective process is Boud's (1994) final phase in his model and involves reflection after the professional development activity or program concludes. During reflection, the learners engage in three actions: return to experience, attending to feelings, and re-evaluation of the experience. In the first action, return to experience, learners reflect on what has occurred in the learning experience and how it was experienced (Boud, 1994). During the second action, attending to feelings, learners "focus on the feelings and emotions which were (and are) present" (Boud, 1994, p. 4). Lastly, re-evaluation of the experience involves learners reflecting on the learning experience and "attending to the thoughts and feelings associated with it" (Boud, 1994, p. 4).

Boud (1994) suggested that knowledge is created after the learning experience, through re-evaluation of and reflection on the learning experience. Through re-evaluation and reflection, learners can create knowledge as they integrate the learning into their "normal ways of operating" (p. 4).

The model above is Boud's (1994) second version. In the original version published in 1985 by Boud and Keough, the first two phases match those summarized above, but the third phase was identified as *outcomes,* not *the reflective process.* The current model includes reflection, which Boud (1994) claimed is a critical component of learning.

In review, Boud's (1994) model emphasizes the learning process within formal professional development settings that includes the learners' previous experience, their involvement with the learning experience itself, and their reflection on the learning experience. Similar to Boud (1994), Heron (1999) examined learning in formal professional development program settings and emphasized that an individual's feelings, actions, and reflections influenced the learning experience. Heron extended Boud's model to emphasize the facilitator's role in creating whole person learning opportunities for learners.

Summary of Heron's Experiential Learning Theory. Heron's (1999) contribution to experiential learning theory focuses on personal development in the workplace, with special analysis of the exchange between the professional development facilitator and the program participants. Heron argued that effective facilitators are able to facilitate whole person learning.

In explaining whole person learning, Heron (1999) distinguished between the learning that is typically formed in classrooms and learning that is facilitated with a whole person approach. Heron suggested that the learning that is typically formed in classrooms or workshops *involves* the whole person, whereas whole person learning is focused on *becoming* a whole person.

Delving deeper into the concept of whole person learning, Heron (2009) described whole person learning as taking place when learners use the following aspects of themselves in the learning process: "physical, perceptual, affective, cognitive (intellectual, imaginative, intuitive), conative (exercising the will), social and political, psychic and spiritual. . .emotion, imagery, discrimination and action" (p. 49). When learners enact all aspects of the whole person, learners engage in whole person learning. Additionally, reflection helps learners engage in whole person learning and consider "both the possibilities and the practicalities" (Heron, 2009, p. 140) of a given learning opportunity.

The above section highlighted that individuals' learning is influenced by their own life experiences and the context wherein their learning transpires. The following section explores learning contexts, specifically formal and informal learning settings.

Formal and Informal Learning

Learning is described as "the way in which people make meaning and acquire knowledge and skill" (Marsick & Watson, 2001, p. 32). More specifically, individuals can learn in formal and informal settings. Informal settings may also produce opportunities for individuals to experience incidental learning, discussed below.

Formal learning settings are best described by referencing two characteristics. First, formal learning settings are facilitated by "any bureaucratic or 'official' situation in which people play roles within organizations" (Jarvis, 1987, p. 68). Workshop facilitators or faculty developers, for example, fulfill bureaucratic roles within organizations. The facilitators or faculty developers usually control the content and the way in which the content is shared with the intended audience (Jarvis, 2010). Second, formal learning contexts are typically "institutionally sponsored, classroom-based, and highly structured" (Marsick & Watson, 2001, p. 25).

In current research literature, the terms "informal learning" and "non-formal learning" are often used synonymously (Becher, 1999; Knight et al., 2006; Williams, 2003). For the purposes of this dissertation, the term "informal learning" will be used to discuss informal learning, as defined in the following paragraph.

Different from formal learning settings where control over the agenda rests with those who facilitate the formal learning experience, informal learning is often self-directed (Jarvis, 2010). Further, informal learning settings are "not typically classroom-based or highly structured" (Marsick & Watson, 2001, p. 25). In other words, informal learning settings are the "unofficial, unscheduled, impromptu way people learn to do their jobs" (Cross, 2007, informal learning, para. 1). For example, informal learning can arise from "talking, observing others, trial-and-error, and simply working with people in the know" (Cross, Appendix A, para. 1). Opportunities to engage in informal learning are prevalent in individuals' workplaces and lives. While learners generally control the learning experience in informal learning, Marsick and Watson (1990) suggested that organizations and workplaces can intentionally create opportunities for individuals to engage in informal learning, such as mentoring programs or career development programs.

In informal learning, learners guide their own learning, which can be an empowering experience (Marsick & Watson, 1990). Many learners engage collaboratively in the learning

process (Williams, 2003). Regardless of whether learners choose to engage individually or collaboratively, Marsick and Watson (1990) argued that paying attention to the outcome of a learning experience is critical in the learning process:

> Informal learning thus demands that a person pay attention to the results of actions, and that he or she must use judgement to compare these results mentally to a schema or model of what is expected based on past result. When it is clear that a situation does not fall within that schema, the learning realizes that he or she cannot rely on the prescriptions from the past. (p. 76)

Incidental learning is a sub-category of informal learning described as "a byproduct of some other activity, such as task accomplishment, interpersonal interaction, sensing the organizational culture, trial-and-error experimentation, or even formal learning" (Marsick & Watkins, 2001, p. 25). Both incidental and informal learning can transpire "almost anywhere and at any time" (Marsick & Watson, 1990, p. 14) and are highly influenced by the learning setting (Marsick & Watson, 1990).

A continuum of the types of learning is captured in Figure 1.2 below. The left side of the continuum represents the formal settings, and the right side depicts less formal settings. Formal learning is more likely to occur in formal settings, and informal learning is more commonly facilitated in less formal settings, represented on the right end of the continuum.

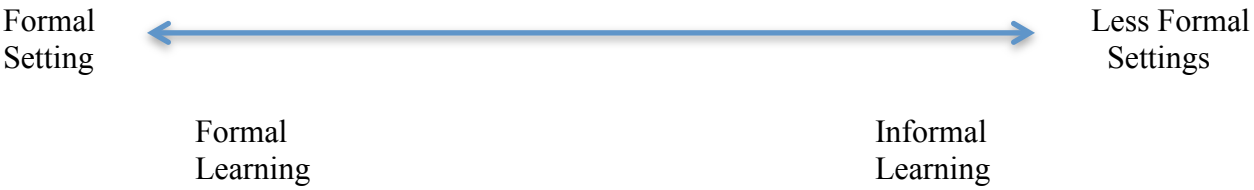


Figure 1.2 Types of Learning

This section has described and offered examples of formal and informal learning and provided insight into the settings that foster learning. Regardless of the setting, learners can enhance their learning through reflection, discussed in the ensuing paragraphs.

Reflection and Learning

Research established reflection as a critical tool in learning (Boud, 1990; Boud, Keogh, & Walker, 1985; Burchell & Dyson, 2005; Heron, 1999; Jarvis, 1987; Kolb, 1984b; Lave, 1991; Mead, 1969; Schön, 1983). Shulman (1998) articulated the essentiality of reflection in professional development, "While an academic knowledge base may be necessary for professional work, it is far from sufficient. Therefore, members of professions have to develop the capacity to learn from the experience and contemplation of their own practice" (p. 519).

Schön's (1987) reflective process articulates three stages of knowing and reflecting. The first stage is knowing in action, which refers to "the sorts of know-how we reveal in our intelligent action – the publicly observable, physical performances" (Schön, 1987, p. 25). Knowing in action captures the learners' tacit understanding, the knowledge that is "implicit in our patterns of action and in our feel for the stuff with which we are dealing" (Schön, 1983, p. 49).

The second stage, reflection-in-action, is a critical strategy to understanding tacit knowledge and requires learners to reflect on what is happening while the experience is unfolding (Schön, 1987). Schön (1987) asserted that learners can engage in reflection during the quiet moments of an experience, or in response to a surprising happenstance in the

experience. Reflection-in-action involves the learner thinking critically. During the reflection experience, critical thinking helps learners describe their intuitive understandings about how the world works and, as Schön shared, make sense of "the thinking that got us into this fix or this opportunity, and we may, in the process, restructure strategies of action…or ways of framing problems" (Schön, 1987, p. 28). The final stage Schön (1987) introduced is reflection-on-action, which involves learners' reflection on an action that has concluded.

In review, reflection plays a pivotal role in learning, as affirmed by each experiential learning theorist cited above, and helps learners make sense of their experiences. Learners can engage in reflection before, during, and after a learning experience.

This literature review has presented an array of pedagogical skills necessary for the delivery of quality education (Chickering & Gamson, 1987; Fink, 2003; Ramsden, 1992; Smittle, 2002). Additionally, the chapter presented experiential learning theory, with a description of formal and informal learning settings, and concluded with a presentation of the role the reflection process plays in the creation of knowledge (Boud, 1994; Heron, 1999; Jarvis, 1987; Kolb, 1984; Schön, 1987). Overall, this literature review provided a background for conceptual framework, described in the following section.

Conceptual Framework

The conceptual framework for this proposed study is based on a compilation of Kolb's (1984) experiential learning theory and formal and informal learning settings (Jarvis, 2010; Knight et al., 2006; Marsick & Watkins, 2001; Williams, 2003), as illustrated in Figure 1.3. The squares in the diagram represent the learning modes Kolb (1984) identified in his experiential learning theory: concrete experience, observation and reflection, generalization and abstract conceptualization, and active experimentation. The squares are situated in a large circle, which represents formal and informal learning settings. The squares are positioned inside the circles to show how the learning settings influence the learning modes. The arrows between the squares highlight the iterative, cyclical relationship between the learning modes.

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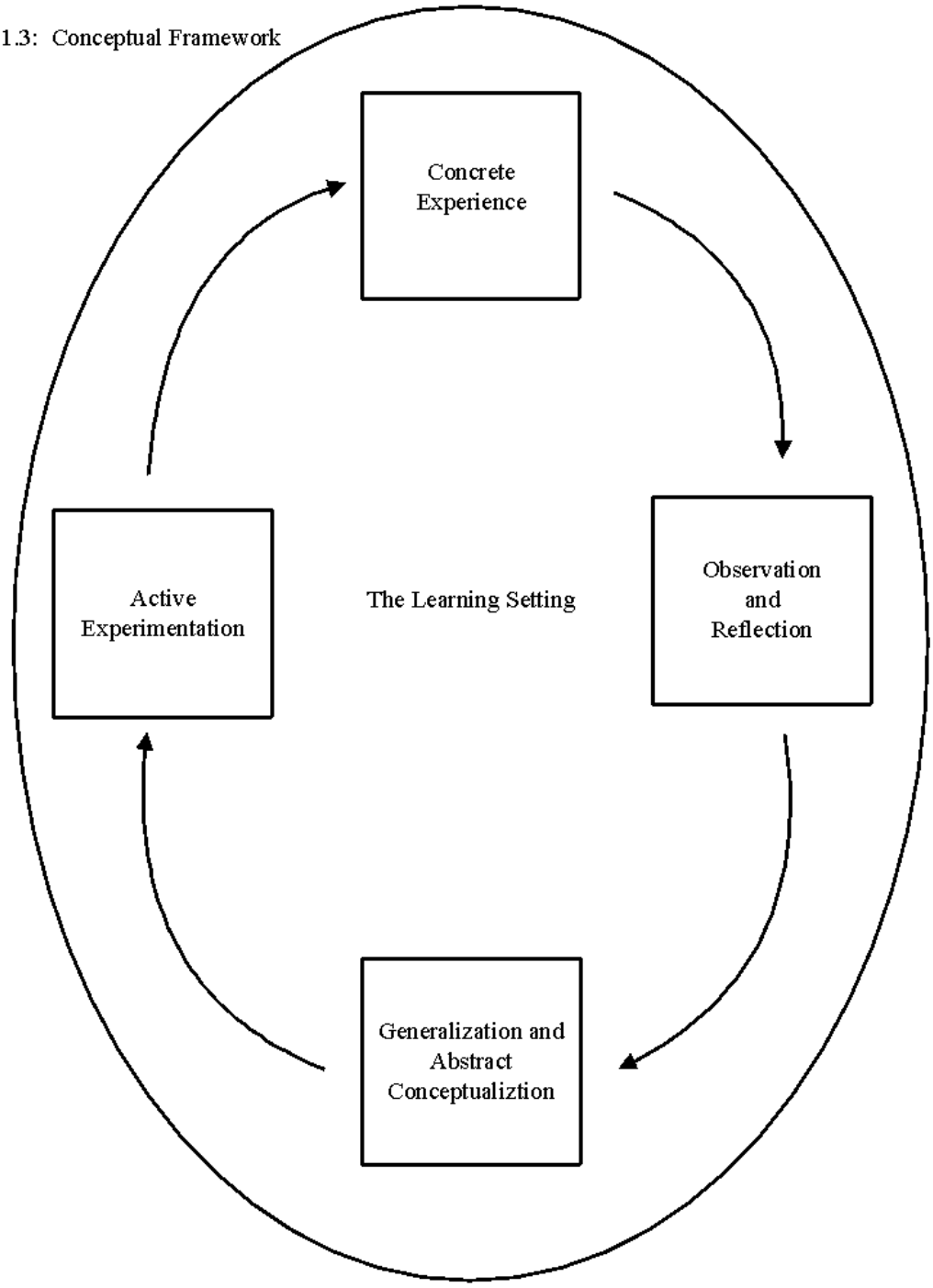
Figure 1.3: Conceptual Framework



In summary, this theoretical model describes learning as a cyclical and iterative process that incorporates learning modes and learning settings. With consideration of the foundational knowledge provided in this chapter and the conceptual framework described above, this study examined the processes and practices novice professors used to develop their pedagogical skills.

Chapter 3: Methodology

This chapter reviews the methodology that guided this study and is organized into six main sections. The first section offers an introduction to qualitative research traditions. The second section captures the study design, which includes four sub-sections: site and participant selection, data collection, data analysis, and trustworthiness. The third main section describes how the researcher's personal experiences influenced the study. The fourth section reviews moral and legal considerations. The fifth section provides a definition of terms used throughout the study. This chapter concludes with a review of the limitations and delimitations of the research.

Qualitative Research Tradition

Qualitative inquiry allows participants to share their story and voice. Qualitative researchers capture participants' stories and pay particular attention to how their participants' environment, or context, influences the findings. In other words, qualitative studies consider the context and all other outside factors to be included in the study's analysis, which is uniquely different from quantitative studies that are often critiqued for "context stripping" (Guba & Lincoln, 1994, p. 106). Consideration of the context and its influence on the data and the participants' stories enables qualitative researchers to provide "rich insight into human behaviour" (p. 106) and can be used to fulfill the following purposes:

1. Understanding the *meaning,* for participants in the study, of the events, situations, and actions they are involved with and of the accounts that they give of their lives and experiences;
2. Understanding the particular *context* within which the participants act, and the influence that this context has on their actions;
3. Identifying *unanticipated* phenomena and influences, and generating new grounded theories about the latter;
4. Understanding the *process* by which events and actions take place; and
5. Developing *causal explanations*. (Maxwell, 1996, pp. 17-20)

This study utilized phenomenology, a form of qualitative research that describes individuals' lived experiences (Creswell, 2004). Munhall (2007) argued that the majority of qualitative methods are based on a phenomenological philosophy. Researchers who utilize phenomenology as a form of research acknowledge that an individual's experience is "a situated context and it is embedded in time, space, embodiment and relationships" (Munhall, 2007, p. 148). Further describing phenomenology, Crotty (1996) summarized its goal, "The goal of phenomenological inquiry goes beyond identifying, appreciating and explaining current and shared meanings. It seeks to critique these meanings" (as cited by Munhall, 2007, p. 149). In other words, phenomenology provides a way for the researcher to "make sense of (or interpret) the meanings others have about the world" (Creswell, 2003, p. 9).

In critiquing and making sense of the interpretation others have about world with a phenomenological orientation, researchers are aware that there is not an objective truth. Rather, the researcher and the individual under study have two different subjective interpretations of the experiences being shared, both of which must be considered in the analysis. With a phenomenological orientation, researchers consider all interpretations of an experience by examining multiple sources of data, which helps researchers to remain "open to alternative constructions of reality; open to many possible explanations for observed phenomena" (Lancy, 1993, p. 9).

Because this study closely examined the ways in which novice professors developed their pedagogical skills, incorporating phenomenology as a form of research was appropriate. The interview protocol provided the participants with an opportunity to reflect on their teaching practice and to make sense of their experiences as novice professors (see Appendix A). Further, the study drew data from multiple sources, including interviews, classroom observations, and pedagogical artifacts.

Design of the Study

This study implemented a case study design. A case study design is intended to better understand a problem by gathering information from smaller cases (Hancock & Algozzine, 2006). Shulman (1998) affirmed that case studies have a way "of parsing experience so practitioners can examine and learn from it" (p. 525). In this case study, three cases provided the information used to capture the ways in which novice professors develop their pedagogical skills.

Site and participant selection. The participants in this case study were three novice professors from a Canadian institution given the pseudonym Northern University. Northern University is a public, comprehensive, English-speaking university. Northern University holds membership with of the Association of Universities and Colleges of Canada and caters to approximately 15,000 students, of which 1,000 are graduate students. Since its inception in the mid-1800s, Northern University has graduated more than 100,000 students with undergraduate and terminal degrees. Today, Northern University offers 190 undergraduate programs and 65 graduate programs.

In seeking access, a network was created with the Director of Northern University's Faculty Development Center who indicated he/she was attracted to the opportunity to assess the impact the Center's programs have on faculty. The Center admitted to rarely having the time to conduct research about this topic. Ensuing conversations clarified that this study would provide insight into how the Center could use the findings to tailor programs to better support participants' needs. In support of my study, the Director agreed to be a University sponsor and wrote a letter affirming the value of the study, which was submitted to the University's President and ultimately helped the researcher gain access and approval to conduct the study with the Ethics Review Board.

The selection of participants in this study was based on three criteria. First, to help reduce the variability within the cases, all of the participants selected were novice professors. The term *novice professors* was defined using two references. First, Boice (1991) described novice professors as "colleagues who deal, over semesters, with problems of collegiality, including social and intellectual isolation, cultural conflicts with faculty, and finding social support" (p. 29). Boice (1991) described novice professors as those with less than three years of teaching experience. During this three-year period of teaching, Boice (1991) argued that novices experience a unique socialization period. In their first year of teaching, professors often feel lonely and inexperienced and suffer from a lack of intellectual stimulation. In their second year of teaching, professors attribute their lack of progress to the "dearth of support, including physical facilities . . . and personnel" (Boice, 1991, p. 36). In their third year of experience, professors describe feeling "a sense of relief" (Boice, 1991, p. 37). In this third year, professors identify feeling a sense of increased optimism and hope that their professional situations are going to improve (Boice, 1991). While Boice (1991) clearly outlined the stages of socialization, he asserted that these stages may endure over a period of time longer than three years and that professors need "at least three years before they feel a part of campus" (p. 29).

The second reference referring to novice professors was determined through reference to a continuum to strengthen and sustain teaching, which was introduced by Feiman-Nemser (2001). Feiman-Nemser (2001) suggested that novice teachers experience three stages of development: induction, experimentation and consolidation, and mastery and stabilization. These stages may take up to seven years to experience, and, as novices develop in each of these stages, they become more effective teachers.

The second population selection criteria came with an identification of professors' willingness to engage in their professional development. Kugel (1993) argued that, while professors may naturally be inclined to advance to the next stage, "its naturalness does not make that 'nextness' obligatory" (p. 316). In other words, not all professors choose to engage in their professional development. Thus, selecting professors with an inclination to engage in their professional development made sense and aligned with the focus of this study.

The professors' willingness to develop was determined by their current or previous participation in Northern University's workshops or semester-long professional development courses. The voluntary nature of the University's workshops and courses and their unilateral focus on developing pedagogical skills suggest that professors who participated in professional development programs at Northern University's Faculty Development Centre inherently demonstrated a commitment to their pedagogical skill development.

The third selection criterion consideration in the study was the college with which the participants were affiliated. Research suggested that professors from different colleges may approach their professional learning differently. For example, Kolb's (1984) study explored the variation in practicing managers and their undergraduate students' learning styles and found that learning styles influence how managers lead. Shulman's (1987) work supported Kolb's findings, which asserted that academic disciplines have varying content knowledge, which may influence their pedagogical knowledge.

After the participant selection criteria were clearly defined, the following steps were implemented to recruit the participants:

1. The Faculty Development Center personnel at Northern University produced a list of professors who:
    a. Attended or were attending workshops or semester-long courses offered at the Faculty Development Center from 2010-2014;
    b. Taught less than three years full-time or six years part-time in higher education after earning a doctorate degree; and,
    c. Had completed a doctorate degree.
2. The Director of Northern University's Faculty Development Center sent an email to all of the participants who matched the criteria listed above. The Director's email invited eligible professors to participate in the study (see Appendix B). The email asked possible participants to email the researcher directly if they were interested in participating in the study, a request that ensured that the participants' anonymity was protected.
3. The researcher responded to potential participants' emails and confirmed that the potential participants were eligible to participate in the study (see Appendix C). Some participants asked clarifying questions, and one participant asked for a meeting before committing to participating in the study.
4. Once eligibility was established, an email was sent to the participants, which asked them to choose a date, time, and place for the first interview (see Appendix D).

5. Once the participants' email was received, the researcher confirmed the date, time, and place and provided broad reflection-on-action prompts (see Appendix E).

In addition to the recruitment strategies outlined above, there was one instance where snowballing was used as a recruitment technique. The situation arose where one of the participants identified two additional professors who might be interested in participating in the study. It was determined that these two professors also met the three criteria for participation in the study and were invited to participate, one via email and the other through an in-person conversation. Following the initial contact with these two participants found through snowballing, steps three, four, and five were implemented.

When the recruitment process was completed, five novice professors had volunteered to participate in my study. However, scheduling conflicts impeded one professor from participating. A second participant was removed from the study because he had taught for over three years full-time.

Data collection. This case study gathered data through two 60-75 minute interviews, pedagogical artifacts, and classroom observations. The first interview was semi-structured and allowed participants to describe their own perceptions of the processes and practices they used to develop their pedagogical skills. The second interview was unstructured. The unstructured format allowed participants to reference their experiences without being anchored to answering a strict set of interview questions. Specifically, participants freely discussed the classes they taught during the classroom observation, as well as the pedagogical artifacts they had shared prior to the second interview. Moreover, the semi-structured interview format enabled the researcher to leverage follow-up interview through an analysis of the in vivo language the participants used in the initial interview and while teaching.

Throughout both interviews, the participants were asked clarifying questions, a strategy that allowed the researcher to engage in *wandering* (Munhall, 1993). Wandering is a process that supported the researcher's ability to listen for absent information and empowered participants to tailor the response to better articulate the processes and procedures they use to develop their pedagogical skills (Munhall, 1993). After each interview, a verbatim transcription was made and analyzed through initial, axial, and focused coding procedures.

The classroom observations provided a shared experience between the participants and the researcher. The shared experiences enabled the researcher to push the participants to a deeper consciousness of the processes and practices they use to develop their pedagogical skills. To ensure that the data captured informed the processes and practices novice professors use to develop their pedagogical skills, The Classroom Observation Note Taking Form (see Appendix F) was created. During the classroom observations, data was originally tracked on the computer using the Classroom Observation Note Taking Form, but the format was document limiting. Consequently, a Microsoft Excel document was created with the same column headings as the Classroom Observation Note Taking Form to track observations. The Excel document was comparably more user-friendly than the Classroom Observation Note Taking Form.

In addition to the interviews and the classroom observation notes, pedagogical artifacts, such as lesson plans, PowerPoint presentation slides, and course syllabi, were collected. For example, when a participant identified any changes made to student assignments, the participant was asked to share the original and revised assignment information, information which was used to inform data analysis. In another example, the participants shared changes they had made to their lectures and, in some cases, provided copies of the lecture notes they used in their current

and past lectures. The pedagogical artifact collection was informative in empirically confirming and disconfirming the participants' claims regarding their pedagogical skill development, as well as the processes and procedures they use to develop as teachers. The interviews, classroom observations, and pedagogical artifacts were essential materials in my data analysis, described in the paragraphs below.

Data analysis. Qualitative research is known for creating copious amounts of data—quantities that may be intimidating for researchers (Creswell, 2005; Maxwell, 1996). In dealing with the quantity of data, Maxwell (1996) suggested that an "experienced researcher begins data analysis immediately after finishing the first interview or observation and continues to analyze the data as long as he or she is working on the research, stopping briefly to write reports and papers" (p. 77; see Appendix A). Coding began at the onset of data collection, utilizing a systematic coding procedure, which involved field notes, a coding process involving four stages, memo writing, theoretical sampling, constant comparative, and grounded theory, each described below.

The first analytic process, writing field notes, is a term that "refers collectively to all the data collected in the course of such a study, including the fieldnotes, interview transcripts, official documents, official statistics, pictures, and other materials" (Bogdan & Biklen, 1982, p. 74). Bogdan and Biklen (1982) suggested that researchers write fieldnotes about such things as the participants' facial expressions, gestures, and the mood of the experience in the first person. Following Bogdan's and Biklen's recommendations, field notes were written after each interview, classroom observation, and any session devoted to analyzing the data. Hand writing field notes allowed a space to process observations and interpretations more effectively than capturing thoughts on the computer.

The coding process was the second analytic procedure used in this study and included four distinct stages: initial coding, focused coding, axial coding, and theoretical coding. Coding is an essential practice in generating theory. The purpose of the coding process is to "generate theoretical ideas – new categories and their properties, hypotheses and interrelated hypotheses" (Glaser & Strauss, 1967, p. 101). Charmaz (2006) asserted that " . . . coding is the pivotal link between collecting data and developing an emergent theory to explain these data" (p. 46).

The first stage in the coding process, initial coding, "fractures data into separate pieces and distinct codes" (Charmaz, 2006, p. 60). The initial coding practices were guided by Charmaz's three recommendations. First, Charmaz (2006) promoted "speed and spontaneity" (p. 48) when researchers conduct initial coding because speed and spontaneity help capture first impressions and original ideas that strike the researcher. Secondly, Charmaz urged researchers to choose codes that are clear and concise. Charmaz argued that, when appropriate, researchers should employ the terms from verbatim transcripts or artifacts because verbatim transcripts may more accurately capture the experience. Through use of language from verbatim transcripts, the participants' intended meanings were honored, thereby avoiding the "forcing of 'round data' into 'square categories'" (Glaser & Strauss, 1967, p. 37).

The second stage, focused coding, was described comparably as more "directed, selective, and conceptual" (Charmaz, 2006, p. 57) than initial coding. In creating focused codes, researchers review codes created during the initial coding stage. The review of the codes created in initial coding is intended to identify recurring codes and to use these recurring codes to categorize new data in focused coding. The recurring codes can be used to "sift through large amounts of data" (Charmaz, 2006, p. 57). As researchers sift through data, they are able to identify the codes that have thin empirical support, as well as recognize any gaps in the research.

Through comparing codes with additional data, the codes became more refined. Further, recurring codes served as guideposts that helped create categories comprised of initial codes that shared common properties in the focused coding process.

Axial coding is the third stage of the coding process and is a way to sort through and organize massive amounts of data (Creswell, 1998). In axial coding, researchers relate categories to sub-categories. Relating categories to sub-categories may highlight similarities and differences between the data, strengthen an existing code, and highlight a gap in the researcher's understanding of the phenomenon under study (Charmaz, 2006). Comparing data may be cause for researchers to reassemble the data. Reassembling the data enables researchers to explore the conditions, context, and strategies that shape the outcomes (Creswell, 1998; Glaser & Strauss, 1967). Further, axial coding advances codes from descriptive to conceptual (Strauss, 1987; Strauss & Corbin, 1998). The data analysis used in this study engaged axial coding through a reassembling of data based on the links and properties identified within the data set. Further, categories were created based on the common properties within the codes.

The fourth and final step in the coding process, theoretical coding, utilizes the coding techniques and strategies outlined in initial, focused, and axial coding. However, compared to the initial three stages, theoretical coding is a comparably more "sophisticated level of coding" (Charmaz, 2006, p. 63). This sophisticated level of coding involves creating categories that are comparably more abstract, theoretical, and classified than those of focused or axial coding. Kelle (2007) noted that, in theoretical coding, a hierarchical structure emerges. The hierarchical structure does not follow any predetermined ranking system. Rather, the hierarchy is driven by the significance of the data and the coding. In the analysis, theoretical coding helped identify the codes and categories that were more significant to the findings. Those more significant codes and categories helped me clarify patterns within individual cases and across cases.

The third analytic procedure employed in this study was the constant comparative method. The constant comparative method is a process whereby the researcher compares codes and hypotheses that have emerged from coding "through systematic and explicit coding and analytic procedures" (Glaser & Holton, 2004, chapter 3, section 3.7). The constant comparative method "protects against the tendency to over interpret data and find connections where there are none" (Dey, 2010, pp. 178-179) and strengthens the trustworthiness of the researcher's analyses (Glaser & Strauss, 1967). The purpose of the constant comparative method is to generate theory more systematically than previously described coding strategies (Glaser & Strauss, 1967). Constant comparative is fulfilled through three stages of implementation: comparing artifacts with codes, comparing incident to incident, and, finally, comparing incident to properties within categories (Glaser & Strauss, 1967). By implementing these three stages, a deeper understanding of the categories' properties and their relationship with other categories was created, as well as a clearer sense of the range in which the phenomena presented.

The fourth procedure, memo writing, is described as a "methodological link, the distillation process, through which the researcher transforms data into theory" (Lempert, 2010, p. 245). Charmaz (2006) described memo writing as a process that makes "a space and place for making comparisons between data and data, data and codes, codes of data and other codes, codes and category, and category and concept for articulating conjectures about these comparisons" (pp. 72-73). Further, Charmaz (2006) shared that memo writing is a tool to "catch your thoughts, capture the comparisons and connections you make, and crystallize questions and directions for you to pursue" (p. 72). During data analysis, a log was kept to track thoughts and

questions that surfaced throughout the analytical procedures. These random thoughts and questions were useful guides in the data analysis and in transforming data into theory.

The fifth analytic procedure, theoretical sampling, is a tool that initially supported the researcher in gathering the data that confirmed emerging hypotheses and theories and was used throughout coding and memo writing (Charmaz, 2006). Researchers engage in the theoretical sampling process by "starting with data, constructing tentative ideas about data, and then examining these ideas through further empirical inquiry" (Charmaz, 2006, p. 103). As emerging theories presented, theoretical sampling to confirm and disconfirm emerging theories was utilized.

In addition to the five analytic procedures outlined above, the analysis included the development of grounded theory. Grounded theory provides a plausible description of the processes the novice professors use to develop their pedagogical skills. Charmaz (2006) described grounded theory as that which "consists of systematic, yet flexible guidelines for collecting and analyzing qualitative data to construct theories 'grounded' in the data themselves" (p. 2). Glaser and Strauss (1967) argued that grounded theory complements case study design and requires researchers to remain open to where the data is leading them as a way to uncover meaning and deeply understand the participants' stories captured in a case study design.

The grounded theory developed in this case study was primarily informed through thematic analysis. Braun and Clarke (2006) defined thematic analysis as "a method for identifying, analysing and reporting patterns (themes) within data" (p. 79). In advising researchers on how to employ thematic analysis, Braun and Clarke (2006) encouraged flexibility and argued that ". . . rigid rules really do not work" (p. 82). Further, Braun and Clarke (2006) advised researchers to maintain "a rich overall description" (p. 83).

As thematic analysis was employed, there was a continual reference to the data set, which ensured that the themes were linked to the data. Ongoing reference to the verbatim, pedagogical artifacts, and classroom observation notes helped the researcher discover the patterns embedded in participants' experiences, as well as supported identification of the themes that ultimately informed the grounded theory depicting how novice professors develop their pedagogical skills. These aforementioned analytic procedures encouraged a reliance on the data set, which strengthened the trustworthiness of the study, discussed in the following paragraphs.

Trustworthiness. In qualitative studies, truth value, applicability, consistency, and neutrality are concerns associated with trustworthiness. Through application of Guba's (1981) trustworthiness model, these concerns are addressed through four modes, respectively: credibility, transferability, dependability, and confirmability. The following paragraphs articulate how this study considered the modes related to Guba's model of trustworthiness.

Credibility focuses on confirming the "findings and interpretations with the various sources (audiences or groups) from which data were drawn" (Guba, 1981, p. 80). One means of testing credibility is through member checking. Guba (1981) described the process of member checking as an opportunity for researchers to "expose their thinking to this 'jury' of peers and to deal with whatever questions they may pose" (p. 85). This study's design allowed for two phases of member checking. The initial phase took place during the second interview, which confirmed that data from classroom observations and pedagogical artifacts were analyzed accurately. The second opportunity presented through engagement in member checking at the conclusion of the study. Each participant received a copy of the findings via email and confirmed that the data presented was representative of their experiences.

In qualitative studies, transferability is a concept, which considers that " virtually all social behavioral phenomena are context-bound" (Guba, 1981, p. 86). Guba (1981) advocated for the use of theoretical sampling and thick description to capture the specific context of any given study. Theoretical sampling was demonstrated by selectively searching for data to answer unresolved questions. Selective sampling drew from multiple sources of data and used thick description. Thick description is used to portray an authentic presentation of data and strengthen the study's trustworthiness (Eisner, 1991). Emphasizing its importance, Maxwell (1996) asserted that anything less than thick description puts the study at risk for "inaccuracy or incompleteness of the data" (p. 89). Thick description ensured that the findings accurately portrayed the participants' perceptions and context.

Dependability is determined by "whether the findings of an inquiry would be *consistently* repeated if the inquiry were replicated with the same (or similar) subjects (respondents) in the same (or similar) context" (Guba, 1981, p. 80). Guba (1981) argued that dependability considers stability and trackability. In other words, dependability describes how a study's analytic design is reliable and explains any changes in data collection and analysis. This study considered dependability through three methods: data collection, systemic coding and analysis processes, and public sharing of the findings.

Data collection involved two interviews, classroom observations, and pedagogical artifact analysis. The systemic coding processes used in this study were: initial, axial, and focused coding procedures. Glaser and Strauss (1967) advocated for a systemic coding process that protects researchers against the "forcing of 'round data' into 'square categories'" (p. 37). Charmaz (2006) suggested that relating and comparing data to existing codes, as was done in this study, highlights similarities and differences between the data, strengthens an existing code, and highlights a gap in the researcher's understanding of the phenomenon under study.

In a final comment, Guba (1981) advocated that neutrality can be honored when researchers share their methodologies with the public. Guba (1981) argued that neutrality is strengthened when methodologies are shared with individuals who are " at least one step removed from direct investigator-subject contact" (p. 81). This study's neutrality was strengthened through three situations. First, the coding process was shared with the researcher's Dissertation Committee members during the dissertation proposal defense. Second, the researcher's Dissertation Chair committed untold hours as an external, objective critique of the study's neutrality. Finally, the researcher's colleagues and friends were asked to read over the dissertation and confirm its neutrality.

The final mode, confirmability, refers to how "the findings of an inquiry are a function solely of subjects (respondents) and conditions of the inquiry and not the biases, motivation, interests, perspectives, and so on of the inquirer" (Guba, 1981, p. 80). Guba advocated that triangulation and reflexivity strengthen a study's confirmability. Maxwell (1996) argued that triangulation "reduces the risk of chance associations" (p. 93). Triangulation was used through reference to multiple sources of data: audio recording verbatim, classroom observations, and professors' reference to their pedagogical artifacts. Additionally, the multiple data sources were analyzed within single participants and across all four cases. Finally, the findings were triangulated by examining the data through three perspectives. First, the classroom observations provided data on the professors' actions. Second, the unstructured interviews offered the opportunity for professors to self-report their perception of the processes and practices they use in their development. Finally, the participants' pedagogical artifacts helped draw connections between the participants' thinking and their actions.

In addition to the four modes referenced above, reflexivity contributes to a study's trustworthiness. Reflexivity is "the researcher's scrutiny of his or her research experience, decisions, and interpretations in ways that bring the researcher into the process and allow the reader to assess how and to what extent the researcher's interests, positions, and assumptions influenced inquiry" (Charmaz, 2007, p. 188). Watt (2007) advocated for the use of reflective journals, claiming that engagement with journaling "led to a more sophisticated understanding of not only reflexivity, but all aspects of research methodology" (p. 84). In this study, reflexive memos were used to capture the researcher's thoughts regarding the interview experiences, pedagogical artifact analysis, and classroom observations. The analytic memos were reviewed and analyzed as a strategy to help understand how researcher assumptions and biases may have influenced the data analysis.

The following section explores how my own personal assumptions and biases related to and influenced this study.

Personal Influences on the Research Study

In any qualitative research study, researchers invariably become a part of the study (Cutcliffe, 2000; Peshkin, 1988). Creswell (2003) argued that "Researchers recognize that their own background shapes their interpretation, and they 'position themselves' in the research to acknowledge how their interpretation flows from their own personal, cultural, and historical experiences" (pp. 8-9). Peshkin (1998) analogized that researchers' life experiences accompany the researcher "like a garment that cannot be removed" (p. 17). In a more developed metaphor, Cutcliffe (2000) provided this image:

> No potential researcher is an empty vessel, a person with no history or background. Further, as it is common for many researchers to pursue a particular theme throughout their research activity, they may already possess some background knowledge of the substantive area they intend to study. Indeed, the researcher and all his/her knowledge and prior experience is bound up with the interactive processes of data collection and analysis. (pp. 1480-1481)

In addition to addressing how their personal experiences influence their research, researchers need to consider how their life experiences shape the conclusions they draw in their study. Maxwell (1996) warned, "Personal (and often unexamined) motives as researcher have important consequences for the validity of your conclusion" (p. 15). Peshkin (1998) suggested that researchers be transparent about how their life experiences inform their research, "If researchers are informed about the qualities that have emerged during their research, they can at least disclose to their readers where self and subject became joined" (p. 17). In an exploration of how my own personal experiences have shaped this study, I engaged in a reflective process and provide a narrative of my life experiences, captured below.

Like the vessel or the garment analogized earlier, my research study was influenced by the experiences, beliefs, and values that comprise my history. In an effort to become more conscious of how my own experiences shape my biases and interpretation of this research study, I reflected on my life experiences. This reflexive process aligned with Bolton's (2001) suggestion, "We must rewrite our stories to question assumptions about our own actions, intentions and values" (p. 9).

My life has been framed by and dedicated to learning. I was raised in a religious home. The church my family attended afforded many opportunities to study and philosophize over religious doctrine, and the church's leaders were instrumental in pushing me to set goals and maintain high standards of learning and accomplishment.

At home, learning was fostered by house rules. In my elementary years, my Mom designated daily "quiet time," which was to be spent journaling, reading, or doing homework. If my two siblings or I had friends over, the friends were also expected to comply with quiet time. After quiet time, Mom would test our engagement during quiet time by posing questions that pushed our thinking and fostered our curiosity about life.

My uncle, mother, and life partner have been models of learning in formal settings. My uncle returned to complete his Ph.D. after establishing a career. I recall asking my Mom to define what my uncle was accomplishing and stretching to wrap my head around something so big. At that moment, a seed was planted about education, its challenge, and its value. At fifty years old, my mother earned her Bachelor of Education degree. We were completing our undergraduate degrees at the same time, and I remember feeling so proud of her, desperately wanting to keep up with her achievements. My life partner, after having already earned a Doctor of Chiropractic and working for fifteen years in private practice, started medical school at 39 years of age. I am so proud of him. We will both complete our terminal degrees this year. My uncle's, mother's, and partner's achievements and the strength they demonstrated continue to inspire me today.

While my uncle, mother, and partner are models of lifelong learning, engagement in formal education is relatively rare in my family. None of my grandparents graduated from high school, but each of them has been extremely supportive during each of my four degrees. Their support is not motivated by education, per se, but because the degrees represent an opportunity to demonstrate hard work and tenacity—essential character traits in my family.

With my uncle, mother, and life partner as inspiration, it is unsurprising that my study focuses on individuals whose career path is devoted to facilitating formal learning in higher education. I respect professors' work, and I believe education empowers individuals. I want to do my part to enhance the quality of education in higher education institutes.

My professional experiences also influence this study. In my twenty-plus years of teaching in K-12 and higher education settings, I have consistently sought out leadership roles that foster learning and growth in others. Helping people learn energizes me, and I believe helping people learn is synonymous with helping them move forward.

My value of learning and supporting others as they move forward is captured through my personal life motto: *I am a bridge.* I reap great satisfaction by helping people learn and grow, walking across a bridge towards new experiences.

I acknowledge that my values inherently assume that people want to cross bridges and have new experiences, see different things, and grow. The assumption that individuals want to grow is reflected in my own life choices. In the last nine years, I have lived in three countries, six cities and taught in nine different educational institutions. The impetus to create a scenario for such change was inspired by my concern that my life had become a little too stable, perhaps a little too easy, and my comfort was limiting my growth.

My observations of human nature over the last decade have shown me that not everyone wants to walk across a bridge, have new experiences, see different things, or grow. I have yet to find peace with this realization. I rationalize the resistance some have towards embracing new experiences with the explanation that learning and growing are hard work. When we learn and grow, we enter a vulnerable place of not knowing, a situation that unquestionably feels uncomfortable.

A more recent influence on my belief structure about learning comes from my internship at the Faculty Development Center at Eastern Michigan University. While interning, I worked

with Drs. Douglas Baker, Chiron Graves, Russell Jones, and Peggy Liggit. Together, we created a model for professional development programs that applies principles of experiential learning and embraces learning as a socially constructed phenomenon. The program we created empowers participants to choose their own professional goals. Unlike traditional professional development programs, such as workshops and seminars that may rely on the facilitator as the supplier of knowledge, our model empowers participants to learn through experiences that they have been instrumental in creating and that align with their goals.

Given my belief in and value of learning, progress, and growth, combined with my family culture that promotes hard work and tenacity, it is no surprise that my dissertation topic focuses on learning, and, more pointedly, novice professors' learning. In some ways, novice professors' plight resonates with my own sense of powerlessness as an immigrant in the United States. I want to believe that novice professors develop processes and practices to continually learn and develop because, if they can learn and develop in a constraining system, then so can I.

Without question, my life experiences shaped my interpretation of the data and the conclusions drawn in this study. For example, I perceive that each participant was highly motivated to learn and improve, like my uncle, mother, and life partner. In analyzing the data, I found myself intrinsically wanting to affirm my participants' efforts to build their own bridges of progress. Even though I have consciously engaged in the reflexive process to develop a deeper awareness of my own biases and assumptions, I acknowledge that my wealth of personal and professional experiences continues to influence my work as a researcher.

Moral, Ethical, and Legal Issues

In qualitative research, moral, ethical, and legal issues demand that researchers pay particular attention to any potential risk their participants may experience. Attention was given to the moral and ethical responsibilities of a researcher. Because the researcher attended an American university, and the study was conducted at a Canadian institution, the proposal was reviewed by both University Human Research Subjects Committee at Eastern Michigan University and the Canadian Research Ethics Board at Northern University. Both institutions granted approval under an *exempt* status.

In this study, all participants were provided with a hard copy of the consent form (see Appendix F). As part of the consent proceedings, each participant was told of the purpose and risks associated with the study by a verbal review of the voluntary nature of the study, as well as two additional strategies. First, all participants and the University were given pseudonyms. Second, the participants' discipline and Faculty status were generically referenced. In a final act in the consent process, all of the participants were told that they would have an opportunity to confirm that their educational journey was accurately captured through the member checking process. After an oral review of the consent proceedings, each participant signed a paper copy of the consent form in front of the researcher (see Appendix F) and was also given a copy of the consent form.

Data collection and storage were upheld to the highest security to ensure the participants' anonymity. All of the interviews' electronic audio recordings were assigned a numerical code and stored on the researcher's password-protected computer at home. The paper copies of consent forms, classroom observations, coding notes, and audio recording verbatim were stored in a filing cabinet under lock and key, except for when they were used during the analytic process. Copies of the audio recording verbatim were printed off the researcher's personal printer. The secure use of a password-protected computer login and filing cabinet provided

secure storage under lock and key, and no one, other than the researcher, had access to the audio recordings, the transcripts, or paper documents created in the course of this study.

Definition of Terms

- Faculty development – "Professional development activities designed for professors to enhance their teaching and thus create the best possible learning environment for students" (Barrington, 2006, p. 11).
- Learning – "learning is the process whereby knowledge is created through the transformation of experience" (Kolb, 1984, p. 38).
- Novice professors – "colleagues who deal, over semesters, with problems of collegiality, including social and intellectual isolation, cultural conflicts with faculty, and finding social support" (Boice, 1991, p. 29).
- Pedagogy – "Forms of social practice which shape and form the cognitive, affective and moral development of individuals" (Daniels, 2001, p. 1).
- Professional development programs - see faculty development

Limitations and Delimitations

This qualitative case study was limited by four limitations and five delimitations. First, the study was limited as it relied on professors' self-reporting. A second limitation presents as the study captured only the novice professors' depiction of the processes or practices they use to learn the pedagogical skills needed in their practice. Additionally, the participants had varied amounts of experience fulfilling the responsibilities associated with the role of professor. For example, one participant had been a professor for less than a year, another less than two years, and a third less than three years. Finally, the study was limited as all of the participants in this study participated in at least one of the workshops offered through Northern University's formal professional development program.

This study's first delimitation was that only novice professors were interviewed. Second, this case study interviewed four professors from the same university. Third, the study was delimited in its confinement to the processes and practices novice professors use to continually develop their pedagogical skills and did not provide a program review or assessment of teaching practice. The fourth delimitation was that all of the participants attended formal professional development opportunities at Northern University. A final delimitation was the city wherein Northern University is located. The Canadian city housing Northern University is predominantly a homogenous population with an 84% non-visible race demographic (Chen, 2008). Because the study setting's race demographic is significantly homogeneous, race was not a recruitment selection criterion.

This chapter presented details regarding methodology and research design. The following chapter presents the major findings from the study, including grounded theory regarding the processes and practices novice professors use to develop their pedagogical skills.

Chapter 4: How Novice Professors Developed Their Pedagogical Skills

This chapter begins with an introduction of the participants and their teaching contexts, followed by a description of what skills the professors in this study believed essential to becoming an effective educator. Additionally, this chapter explores the professional development opportunities the participants embraced that helped to develop their pedagogical skills. Further, the following information captures the challenges the professors faced preparing to teach and teaching and how they responded to the challenges they faced.

Introducing the Participants and Their Teaching Contexts

All three professors in this study taught at Northern University, an English-speaking campus that is situated in a relatively large Canadian city. Northern University is pretty with large trees throughout and around its campus. The University proudly honors its historic buildings, and evidence of the University's health is apparent in the ongoing campus construction. The main streets leading to campus are lined with ethnic restaurants that are representative of the University's diverse population.

Two participants in this study, Josephine and Ryan, taught in the same science department, and Darcie, the third participant, taught in the social sciences. At the onset of the study, Josephine was in her third year teaching at Northern University. She taught one course that met bi-weekly for three hours each class. Josephine's classroom was a newly constructed space with gorgeous wood panelled walls. Her lecture hall held up to 300 students and had seven rising platforms. On each platform, there were approximately 20 tables with four to six chairs arranged around each table. When I entered her lecture hall for my first observation, I was struck simultaneously by the hall's beauty and its intimidating size and layout. Josephine, however, did not seem intimidated with the classroom space. She stood at the front of the room and emanated a grace and calm as she used a microphone to address her large class.

During the period of data collection, Josephine's and Ryan's department was undergoing an accreditation process. Josephine's leadership role in the accreditation review became obvious during the second interview. I saw Josephine's role in the accreditation review in our second interview together. We were interrupted twice by colleagues who eagerly needed answers to pressing questions that only Josephine could answer, which she did with ease. Her colleagues' reliance on her organizational skills was a testament to Josephine's respected status in the department

Josephine's organization skills were also evidenced by her meticulously clean office space and filing system. During our first interview, for example, we discussed a pedagogical artifact that I wanted to analyze, and, even though she created this artifact several years ago, Josephine only needed a few seconds to locate it.

Of all the participants, Ryan had taught the least with less than a year of experience. He was hired in February and had several months to acclimate himself to Northern University before he began teaching his first course that summer. At the time of the data collection, Ryan was teaching two senior undergraduate-level courses with less than 20 students in each class. Although new to a faculty position at Northern University, Ryan was not new to the University. He had completed a master's degree at Northern University before embracing international doctoral and postdoctoral opportunities.

Ryan's enthusiasm for his subject and for his teaching was infectious. When he talked about teaching, his speech quickened, and he energetically gesticulated to underscore his points. He described himself as fortunate to be entering the profession now because he was not rutted in old-style teaching and embraced technology and innovative teaching practices with relative ease.

Ryan had a meritocratic approach to his life and work, a perspective he believed many academics hold. For Ryan, age and titles were irrelevant compared to one's ability. During all of our interactions, Ryan appeared intensely focused and purposeful with how he spent his time. Not a minute was wasted in frivolity. For example, Ryan had set aside 60 minutes for our second interview after which time he was scheduled to be in another room giving a speech. At the 58-minute mark, when the interview was still proceeding, Ryan remained focused and singular in thought, making use of every moment. Despite his intense approach to his work, Ryan was quick to laugh and maintained a positive perspective in the situations around him.

At the time of this study, Darcie had taught about a year and a half. She was unique from the other two participants in a few ways. First, Darcie was the only professor who taught in the social sciences. Secondly, she earned her doctorate at Northern University. Lastly, she had not planned on teaching in university; rather, she had anticipated a career in community research or developing social policy, but she readily admitted that she loved teaching. When Darcie talked about her work as an educator, she emanated happiness and emphasized the importance of her deep emotional connection with her students. Demonstrative of her emotional connection, Darcie joked that she viewed herself as a "Care Bear," stuffed animals that are well known for their love and compassion.

Darcie taught content that sometimes stirred the students' emotions. She recognized that sometimes her students simply needed a safe place to talk through an experience; a space Darcie offered the students. During her interviews, Darcie admitted that being emotionally available for her students was personally demanding and necessitated a sensitivity to her own self-care. As a self-described introvert, Darcie described rejuvenating by ensuring she had time to herself.

While each professor had a distinct personality and teaching style, they identified similar challenges as they discussed their journeys to becoming more effective teachers.

Perceptions of Effective Pedagogical Skills

The primary challenge the professors faced as they prepared to teach was developing a sense of efficacy regarding their ability to design courses and teach effectively with limited pedagogical training or experience. Darcie's reflections provided a perspective on the lack of training when she said, "I think so many people would reflect upon the fact and the irony of working in an institution of higher learning, and none of us ever really learning formally what the hell we are doing!"

The professors' experiences as students and their reflections on the educators they respected helped them develop a sense of the pedagogical skills needed to be an effective teacher. As Ryan said, "The experiences I have had with great teachers inspire me to be a great teacher."

In describing what constituted "great teachers," all of the professors identified the following six characteristics: 1) clearly presenting course content so that students can easily understand the material; 2) thoughtfully planning lessons; 3) having a deep understanding of their content; 4) managing classroom dynamics; 5) giving students prompt feedback; and 6) maintaining clear expectations. The following paragraphs illustrate examples of how the participants described the characteristics and incorporated them into their teaching practice.

For Josephine, clearly presenting course content involved being "clear and concise" in her delivery. In particular, she expressed special consideration for the needs of her international students. In the first interview, she stated, "To me, I think it involves having some written word that [international students] can refer back to. I think that it involves giving them time to practice and present the work and discuss it and go through it." Josephine's efforts to clearly and

concisely deliver her course content were apparent in a subsequent classroom observation where she projected a simple PowerPoint slide that introduced new vocabulary. Josephine pronounced the words on the slide so that her English Language learners understood the terminology.

During the first interview, Ryan stated he intentionally used "diversity [in] how the students can access the material" related to his course as an example of thoughtful lesson planning. This was evident during the classroom observation where Ryan utilized videos, textbook, and lecture slides as ways to present the lesson content.

The third pedagogical quality the professors identified was the importance of having a deep understanding of the material they were required to present. Ryan developed a course that Northern University had never offered before, so he faced the challenge of choosing what content to include in the course. As Ryan contemplated the range of topics he could teach, he realized that he had not studied some of the material he believed relevant to the course he was creating:

> So, I had to – I couldn't just draw on my own existing knowledge. I had to do a lot of learning to be able to come up with what to put in the course. And then to be able to teach it confidently. So I was fortunate to get some resources, some books that were helpful to me.

During the interview, Ryan gestured to texts on his shelves in the office to emphasize that he had been compelled to master the material before teaching it to others.

Classroom management was the fourth pedagogical skill associated with "great teachers." Josephine struggled with classroom management in one of the classes I observed. Responding to the student misbehavior, she stood at the front of her class and directly stated:

> If you are going to come back [from break] and continue to talk, I recommend that you do not come back. . .I have had students tell me that they cannot hear. It makes learning difficult. . .If you are planning on coming back and talking again, do not come back.

During the second interview, Josephine paused to reflect on this incident in the classroom and said, "I think that from week one to now, we are in week three, it is getting better. But you know, I hate that it has taken three weeks for it to get better." Josephine's experience illustrated that, even though she was able to identify classroom management as a characteristic of effective teachers, she had to work to close the gap between what was desired and what transpired daily.

The characteristic of providing timely feedback, the fifth pedagogical skill associated with being a "great teacher," was illustrated by Josephine's comment:

> I think it is essential to get that feedback to students. You know, make sure that they are using the information, that they are incorporating it, able to have time to practice, and receive the feedback, and stuff like that.

Josephine's efforts to ensure her students received timely feedback was apparent during her first classroom observation. She initially projected a short assignment on the screen and then gave her students time to work collaboratively on the assignment. While they were working on the assignment, Josephine circulated around the classroom and made comments to students on their progress. She reflected on this teaching strategy in our second interview and said, "I like in the courses that I am teaching right now--the time for them to work on stuff and just circulating around so that I can answer their one-on-one questions. And give that feedback to them."

Darcie specifically referenced the sixth pedagogical skill, which was communicating clear expectations to her students, when she said, "[Effective teachers] still need to have parameters regarding expectations and how to meet those expectations, you know, and what those procedures are for improving if [the students] don't meet them." Josephine provided an

example of how professors communicate expectations when she shared her course syllabus with me, which depicted her efforts to clearly convey her expectations. The syllabus had a simple table that outlined the week, date, and subject of each lecture, assignment deadlines, learning outcomes, learning outcome codes, and method of evaluation. The method of evaluation reiterated due dates, learning outcomes, and the percentage of the final grade each assignment comprised.

In addition to the unanimously referenced six characteristics of great teachers detailed above, Darcie and Ryan identified an additional five separate characteristics. More specifically, Darcie identified self-awareness, reflection, and humility as characteristics of great teachers. She argued, "I think self-awareness is really important because, if you want to refine your practice, you need to be able to reflect on it. . .and invest time [in] evolving and in learning." Darcie extended her argument to suggest that, in the process of reflecting and identifying where they are successful and need to improve, effective teachers must also have a sense of humility. In the classroom observation, Darcie exhibited humility when she did not presume to understand her students' reaction to an emotionally heavy topic in the first classroom observation. Humbly, Darcie asked her students to anonymously share their feelings at the end of the class on paper, comments she eagerly began reading once the students left.

Ryan argued that effective teachers have empathy and compassion, though he prefaced these personal characteristics by first saying:

> I think this might sound a bit, a bit soft, but – in a way, it is about empathy and compassion. It's about being able to put yourself in the student's head and understand where they're coming from. Because if you don't have that appreciation, you are not going to be able to present material in such a way that is meaningful to the students, or interesting.

Ryan displayed empathy and compassion during the classroom observation when a student in the class attempted to pronounce a challenging word and, in doing so, stuttered. The student looked down, embarrassed at not being able to pronounce a word integral to the topic under study. Ryan, quick to empathize with the student's feelings, pronounced the word and casually said, "That is a hard word. I have to practice it myself!"

In summary, as the professors discussed their efforts to become an effective teacher, it was clear that they each reflected on their pre-conceived perceptions about the skills necessary to be successful. While no professor articulated the obvious gap between their skills and the skills they identified in effective educators, the professors were acutely aware that they were inadequately prepared to fulfill the roles and responsibilities associated with their professorships. Rather than succumb to the frustration or lament what might have been, all of the professors in this study responded to the challenge of their lack of pedagogical training and took the initiative to strengthen those skills by engaging in professional development opportunities. As the following pages explore the teaching journeys of these novice professors, it is important to highlight that each professor intrinsically tried to develop the skills he/she believed effective teachers possess, as well as skills not mentioned in the paragraphs above, such as assessing student work, responding to the emotional needs of the students, and developing their identity as teachers.

Initial Steps to Overcome a Lack of Pedagogical Training

Each of the professors perceived formal professional development opportunities as a way to gain the knowledge necessary to be effective teachers. At the beginning of their teaching experiences at Northern University, each professor engaged in professional development

programs that varied in length. While all of the participants engaged in professional development, the participants in this study each engaged in only one of the University's available professional development programs.

The first couple of months of Ryan's employment at Northern University, he was not required to teach, which provided an ideal time to acclimate to the University. During this acclimation period, Ryan attended a two-day workshop offered by the Faculty Development Centre at Northern University where he learned about the resources and supports available to professors like him who wanted to use a flipped classroom strategy. In a flipped classroom, students are expected to watch at home a video presentation of the teacher's lectures. During class, students actively work on assignments, and the teacher is available to respond to any questions the students may have on their assignments.

Ryan had anticipated finding his own tools to design a flipped classroom and was relieved to discover that this effort was not necessary, a sentiment he shared in our first interview:

> And here, it was fortunate timing that maybe a month after I started here – the [Faculty Development Centre] had a blended learning workshop, which was a two-day course on the tools that they have here for doing flipped classrooms, which was great because I knew that that is what I wanted to do, but I didn't know what tools were available here.

Ryan's experience with the Faculty Development Centre at Northern University illustrated how workshops that focused on a single topic or pedagogical skill provided faculty with tools or techniques they could apply immediately in their own classrooms, thus increasing their sense of efficacy about providing quality of instruction. During the first interview, Ryan described how he could track the number of students that accessed his videos. Then he swivelled in his chair, turned to his laptop, and efficiently opened an Excel document to show me how he tracked the percentage of students who watched the videos he had produced. Following the interview, Ryan played a portion of a video that he was editing for his class. Clearly, these actions show that Ryan had implemented what he had learned in the professional development workshop.

Similar to Ryan, Darcie engaged in formal professional development "early on in my teaching experiences" through the Faculty Development Centre at Northern University, though she chose to participate in a semester-long course. This formal professional development course was designed to support professors' development as teachers through the engagement of empirically-based and theoretically-grounded pedagogy.

Because of Darcie's involvement in a semester-long course, she had the opportunity to observe her facilitators modeling the effective pedagogical skills that were being discussed over a longer period of time, and, as a result, she came away with broader pedagogical concepts that she shared during the interview:

> So the workshops themselves are designed to be very applied and to model good teaching. I mean, you're learning content, but they are also giving you a process that you physically engage in. . .[The facilitators] are so thoughtful, and I think what has been modeled for me too, is the thoughtfulness with how you approach teaching. And that it is, you know, very - all of the very parts of it and how they all fit together . . . They are very, very centered around active learning. And so, that has been one of the–probably that is the single most important thing that I have taken away from [the course]–active learning to me is when students are participating in the learning process. And not just passively you know there as receptacles, but they too are engaging in the process.

The facilitators' thoughtful planning and modeling of active learning helped Darcie better appreciate the importance of planning active learning in her course. From the professional development experiences, she realized, "So I need to train [my students] to be able to provide meaningful feedback to one another." In the first classroom observation, Darcie demonstrated that feedback routines were clearly in place in her classroom. Darcie opened her class by passing out peer-to-peer feedback that her students had collected in the previous class.

From the above examples, we see two different forms of professional development are evident: 1) shorter-term workshops focused on specific topics that the professors almost immediately incorporated into their teaching practices and 2) longer-term courses that provided an opportunity to delve into broader pedagogical concepts. In both forms of professional development, the professors' learning contributed to their acquisition of new knowledge and pedagogical skills that proved helpful in developing their efficacy and ability to design courses and to teach effectively.

At the beginning of their teaching experiences at Northern University, the participants engaged in formal professional development activities only once. After their participation in formal professional development programs and as they gained more experience teaching, the participants chose not to engage in additional formal professional development opportunities and increasingly referenced informal learning opportunities as influential in the development of their pedagogical skills. One example of an informal learning opportunity that all participants engaged in was mentoring, discussed in the following section.

The Role of Mentoring in Developing Pedagogical Skills

All of the participants engaged in various mentoring experiences. Josephine reflected on two significant mentoring experiences that influenced her instructional practice. Josephine's first mentoring experience occurred a semester before our first interview and involved her participation with a peer-mentoring program that was coordinated outside of the Faculty Development Centre. The program was designed so that one professor taught and another professor observed and gave feedback. In advance of the observation, the teaching professor filled out a checklist, which focused on specific pedagogical skills and helped guide the observation's focus. Following the observation, the observing professor offered critical feedback, and the two professors engaged in dialogue about the teaching experience. Josephine's story involved being observed by a colleague from a different department. She reflected on her colleague's feedback in our first interview:

> And he was like–no! It was horrible. He couldn't hear and stuff like that. And so I was like–okay, this semester, I'm trying to bring the noise level down, make a point of talking about it. Or doing a walk-through to get the noise down and stuff.

Josephine's second mentoring experience was comparably less structured than the peer mentoring opportunity. This experience began with Josephine's initiative to connect with another colleague who had developed and was instructing the same course that Josephine was preparing to teach. It was curious that, when Josephine talked in the first interview about this opportunity to observe her colleague teach, she highlighted learning generic pedagogical skills, not teaching skills specific to the course she was observing and would soon be teaching. For example, one of the pieces Josephine took away from this observation was an example of how to facilitate the students' learning, "[The professor] provided opportunities for students to work on things. Often times, she would try to walk around, and I kind of observed that she was getting questions, and stuff like that."

After observing this student-teacher interaction, Josephine replicated the mentor's student-teacher interaction in her instructional practice. This was obvious during a classroom observation as Josephine circulated and engaged students in one-on-one discussions. In one case, the student asked Josephine a question, and, in turn, Josephine clarified the answer for the entire class.

Compared to Josephine's mentoring experiences, Ryan's mentoring experiences were less formal and morphed out of discussions with family members who were teachers. Ryan specifically recalled discussions relating to formative and summative assessment. In these discussions with his family members, Ryan initially defended his reliance on summative assessment, but, over time, he admitted that these family conversations helped him appreciate the value of incorporating formative assessment into his practice:

> Eventually after talking to [family members] more and more and realizing the benefits that the teachers saw in [formative assessment], is when I started to realize–wait a minute. Ya, this is about–this isn't about giving students second chances at things, really. Indirectly it is, but really what it is about is making sure that teachers are being effective. And when I had that sort of mental shift in perspective, that is when I realized–this is a good way of thinking about this.

During the classroom observations, it was clear that Ryan's teaching style infused multiple opportunities for him to provide formative assessment and for the students to assess their own work. In the classroom observation, for example, Ryan projected a question on a screen and gave the students "five minutes" to work through the problem. As the students worked on the problem, he circulated the rows in the classroom and formatively assessed the students' progress. When Ryan reviewed the answer, he used his observations from his formative assessments to address specific areas wherein he observed the students were struggling.

In our initial interview, Darcie described two influential long-term mentoring relationships, both of which relied on conversation, that were influential to her development, "Having conversations about the teaching practice are where a lot of the transformative ideas happen for me." The first relationship was with her teaching coach, a connection made through Northern University's Faculty Development Centre. This mentoring relationship helped Darcie clarify her teaching philosophy and her identity as a teacher:

> I think with [the coach] what he has really provided me with is more of an ethos for a teaching. I think that [the coach] provided me with some real guidance around kind of that cognitive, you know doing justice, the intellectual part of the work of the teaching. Whereas [the coach] has helped me engage with and think through the process of who I am as a teacher. What am I bringing? And I don't know that he asked me those questions. He may have. But, just the kind of conversational space he created gave me the opportunity to kind of try out these ideas and to get a sense of–this really matters to me. . .I am pretty unapologetic about the importance that I place on feeling things and being vulnerable and that you know kind of some of the traditional approaches to academia of-I am the authority, I am the one–get over yourself.

Darcie's clarity on her ethos of teaching was evident in her interactions with the students, actions which highlighted her emphasis on *feeling things and being vulnerable*. In the first class I observed, Darcie applauded the students' willingness to emotionally explore the day's topic and said, "I appreciate that you are sharing your feelings because we are going to be very feelings-

oriented today." In that same class, she asked her students to write down anonymously their thoughts and reactions to the content she covered in that lesson.

While Darcie's first mentoring relationship helped her articulate her teaching philosophy and identity, her second mentoring experience, captured in her words below, focused on the cognitive aspects of her course design:

> I mean, I think like when it comes to the connection between ideas and the theoretical pieces of fitting that together, I had good mentorship. The director of [my department] worked with me and gave me guidance on writing learning outcomes. . .But she really respected my autonomy. She really respected my expertise and the knowledge and the specific area. But then she gave me guidance on how to think through putting it together. It was really, really supportive to have that kind of one on one mentorship when I was developing both classes.

In the first interview, Darcie succinctly summarized what she gained from this mentoring experience, "I saw, like, okay, this is what the students need to be able to know." Attesting to the growth she gained from her department head's guidance, Darcie shared a list of 11 learning outcomes, which were categorized under three broad categories: cognitive, affective, and psychomotor.

In this second mentoring experience, Darcie referenced how her department head asked questions to probe her thinking and ensure that her class activities and assignments aligned with the learning objectives:

> What is the point? What are we trying to get these people to be able to do? And how are you doing it? So I think of that very basic level, what are you trying to get them to do? And–how are you helping do that?

The department head's questioning technique strengthened Darcie's ability to align her course's activities with its learning outcomes, a skill she referred to in the first interview as "teaching alignment."

In the first classroom observation, Darcie demonstrated her attempts to align her course's learning objectives with her class activities. At the beginning of class, Darcie asked the students to review the topic from last week and affirmed their contributions, "Awesome. So these still feel pretty fresh for you guys. You did a good job coming up with examples." Following the recap of the previous lesson, Darcie gave her students a handout that outlined an assignment wherein they had to assemble in groups and brainstorm the myths related to the lesson's topic. Working in small groups, the students generated a list of myths that were shared with the class as a whole. Darcie's facilitation of the opportunities for students to contribute their thoughts in small and large groups aligned with one of the learning objectives she shared in a pedagogical artifact, "Listen to others and articulate differences of opinion with care and respect."

In the above paragraphs, the professors depicted their mentoring experiences as positive supports in their course and teaching development. What made these experiences particularly helpful was the mentors' knowledge of the professors' pedagogical skills, needs, and unique teaching circumstances. While mentoring was intended to be helpful, Darcie provided an example of how a mentoring experience did not directly support her development as a teacher. When Darcie found out that she was given a teaching position, she sought out advice from educators outside of Northern University. They told her, "You were–you are young. You're a small little woman. You really need to take command of the space and assert your authority because otherwise they won't respect you." Just as Darcy was about to begin teaching, she

realized, "Ya, I'm going to have to do this a little differently. This is just not-it's just not how I roll. And I have to say, I do everything the exact opposite of that!"

In both classroom observations, Darcie was clearly strategic in creating a safe classroom space and avoided coming across as a commanding, authoritative professor. For example, the first observation captured a student asking Darcie if an upcoming assignment was due on Monday. Darcie made fun of herself and responded, "I was being flakey as sometimes I do. . .I didn't get it posted as early as I wanted to, so no, it is due February 1st." By using words such as *flakey* and owning her role in the reason behind the assignment's due date change, Darcie presented herself as approachable.

The point here is that the advice Darcie received from the educators outside of Northern University to be authoritative was generic and not tailored to her unique teaching style and circumstances. By receiving generic advice that was ill-suited to the development of her classes and to her identity as a teacher, Darcie indirectly benefitted from their mentoring experiences by gaining greater clarity on how she did not want to approach her teaching.

Whether the mentoring experiences were touted as helpful or not, the professors' engagement with mentoring reportedly helped them develop their classes and learn more effective pedagogical skills. A critical aspect of the mentoring experience was the opportunity for the professors to dialogue about teaching and learning. Conversations about teaching and learning helped the professors make sense of their teaching experiences and clarify strategies they wanted to include in their instructional practices.

Overall, those mentoring experiences that spanned a longer period of time allowed for more interactions between mentor and mentee. In addition, in the lengthier mentoring experiences, the mentors seemed able to tailor their support and better meet the mentees' needs and unique teaching circumstances. Conversely, the shorter mentoring experiences provided professors with generic information that was not tailored to their unique teaching situations, but still informed the professors' instructional practices and supported how the professors addressed the challenges they faced teaching.

Responding to Challenges that Emerged from the Classroom Experience

When the professors began teaching, it became more apparent that reproducing the skills that they revered in their own teachers was challenging, a realization best expressed through Ryan's words, "[Teaching] was harder than I thought it would be. Yes. It was harder to be good at than I thought it would be. It was easy to be mediocre at." Fulfilling their vision of becoming a great teacher was difficult, in part, because the professors were asked to *be* and *do* something which they had little experience *being* and *doing*. The knowledge the professors gained through professional development and mentoring had not prepared them for this new set of challenges teaching, which they described as: engaging students, presenting the course content so that students understand, using student feedback to teach more effectively, and dealing with students' emotions.

Engaging students. The professors discussed student engagement in terms of the students being actors in their own learning and actively learning during class. Darcie defined active learning as, "Active learning is when students are participating in the learning process, are not just passively, you know, there as receptacles, but they too are engaging in the process."

Darcie and Ryan talked about facilitating active learning in their small classes of 25-50 students. In the classes I observed, Darcie and Ryan actively engaged their students for all but ten minutes of their classes, during which time they lectured.

For Darcie, active learning was modeled during her formal professional development course. In the second interview, she described an active learning activity in the professional development course where she and her colleagues were asked to give each other feedback on how they introduced themselves. Darcie reflected on this active learning activity:

> And so, the purpose of the exercise was to introduce us to one another. But also, to start us thinking about the process of getting feedback. So we all had to give feedback based on each other's little one-minute blurb.

Darcie shared that this active learning experience in her professional development course "illuminates how hard feedback is [to give], too." She found the activity so powerful that she incorporated the same active learning activity into her lessons, "So after that, I actually started to build in at the beginning a lesson on feedback."

Because of her experiences in her professional development course, Darcie described a heightened consciousness around strategically using active learning activities to engage her students. She "looked back to like the [Faculty Development Centre's] stuff that I learned" to help her develop engaging activities. Darcie's efforts to actively engage her students in giving feedback was obvious in the first classroom observation, evident when Darcie returned peer feedback that the students had completed in the previous class.

Similarly, I observed Ryan actively engage his students during a classroom observation when he asked the students to solve problems and submit their answers to the University's online computer system. The computer system tabulated the answers, which were almost instantly projected on the classroom screen. Ryan used the computer system as a tool to engage his students, as well as using data to help him to assess where the students struggled to apply the concepts.

In reflecting on how he engaged his students in the classroom observation, Ryan metacognitively talked through his strategy:

> So the best students sometimes are very quiet in that class, and I just kind of don't really bother talking to them because I know they are going to get it. . .And then for most of the students, I find that sometimes if I don't go talk to them and start to poke them a little bit, they kind of will just sit there and it is not because they don't want to. It is because they get stuck, and they don't really know where to start thinking about the problem sometimes. So sometimes I tried to give them a little bit of a poke, and sometimes you can see them sort of pick up and run with it, and, sometimes, you know, it is like talking to a brick wall.

Unlike Darcie's and Ryan's small class settings, Josephine taught large classes of over 200 students in a newly constructed, spacious lecture hall, a classroom set-up that affected her students' engagement. In the first interview, Josephine identified this space as problematic in that students tend to socialize with each other rather than engage in the class activities.

In observing Josephine teach, it was clear that she made conscious efforts to engage the students in their learning. She structured her lessons so that students had an opportunity to actively engage with each other. For example, in the first classroom observation, Josephine told the students they had ten minutes to identify ten specific errors on a handout. She ensured that the students were engaged by circulating the classroom and reinforcing her expectation that the students engage in the learning. While she circulated, she clearly communicated her behavioural expectations. In one example that emerged in the second observation, Josephine noticed that a student was slyly playing a video game on his tablet. She paused by the student and said, "That is not your [assignment]. If you're going to play video game, [leave]."

In discussing the level of her students' engagement, Josephine acknowledged that many students in her class perceived the course she taught as "soft" and one they "don't need to worry about," a perspective that naturally detracted from her students' willingness to engage in class. To counter her students' perspective that the class is soft and to engage students on a deeper level, Josephine framed an assignment during a class I observed by emphasizing that the class' learning would be useful when the students applied for jobs.

In engaging their students, Darcie, Ryan, and Josephine used their prior knowledge about the course content and their observations about the students to incorporate active learning and to develop effective communication strategies. The strategy of relying on prior knowledge and observations about the students emerged through a process of trial and error, which Ryan described in our second interview:

> I feel like there is nothing you can do other than just–there is no sandbox to try things, right? You have to try things in the classroom. And just see how it goes! And be willing to accept that the students can be a little bit of guinea pigs. I do not know of another way around it, unfortunately.

An example of Ryan's engagement in the trial and error process was captured through revisions he made to a lab assignment for his graduate-level course. In our first interview together, Ryan expressed surprise that his assignment, which he perceived as straightforward, turned out to be such a confusing assignment for his students:

> [The assignment] was about my own area, the area in which I am most knowledgeable. It seemed easy to me! It turned out an hour and a half in my office hour with every student in the class to be able to explain to them, you know, what was going on. And sort of revising the assignment three times, and it was still just a debacle.

Ryan shared the three versions of the assignment with me. In comparing the three versions of the assignment, three critical changes were observed. First, Ryan added more steps to the procedure in the lab and, overall, simplified all of the steps in the procedure. Secondly, Ryan added a new section entitled, "Additional Theory," which was more than a page in length and offered theoretical considerations that would help the students make their calculations. Lastly, Ryan included hints throughout the assignment with sentences like: "Remember that the [topic] is COMPRESSIBLE" and "You will find the [following equation] helpful."

Even with these three revisions, Ryan acknowledged that he was still engaging in the trial and error process, with further revisions needed, "So yeah, [the assignment] is the one thing I'm going to have to strongly revise for when I redo the course next summer."

Josephine's experiences writing rubrics depicted her engagement with the trial and error process. In the second interview, she summarized the process saying:

> Rubrics. I always–you know–prepare them. The first one that I do is always like–I use it once. And it is like oh, this isn't not good for anything! You know, I kind of have one idea of what I want to have seen it, and then I actually see the finished product, and then I think well, I should really be focusing on this, this, and this. Because I kind of get started –So it is always the second time that is much better than the first. And the third time is always better than the second time.

Josephine showed evidence of her ability to create a rubric when she shared a current rubric with me, which included 15 components and 39 criteria.

Overall, the professors responded to the challenge of engaging their students by implementing active learning in their classes, responding to observations they made of their students while teaching, as well as relying on trial and error and reflection to determine which

new teaching strategies gave them the outcomes they desired. All of the professors referenced how connecting the class material to the students' interest is critical in engaging the students. However, connecting the class content to the students' interests introduced a further challenge, which involved the professors' ability to present the course content in ways that the students could understand.

Presenting the course material. For Josephine and Ryan, who taught in the sciences, the challenge of presenting their course material was two-fold. First, the professors had to re-learn much of the introductory course material they were expected to teach because they had not reviewed the content since they were undergraduate students themselves. Second, these professors felt particularly challenged by the task of clearly presenting their lecture material.

In our first interview, Josephine expressed this sentiment as she reflected on her teaching journey:

> I think in some of the more technical [disciplinary] courses, my initial concern was–I am not an expert in this and they want me to teach this? I don't know all of the ins and outs of [the subject]. I haven't taken the course in years!

Now, in her third year of teaching, Josephine had a deeper understanding of the introductory content she taught, compared to her first year teaching, and had developed strategies to help her clearly present the material. For example, during the classroom observation, Josephine regularly provided time for students to ask questions about the content in the lecture. Further, she reframed the question before answering, a tool that focused on the content that confused the students.

Wanting to ensure she delivered the course material clearly, Darcie developed scripts to be sure she made the academic connections she wanted to make during her lectures, which she referenced in her second interview:

> I often would have written exactly what I would have wanted to say and would have presented it in lecture that way. I think I am fortunate in that I am good at making like a lot of eye contact while I do that so it doesn't look like I am just reading it, but I am reading it because I have a really shit memory and I am really worried that if I don't do that, like, I'm going to forget. And I am really stressed about forgetting the important connections.

In highlighting her own growth, Darcie shared a script with me that she had written out in her first year of teaching, which depicted 21 PowerPoint slides and, below each slide, a methodically handwritten script. In contrast, she also referenced her lecture notes from this semester, which were a page and a half in length without any slides. The notes read more like a narrative than a script that helped Darcie envision how the class would be taught. The lecture notes from this semester were substantially less directive and demonstrated her reduced reliance on her script.

While Darcie used the scripts to ensure she transitioned well between the key points in her lecture, Ryan and Josephine, who taught in the sciences, expressed comparably more anxiety re-learning, delivering, and presenting their content than did Darcie, who taught in the social sciences.

In discussing the challenges these professors faced in presenting their content clearly, it was obvious that the professors were deeply invested in delivering their class material in ways that the students could understand. Despite their commitment to find strategies to address the challenges they faced teaching, these professors discussed having little control and limited solutions to the following challenges: the large class sizes, the physical layout of their

classrooms, students' preparedness, students' emotional needs, and not having enough time in a day to devote to teaching.

Gathering and using student feedback. Each professor valued students' direct and indirect feedback as a source to help them address the challenges they faced teaching and improve their teaching practice. As they discussed the direct feedback they collected, each professor referenced a universal course evaluation system used at Northern University. The University's course evaluation system was a set of questions that the students answered using a seven-point Likert scale. Each professor critiqued the system and felt compelled to supplement the University's evaluation system. One strategy the professors used to supplement the inadequate system was to generate a set of short-answer questions that the professors asked their students to answer. Ryan shared a copy of the questions he asked his students at the end of the course, which included questions such as:

1. What topics in the course do you feel you have the *most improved* understanding of after having taken the course?
2. What topics in the course do you feel you have the *least improved* understanding of after having taken the course?
3. Did the lecture videos assist your learning process? Please comment on the length, content, etc. of the videos
4. Did the in-class activities assist your learning process? Please comment on the quantity, types, etc. of the activities
5. Were the homework problems helpful in learning the course material? Why or why not?

Demonstrating the value of seeking feedback, Ryan provided an illustrative example of how his students' feedback translated into changes in his practice:

> So one of the pieces of feedback that I got from the students last semester–both formally and informally, and also just sort of inferred based on their performance–was that I gave them infrequent relatively large homework assignments. . .so I give them a homework assignment every week.

Ryan used the informal feedback depicted above to guide the adjustments he made to his syllabus, which he shared with me in the second interview. The revised syllabus depicted eight homework assignments spread over 12 weeks

In addition to supplementing the University's course evaluation system, these professors also shared that office hours provided an opportunity to gather useful direct feedback from students. In the first interview, Darcie shared that she offered her students bonus points in exchange for a 20-minute informal one-on-one conversation with her during her office hours. During these appointments, Darcie gained direct feedback regarding her students' needs.

In summary, the professors described benefitting from direct discussions with their students, which helped them understand their students' academic and emotional needs. In addition to receiving information directly from their students, the professors also collected indirect feedback, which helped inform their teaching practices.

Ryan collected indirect feedback through data provided by the online computer system he used to flip his classroom, and he referenced this data during our second interview. The data told Ryan how many students accessed the videos he posted online, "I would say on average only about 60% of the students watch any given video." With the data gained through the online computer system, Ryan learned that nearly half of his students had not reviewed the content he was building on in his lecture. With this feedback, he was resolute that he not cater to those

students who came unprepared for his lecture, evident in this statement to his class, "I am not going to review the [concept] again because I did that in the lecture slides."

Last semester, Josephine stumbled on some indirect feedback that changed how she and her graduate assistant team graded the students' assignments. She retold the story of divvying up the assignments that needed to be graded amongst herself and the graduate assistants. After the grading was completed, Josephine reviewed the assignments and noticed that the grades were "all over." With further investigation, Josephine realized that, despite her review of how to interpret and apply the assignment's rubric, the graduate assistants had used the rubric differently, resulting in a significant variation in the grades. Because of the disparity in the team's grades, Josephine re-graded each assignment and instigated a new system where Josephine and her team meet together weekly and grade collectively.

Josephine and Ryan referenced using the students' performance as another source of indirect feedback that informed their teaching practice. In our first interview, Josephine offered a descriptive example and reflected on a concept that she thought she taught clearly, but, when the students turned in their assignments, the assignments did not reflect what she expected:

> They didn't quite get [it], so now they have to submit a draft like partway through and then we can get them the feedback partway through and say no–you need to focus on this, or whatever. It was last summer we had them do a draft. And it was–the final product was much better.

This strategy of collecting a draft partway through an assignment was captured in a syllabus Josephine shared for the class she was currently teaching. The syllabus outlined the expectation that the students' larger assignment would be submitted three times over the course of the semester.

Ryan referenced his students' performance on a midterm exam as a source of indirect feedback, which caused him to make changes he made to his final exam:

> The difference between the questions I put on the final exam in my course last summer and the questions I put on the midterm was largely driven by what I saw in the awful student performance on the midterm and I realized that it was mostly my fault.

For all of the professors, collecting students' feedback helped them improve their teaching practices, a concept that was captured through Darcie's words, "[Feedback] helps me refine the [teaching] process." The students' feedback also helped the professors address the challenge of dealing with their students' emotions.

Responding to the emotional needs of students. With the exception of Darcie whose discipline afforded her some training in dealing with human emotion, the professors reported struggling to know how to best respond to their students' emotions. Training or no training, all of the professors identified responding to students' emotions as challenging.

Darcie acknowledged that, given her sensitive course material, sometimes her students might "just need a moment to talk about something. They need to debrief something. They need to share an experience." At times, what the students shared was heavy, but Darcie felt a particular responsibility to be emotionally available to her students. In the first interview, she described her deep-seeded ethical responsibility to her students:

> And I feel with this particular job, I have an ethical responsibility to my students to provide care to them. Not to be their therapist. That is not my job. And we are clear about that, and I don't think I have any weird boundaries around that with my students. I don't think they expect that from me. . .And it's imperative that I be able to be there for

> them in that moment. That is part of the responsibility I have for them. That's part of the ethics. It's part of the trust, too.

Darcie's sense of ethical responsibility was also expressed in an assignment that she did on "Inclusivity, Diversity, and Learning Communities" during the semester-long professional development course. She shared with me a copy of this assignment, which emphasized her teaching philosophy and how it was entwined with the relationships she built with her students, "My interest in [inclusivity, diversity, and learning communities] is motivated by my own teaching philosophy, which emphasizes the relational nature of learning, as well as the particular context in which I currently teach."

For Darcie, a self-described introvert, being a willing listener took a certain toll, which she described, "It is–it is difficult for me to be that emotionally available to people. . .And you know, I need to be able to withdraw and if I don't have that, I feel very afraid."

Darcie expressed empathy for the students who often feel overwhelmed with the university experience:

> And when they are in the learning–you know, because you know learning in the classroom, it can be a scary experience. They don't want to sound stupid. People are, you know, shy. They may get embarrassed. They are not sure. Sometimes, you know, is this professor going to shoot me down? Are they going to embarrass me in front of people? Say something snarky? You know those people.

In watching Darcie teach, it was obvious she embraced any opportunity to interact with her students and reduce whatever anxiety they may have around their lives as university students. For example, in the first classroom observation, Darcie circulated throughout the class as she returned assignments and interacted with a group of females, commenting, "Someone has something that smells fruity and nice!" A student admitted that the smell was coming from her hand sanitizer, and Darcie teased, "I knew it was you!" In unison, Darcie and the group of students laughed.

To build a connection with her students and dissolve some of the student-teacher hierarchy, Josephine intentionally portrayed herself as approachable. For example, in one class I observed, she addressed a group of students who had a hockey tournament out of town during a scheduled midterm exam. Josephine conveyed her willingness to adapt to their extracurricular demands as she asked the hockey players to see her and encouragingly announced to the class, "I think I have found a solution."

In addition to expressing her flexibility and desire to support her students' extracurricular commitments, Josephine recognized her students' emotional struggle as they responded to an assignment's ambiguity. In the first interview, she reflected back on a time when she herself felt frustrated with the abstract nature of her high school teacher's assignment. Josephine reflected on her experience as a high school student and expressed how, in her teaching, she consciously thought through how she could help her students navigate the frustrations of working through an ambiguous assignment with less frustration. She paraphrased what she told the students:

> I'm trying to tell them that I realize that I am not going to tell you the answer and you want to know that and lead them through that process. I try to bring that up at the beginning. . .This is very open-ended, so you need to tell me what you design goals are, and what you had decided that you want to, who your target audience goal is, whatever like that. . .And so, I try to tell them all the time–I know that you were frustrated. . .I know you have questions. I know that I'm not giving you specific answers. This is the reason.

Upon reflection, all of the professors recognized their students' emotional needs; however, addressing their students' emotions remained a challenge because the professors generally lacked the training and experience required to respond comfortably. The above section introduced several challenges related to teaching: engaging students, explaining the course content so that students understand, using student feedback to teach more effectively, and dealing with students' emotions. As the excerpts above suggest, the more the professors taught, better they felt about their increased efficacy as a teacher.

To this point, this chapter has focused on the challenges the professors faced as they began teaching with little or no pedagogical training. To help themselves develop the skills and characteristics they believed effective teachers possess, they identified participating in formal professional development activities and mentoring programs. Despite their deep commitment and extensive efforts preparing the classes they taught, once the professors began teaching, they faced new challenges relating to student engagement, explaining the content in ways students could understand, and responding to the students' emotions.

In reflecting on their journey of development, the professors articulated developing an ability to engage their students, plan lessons that align learning objectives with the students' experiences and interests, use student feedback to inform their teaching, and develop strategies to respond to students' emotional needs. A collection of classroom artifacts and field notes from observations of classroom instruction substantiated these claims regarding skill acquisition. The artifacts and collected data informed theories, which provided a plausible explanation of the learning process these professors use to develop their pedagogical skills.

The Process of Learning to Teach

Data from the interview transcripts and classroom observations presented in this study portrayed the professors as active learners who were deeply committed to developing the pedagogical skills needed to respond to the challenges they faced preparing to teach and teaching. In analyzing how the professors developed their pedagogical skills, three critical observations came to light. First, the lived experiences the professors had teaching highlighted more complex challenges than those they faced while preparing to teach their courses. Second, in responding to the complex challenges inherent in teaching, the participants' engagement in reflection increased. Third, the professors' reflections supported the development of the pedagogical skills they needed to address the challenges they faced preparing to teach and while teaching.

The three observations described in the above paragraph provide insight into a cyclical process the professors use to develop their pedagogical skills. The process involved the participants' preparation to teach their classes, their lived experiences teaching, a reflection on their experiences teaching, the development of new pedagogical strategies to enhance their instructional practice, and an implementation of the new pedagogical strategies in subsequent teaching experiences. The professors' depiction of how they responded to the challenges teaching is best envisioned through Darcie's words, "It's a process."

The professors' selection of what "new things" to implement in their teaching practices was informed through the reflection process that occurred before, during, and after their teaching experiences. The professors' reflections focused on their educational experiences as students, formal professional development and mentoring opportunities, lived experiences teaching, direct and indirect feedback they received from their students, conversations they had with other educators about teaching and learning, and professional readings.

At the beginning of their employment at Northern University, all of the professors participated in formal professional development opportunities. However, as time passed, the professors engaged in informal learning opportunities to help them develop their pedagogical skills; they did not re-engage with formal professional development activities. Their informal learning opportunities involved reflection, mentoring, and trial and error. In other words, the professors primarily enhanced their pedagogical skills in settings that lacked a formal structure and enabled them to take control and self-direct their learning. For example, the collegial conversations the professors referenced were typically unplanned and spontaneous events, which focused on emergent, timely issues that the professors faced in their teaching practices. In another example, the professors described spontaneously implementing new teaching strategies while they taught. Through reflecting on the outcome of implementing new strategies, the professors gained insight into how to improve their teaching practice.

Summary of Major Findings

The illustrative stories depicted in this chapter described how the professors enhanced their pedagogical skills by engaging in formal and informal learning opportunities. The professors focused on developing the pedagogical skills they needed to address the challenges they faced teaching. Overall, the professors universally identified 16 challenges, which fall under four themes: fulfilling their role as teacher, curriculum development, student engagement, and student-teacher relationships (see table 1.1). The identification of 16 common challenges is noteworthy, given the professors' diverse backgrounds and varied areas of expertise.

Table 1.1: Universal Challenges Participants Faced

Theme	Universal Challenges
Fulfilling their role as teacher	1. Clarifying their teaching philosophy
	2. Developing their identity as teachers
Curriculum development	3. Writing the course syllabus
	4. Selecting the content they would teach
	5. Developing an understanding of the material they were expected to teach
	6. Determining how to deliver the content
	7. Creating student assignments
	8. Integrating technology into their lessons
Student engagement	9. Engaging students during class
	10. Motivating students to complete the homework assignments
	11. Managing the classroom
	12. Delivering the course content clearly
	13. Responding to their students' questions during lectures
Student-teacher relationships	14. Developing positive relationships with students
	15. Dissolving the students' perception that professors are unapproachable
	16. Responding to students' emotions

As the professors prepared to teach their courses, they discussed two broad challenges: fulfilling their role as a teacher and curriculum development. In relation to fulfilling their role as

a teacher, the participants referenced needing to clarify their teaching philosophy, develop their identity as teachers, and design active learning activities for their classes.

When the participants discussed the challenges with curriculum development, they mentioned six challenges. The larger number of challenges associated with curriculum development, compared to fulfilling their role as teacher, is not surprising given that the participants tended to focus more on the technical skills needed to teach effectively and less on the abstract challenges of developing their identities as teachers. For example, in relation to curriculum development, the professors first discussed the challenge of writing the course syllabus. Second, the participants stated that selecting the content they would deliver in their lectures was challenging. Once the participants chose their content, they faced their third challenge, which was developing a deep understanding of the material they were expected to teach. The fourth challenge was determining how they would deliver the content they had selected. The fifth challenge appeared as the participants created their students' assignments, which included developing assessment tools such as rubrics. Finally, the participants identified that integrating technology into their lessons was difficult.

In addition to the challenges the professors faced preparing to teach, they also met a new set of challenges when they started teaching. Their new set of challenges fall into two categories: student engagement and developing student-teacher relationships. More specifically, the professors referenced five challenges related to student engagement. First, they identified the challenge of engaging students during class. Second, the participants found it hard to motivate their students to complete the homework assignments. Third, classroom management was challenging, and, fourth, they referenced the challenge of delivering their course content clearly. Finally, the participants described responding to their students' questions during their lectures as difficult.

With regards to developing student-teacher relationships, the professors identified three challenges. First, the participants were challenged by developing positive relationships with the students. Second, they found dissolving the students' perception that professors are unapproachable difficult. Lastly, the participants relayed that responding to students' emotions was difficult.

In addition to the 16 universal challenges the professors referenced that related to fulfilling their role as teacher, curriculum development, student engagement, and student-teacher relationships, there are three challenges that the participants did not commonly reference, which can be explained through the participants' unique teaching contexts and specialized curriculum. Darcie identified the first unique challenge when she discussed the challenge of managing her own emotional health. Josephine discussed the challenge of presenting her course material so that all of their students could visually see the information. Finally, Josephine was alone in describing the challenges associated with managing her graduate assistant team.

As noted above, the participants faced a majority of the same challenges as they began teaching. The insights provided in this chapter help us understand the challenges and the ways in which these novice professors developed their pedagogical skills and responded to the challenges they faced as emerging educators. A summary of the participants' experiences is discussed in the following chapter, as well as implications for educational developers and higher education institutions.

Chapter 5: Summary and Discussion of the Findings

This chapter begins with an introductory review of the purpose of this study, including an overview of the research design. The introductory review is followed by a summary of the major findings, which are organized and framed around the research questions. As I discuss the findings within the organizational structure of the research questions, I relate the findings to current literature and offer insights into how the study contributes to what we know about the ways in which novice professors develop their pedagogical skills. The chapter concludes with a discussion about implications related to the findings.

Introduction

Delivering quality education is challenging for novice professors who have limited or no pedagogical training. The purpose of this study was to better understand the processes and practices novice professors use to continually develop their pedagogical skills after attending formal professional development activities or programs.

This research was designed as a qualitative case study utilizing interviews and classroom observations to capture the novice professors' experiences as they developed their pedagogical skills. The novice professors in this study came from two different disciplines at Northern University, were screened as having had less than three years teaching experience as full-time faculty, and demonstrated a commitment to improving their pedagogical skills through their voluntary participation in formal professional development programs offered by Northern University's Faculty Development Centre. Data for the study included transcriptions of two interviews, pedagogical artifacts, and field notes of classroom observations. Each source of data contributed to an understanding of how professors developed the pedagogical skills necessary for effective teaching and the delivery of quality education. The data set was analyzed using a combination of systematic coding, thematic analysis, and the development of grounded theory. This analysis resulted in an understanding of the learning process that novice professors use to respond to the challenges they face as beginning teachers.

The analysis of the narratives and the illustrative examples in the previous chapter provided insight regarding how the participants developed their pedagogical skills. The following sections summarize the findings from this study using the research questions as a way to organize the discussion. In each section, the findings are examined in light of the extant literature, and I present my thoughts about how the study contributes to an understanding of how novice professors develop their pedagogical skills.

Research question 1: What do novice professors identify as essential pedagogical skills for effective teaching? The first research question focused on the essential pedagogical skills the participants believed effective teachers demonstrated and posed: What do novice professors identify as essential pedagogical skills for effective teaching? During the initial interview, participants were asked to identify the pedagogical skills they believed were essential to effective teaching. Two interesting findings emerge from the analysis of their responses.

First, the participants' responses included those essential pedagogical skills that novices predictably demonstrate, not the pedagogical skills effective educators typically exemplify. To elaborate this point further, I refer to Kugel's (1993) model that presents six stages of professional skill development. The initial two stages of Kugel's model suggest that novice professors begin teaching with a focus on themselves, as well as how they are teaching and what they are teaching. Similarly, the effective pedagogical skills the participants in this study focused on concern what they do in the classroom: having a deep understanding of the content they teach, thoughtfully planning their lessons, presenting the course content in ways that

students can understand, managing the classroom dynamics, communicating clear expectations to students, and giving prompt feedback. The participants' articulation of the pedagogical skills and the skills' association with Kugel's initial stages of development is not surprising given that the participants in this study were themselves novices.

Further evidence of the participants' ability to discern only those pedagogical skills that are within their own skill set came as the participants did not mention any pedagogical skills associated with Kugel's (1993) subsequent stages of professional skill development. Kugel's four remaining stages of professional skill development included the professors' ability to shift their concerns from themselves to the students they teach, recognize that students are individuals with individual needs, acknowledge that their role is more akin to a coach rather than a lecturer, and respect students as independent learners. In the final stage, Kugel described teachers with advanced professional skills as those educators who continually revisit areas of concern in their instructional practice and continually fine-tune their teaching skills.

The second interesting finding relating to those pedagogical skills the participants identified as effective was the reference to "student feedback," which aligned with the effective pedagogical skills referenced in the extant literature. All of the participants agreed that it was important to give students timely feedback to ensure effective integration and improvement in the subsequent assignments. Similarly, Ramsden (1992) and Chickering and Gamson (1987) cited prompt feedback as essential to quality teaching. The primary difference between the personal characteristics the participants referenced in this study and those espoused in the research literature was that characteristics referenced in the literature related more to the act of teaching than personal attributes of effective teachers. For example, Ramsden (1992) asserted that effective teachers have a strong understanding of the relationship between teaching and learning, and Smittle (2002) identified a demonstrated commitment to teaching and learning and engagement in ongoing professional development as critical characteristics.

In summary, the professors seemed to more easily capture the skills involved in *doing* teaching, versus *being* a teacher. The ease of identifying skills related to *doing* teaching makes sense if we consider that all of the participants referenced the pedagogical skills of the effective teachers they had had as students, but none referenced the personal characteristics of educators they deemed effective. Therefore, the picture that emerged captures the professors as more readily able to identify effective pedagogical skills that fall within novices' skill set. They faced greater challenge in articulating the characteristics associated with their identity as teachers, as well as the skills beyond their stage of development.

Research question 2: What are the perceived pedagogical challenges novice professors identify? The participants in this study identified several challenges they faced teaching, addressed in research question two: what are the perceived pedagogical challenges novice professors identify?

In sharing their teaching journeys, the participants referenced 19 challenges, of which 16 were identified by all of the participants. The participants' universally identified challenges fell within four categories: fulfilling the role as a teacher, curriculum development, student engagement, and developing student-teacher relationships. The category of curriculum development proffered six challenges, while the participants cited four challenges related to student engagement, and only three challenges each for student-teacher relationships and fulfilling their role as teachers. The difference in the number of challenges within each category can be explained by the participants' focus on the technical skills of teaching rather than the abstract challenges of relationship and identity development.

Beyond the 16 commonly identified challenges discussed in the previous paragraph, individual participants referenced another three challenges: managing one's own emotional health, presenting material so that all of the students could visually see the information, and managing a team of graduate assistants. These three uniquely referenced challenges can be explained through the participants' different teaching contexts and specialized curricula.

While the participants identified three unique challenges, the majority of challenges were commonly identified, which is significant given the participants' diverse backgrounds and varied disciplines. In other words, the novice professors in this study generally experienced the same set of challenges. This extensive set of commonly shared challenges affirms Ramsden's (1992) assertion that novice professors face challenges for which they may not have satisfactory responses, even after years of effort and practice.

Research questions 3: How do novice professors describe what they do to enhance their pedagogical skills beyond their participation in formal professional development? Recognizing that they faced challenges in their teaching practices, the participants in this study took initiative to address the challenges they met and, by doing so, enhanced their pedagogical skills. The third research question focused specifically on what the participants did to enhance their pedagogical skills and asked: how do novice professors describe what they do to enhance their pedagogical skills beyond their participation in formal professional development? The participants enhanced their pedagogical skills through engagement in formal professional development and informal learning opportunities, such as mentoring, reflection, and trial and error.

Recognizing that they lacked pedagogical training, the participants enrolled in formal professional development programs and activities at the beginning of their employment at Northern University, either workshops that lasted less than eight hours or semester-long courses. The shorter-term workshops focused on specific topics that the professors almost immediately incorporated into their teaching practices. The longer-term courses provided participants with the opportunity to delve into broader pedagogical concepts. After these experiences engaging in formal professional development opportunities at the beginning of their service at Northern University, the participants indicated that they did not re-enroll in further formal professional development activities because they did not have enough time.

Although they did not engage in further formal professional development activities, the participants described many informal learning opportunities that helped them enhance their pedagogical skills. Informal learning is a phenomenon that has been studied for over two decades. Bruce, Aring, and Brand (1998) suggested that informal learning "constitutes as much as 70 percent of all workplace learning" (p. 13). Cross (2007) attested that formal learning "is the source of only 10 to 20 percent of what people learn at work" (Appendix A para. 1). Further, Boud and Walker (1990) claimed that "Most learning takes place outside of organized educational settings. Such experience is typically haphazard and unplanned, and difficult or impossible for the learner and those facilitating learning to control" (p. 1). For the participants in this study, informal learning opportunities were influential in their development of pedagogical skills.

When the participants described the informal learning experiences that enhanced their pedagogical skills, they also referenced the challenges they faced. The challenges and their pedagogical skills were discussed in tandem because the participants focused on developing the pedagogical skills they believed would address the challenges they faced. In other words, the pedagogical skills the participants developed were purposeful and targeted at addressing a

challenge or challenges they identified in their teaching practice. The participants shared that three informal learning activities influenced the development of their pedagogical skills: mentoring, reflection, and trial and error.

First, the participants used mentoring as an opportunity to seek advice and support in their pedagogical skill development and, ultimately, to address the challenges they faced teaching. The mentors' knowledge of the participants' pedagogical skills, needs, and unique teaching circumstances helped make the participants' mentoring experiences particularly helpful in the development of their pedagogical skills.

Second, the participants described reflection as an effective tool that helped them respond to the challenges they faced in their teaching practices. The literature reviewed in Chapter 2 establishes reflection as a critical tool in learning (Boud, 1990; Boud, Keogh, & Walker, 1985; Burchell & Dyson, 2005; Heron, 1999; Jarvis, 1987; Kolb, 1984b; Lave, 1991; Mead, 1969; Schön, 1983). In this study, reflection enabled the participants to identify a challenge they faced teaching, brainstorm possible solutions, and implement strategies. More specifically, the participants relied on reflection-in-action and reflection-on-action, concepts that Schön (1987) introduced and that were discussed in Chapter 2. Reflection-in-action was used when the participants met an unanticipated challenge while teaching. In implementing reflection-in-action, the participants consciously reflected in the moment of teaching and spontaneously altered their teaching to address a challenge they faced. Reflection-on-action took place after the participants' teaching experiences and focused on the challenges the participants experienced teaching and possible solutions to the challenges. Once the participants implemented their solutions, they re-engaged with reflection-in-action and reflection-on-action. Re-engaging with reflection-in-action and reflection-on-action created a cyclical pattern. In this cyclical pattern, the participants used reflection to identify the pedagogical skills that they needed to respond to the pedagogical challenges they faced, as well as recognize the skills they had already implemented that gained them their desired results.

The final informal learning experience the participants identified was trial and error. Through a process of trying out new teaching strategies in the classroom and assessing which strategies gave them their desired outcomes, the participants identified the teaching strategies that best addressed the challenges they faced teaching. An identification of the teaching strategies that worked led the participants to a deeper consciousness of which pedagogical skills they used to attain those desired results. The pedagogical skills were refined through further practice teaching.

In summary, the participants recognized that they lacked pedagogical training and, at the onset of their employment at Northern University, sought out formal professional development opportunities to develop their pedagogical skills. Rather than re-engaging in formal learning opportunities, such as those activities and programs offered by the Faculty Development Centre, the participants described informal learning opportunities as most influential in supporting their development of the pedagogical skills needed to address the challenges they faced teaching. The participants' informal learning opportunities involved mentoring, reflection, and trial and error. Overall, the participants primarily enhanced their pedagogical skills in settings that lacked a formal structure and that enabled them to take control and self-direct their learning.

Research question 4: How do novice professors respond to the challenges they encounter as they work to continually develop their pedagogical skills? At the beginning of their careers, the participants recognized that they had a limited amount of pedagogical training and, in response, engaged in formal professional development. As they had more experiences

teaching, the participants described using a number of other strategies that helped them respond to the challenges they faced teaching, which are discussed in research question three above, and include: mentoring, reflection, and trial and error. Overall, the participants' stories detailed in the previous chapter described the participants' response to challenges through informal learning experiences.

In responding to the challenges they faced teaching, the participants' experiences outlined a process that proved helpful in their development of pedagogical skills. More specifically, the process involved preparing to teach, teaching, reflecting on their teaching experiences, developing new pedagogical strategies that enhanced their instructional practice, and implementing new pedagogical strategies in subsequent teaching experiences. The findings in this study supported a grounded theory, which captured the participants' learning as a cyclical process. The participants' learning process is consistent with Kolb's (1984) experiential learning theory, which was presented in Chapter 2.

Broadly summarized, Kolb's (1984) experiential learning cycle begins with individuals' concrete experiences. Following their concrete experiences, individuals observe and reflect on their concrete experiences. Through observation and reflection, individuals develop abstract conceptualizations that they use to make generalizations about their concrete experiences. The generalizations are often used to create theories that individuals put into action during Kolb's final stage, active experimentation.

The similarities between Kolb's (1984) learning cycles and the participants' learning cycle are clear. For example, teaching provided participants with a concrete experience. After they taught, the participants shared that they made sense of their teaching experiences through reflection. From their reflections, the participants conceptualized new theories and developed responsive teaching strategies that were implemented in their subsequent teaching experiences.

Identifying the participants' learning cycle, described above, was one of two key insights into understanding the processes and practices these participants used to develop their pedagogical skills. The second insight emerged through an analysis of the type of learning that promoted their pedagogical skill development. The participants primarily enhanced their pedagogical skills in informal settings, such as self-directed mentoring, reflection, and trial and error. In other words, informal learning opportunities comprised the majority of the learning opportunities that enhanced the participants' pedagogical skill development.

The study's findings about how novice professors developed their pedagogical skills suggest several implications for faculty development centers and higher education institutions. These implications are discussed in the ensuing paragraphs.

Implications for faculty development centers. Despite that literature and the findings in this study affirm that informal learning fostered more learning than formal learning, opportunities for formal learning remain prevalent in higher education institutions. Although the dissolution of faculty development centers in the foreseeable future is unlikely, the following three recommendations for faculty developers are suggested as a means to enhance the support faculty development centers offer faculty.

The first recommendation emphasizes the role of reflection in formal professional development: educational developers need to provide more opportunity for novice professors to reflect on and to make sense of their own experiences teaching. This recommendation stems from the findings, which affirm that reflection is a critical component of novice professors' learning process. For the participants in this study, reflection was a critical tool in them making sense of their teaching experiences and supported their identification of challenges that needed to

be addressed in their teaching practices. Thus, an effective professional development program design should concentrate on facilitating activities that help teachers make sense of their individual teaching experiences. Facilitating professional development program activities that are designed to help professors process their experiences is obviously challenging as every participant in the program has different experiences teaching. However, this study affirmed existing theory, which promotes reflection as a critical component in learning. Educational developers need to ensure that their programs include ample opportunity for the attendees to reflect and to make sense of their teaching experiences.

The second recommendation asserts that professional development programs provide more time for colleagues to interact socially with one another and to discuss teaching and learning. In this study, the participants shared that the conversations they had with their colleagues enhanced their teaching practice. Departments, meetings, and professional development programs, including mentoring, must set aside more time for professional dialogue.

The third recommendation promotes greater consideration of the challenges novice professors face in the development of appropriate professional development activities. With greater consideration of the challenges identified in this study, educational developers are empowered with an identification of the challenges novice professors face and can tailor their programs to address specific challenges. Furthermore, educational developers are encouraged to seek input from novice professors in terms of what specific challenges they would like to address. Beyond its impact on faculty development programs, however, this study also offers five recommendations for higher education institutions, discussed in the ensuing paragraphs.

Implications for higher education institutions. The findings from this study inspire six implications for higher education institutions. The structure of higher education institutions often increases the challenges novice professors face, and, through implementing the recommendations in this section, higher education institutions could decrease the challenges they create for professors and provide more space for the professors to develop the pedagogical skills necessary to deliver quality education.

First, higher education institutions need to offer novice professors better support in addressing the challenges over which the participants have less control. For example, the participants in this study described having little control and limited solutions to the following challenges: large class sizes, physical layout of their classrooms, students' preparedness, students' emotional needs, and not having enough time in a day to devote to teaching.

Second, higher education institutions must ensure that each novice professor has pedagogical training from the institution where (s)he will begin teaching. Most institutions offer a new faculty orientation, which provides faculty with an introduction to the university. Such orientations are insufficient substitutes for pedagogical training. Every higher education campus has unique pedagogical supports. For example, Northern University has a subscription to a technology program that helped Ryan flip his classroom. Prior to attending a professional development workshop, however, Ryan did not know about this technology program and was prepared to create unique strategies that would have been greatly time consuming. Because each campus has its own wealth of resources and its own unique culture, it is prudent that each institution offer pedagogical training that extends beyond faculty orientation. Further, institutions could create and publish a list of resources most used by faculty on campus with links to help professors explore the possibilities of those available resources. Identifying the resources available may highlight new possibilities and resources that support novice professors' development.

Third, higher education institutions must develop more supports to help novice professors teach large classes of over 50 students. As this study illustrated, there are special challenges involved with teaching large classes of over 200 students. Classes with large student enrollment pose greater classroom management challenges, and the physical classroom spaces make conveying the content difficult. For example, mentoring programs with mentors who have recently taught or are still teaching large classes and professional development designed specifically to address the challenges in teaching large classes would be helpful.

Fourth, institutions of higher education should provide novice teachers with the opportunity to teach the same class several semesters in a row. The professors in this study referenced feeling increased comfort and confidence teaching a class they had already taught. These novice professors shared that, by teaching the same class more than once, they were able to reflect on their prior experiences teaching that class and used the insights gained from these reflections to improve the course and enhance how they delivered the material. Furthermore, when professors teach a course for the first time, a significant amount of energy is spent on tasks such as writing the syllabus, familiarizing themselves with the content, and choosing textbooks and readings. By re-teaching the same class, professors are able to spend more time and energy adjusting and refining their curriculum and delivery. In short, teaching the same class multiple times supports professors effectively and efficiently developing pedagogical skills.

Fifth, higher education institutions should consider designing a feedback system that provides professors with the ability to collect meaningful feedback about their course, their students' needs, and how the professor can better meet their students' needs. All of the participants in this study used student feedback to enhance their teaching practices. However, each professor described having to develop a student feedback system to collect meaningful feedback. By developing a universal system that helps teachers improve their practice, institutions will help educators save time developing individual systems to collect feedback.

Sixth, universities and colleges must provide a lighter teaching load for novice professors so that they have more time to plan their courses, reflect on their teaching experiences, and improve their practice. Because novice professors have limited experiences and pedagogical tools from which to draw, they need additional time to think through their teaching plans and teaching experiences. As discussed in this study, all of the professors felt that they did not have enough time to spend planning and preparing to teach their lessons. Reducing the number of classes novice professors are expected to teach will provide professors with the time needed to plan, reflect on, and refine their teaching practices.

The aforementioned recommendations serve to further enhance the support higher education institutions provide novice professors, with the goal of delivering quality education to students. Additional support can be provided through future research projects, described below.

Implications for Future Research. This study provided insight into the challenges novice professors faced as well as the strategies novice professors used to address those challenges. Through the development of their pedagogical skills and increased experiences teaching, professors honed the pedagogical strategies needed to deliver quality education. Becoming effective teachers, however, does not negate the concept that challenges are an inherent aspect of teaching and will persist regardless of how refined an educator's practice becomes. Therefore, it would be interesting to conduct research regarding the challenges veteran teachers face, as well as the processes and practices veteran professors use to address those challenges.

In addition to a focus on higher education settings, this study's design could be applied to K-12 settings. Investigating the challenges that novice and veteran K-12 teachers experience, as well as an exploration of the processes and practices they use to address these challenges, would provide further insight into the processes and practices educators use to develop their pedagogical skills.

With a collection of data from higher education and K-12 settings, researchers could conduct a rich analysis of the similarities and differences between higher education and K-12 campuses. A comparison between higher education and K-12 settings would be particularly interesting given that the majority of K-12 educators receive extensive pedagogical training prior to teaching. The similarities and differences from this suggested comparative study would provide insights into the challenges of all teachers, as well as the processes and practices educators use to develop their pedagogical skills and deliver quality education to students.

In addition to examining the similarities and differences of higher education and K-12 educators, future research could involve a greater number of participants and combine qualitative and quantitative approaches to promote generalization of the results. The study could be repeated with focus groups comprised of novice professors from other universities. This suggestion of combining qualitative and quantitative methodologies could extend the findings of this study to benefit novice professors in their own professional development, which would impact the quality of students' learning experiences.

Moreover, we would benefit from future research that helps us better understand how the processes and practices novice professors use to develop their pedagogical skills differs between disciplines. Insights into the processes and practices novice professors use to develop their identities as teachers would further inform the kinds of supports higher education institutions can provide for their faculty members.

As institutions develop more effective support and development for novice professors, it is essential that institutions assess the efficacy of their supports and program initiatives. Assessing the efficacy is critical in determining whether well-intended efforts are indeed offering the support that novice professors need to be successful educators.

Personal Implications

This study has influenced my work as an educator. I find myself designing professional development opportunities differently than I did before I conducted this study. For example, my traditional approach to designing workshops or seminars was to first think about what I believed the participants needed to experience and what would be of value to their development. After reflecting on what I perceived the participants needed, I would then orchestrate and facilitate activities that I believed the participants would find meaningful. In essence, I controlled the agenda for the participants' learning.

After having conducted this study, my planning processes and facilitation have changed. For example, in the planning process, I now first consider the experiences the participants have had and design opportunities for the participants to reflect on and make sense of their experiences. Once I have a sense of their experiences, I involve the participants in a goal setting process, which is guided by these questions: What is it the participant wants to learn at this moment in their career? How can I support their learning? How is the learner willing to engage in their learning process?

As I gain more information about the learners' needs and what it is they want and they perceive they need to learn, I design a vision for how I can support the learners and act on this vision. At times, fulfilling the vision requires a coaching role, and, in other instances, my role is

more of a mentor. Depending upon the size of the group with whom I am dealing, I incorporate structures where the learners themselves serve as coaches and mentors for each other. Overall, I have come to appreciate that, as an educational developer, I do not need always to be at the helm of a learning experience. My observations tell me that the less I control the learning experience and foster an informal learning situation, the better the participants learn. In other words, the more I can facilitate informal learning opportunities, the greater the chance of the participants learning what they feel is relevant and meaningful to their work.

In addition to its influence on how I plan professional development opportunities for others, this study has also fostered a greater appreciation for how informal learning in the workplace influences employees' learning and growth. My increased respect for informal learning as a development tool causes me to examine learning settings in the workplace and to anticipate how organizations can promote and facilitate informal learning.

The process of completing this study has brought a heightened awareness of my own learning processes, which, like the participants in this study, are generally promoted through informal learning experiences. I find myself now to be more consciously engaged in informal learning settings as a participant as well as a coach and mentor.

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Appendix A
Interview Protocol

The interview protocol below outlines the conversation scripts I used in my interview protocol. Additionally, this Appendix outlines the interview questions I asked participants. Each interview question was followed by an identification of the research question (RQ) to which the interview question aligns, or the question's purpose. Following are the research questions:

1. What pedagogical skills do novice professors identify as essential for effective teaching?
2. How do novice professors describe what they do to enhance their pedagogical skills beyond their participation in formal professional development?
3. What are the perceived pedagogical challenges novice professors identify?
4. How do novice professors respond to the challenges they encounter as they work to continually develop their pedagogical skills?

Introductory Script

Hi. It's great to put a face to the emails. Thanks for being a part of this study. I really appreciate you taking the time to chat with me today. Thanks so much. Before we get started, I would like to formalize the consent. As I mentioned in the email, this interview is voluntary and what you share will be kept anonymous. I will not use your name or the University's name in the reporting of my data. If there are identifying characteristics that come up, I will remove those so that there is no way your answers can be linked back to you. I will be sharing my anonymous findings with the UTC, but, before I do that, I will member check and confirm that I am capturing the information you shared accurately.

As I mentioned in the email, this study is targeted at understanding the processes and practices novice professors use to develop their pedagogical skills after attending formal professional development with the UTC. Development is a tricky topic to really pin down and it's longitudinal in nature. I'm hoping to capture your development through two interviews and one classroom visit. I'm going to ask you to think back and metacognitively revisit your experiences. If some of the questions I ask cause you to pause to reflect, no worries. Take your time. I am hoping that we can delve deeply into the processes and practices you use to develop.

The goal of sharing your developmental strategies is to help educational developers better tailor their PD programs to replicate the processes and practices novice professors use in their development.

If it's okay with you, I'd like to record today's interview. I may jot down a few words here and there that really jump out for me. Is that okay? Cool. Thanks. Do you have any questions about any of this process?

Okay, so with your signature, we can get started. My interview questions are pretty broad, so feel free to take your answers in whatever direction you wish. As we go along, I may ask follow-up questions. There's no right answer.

Initial Interview Questions

1. Please tell me about how you learned to teach.
2. When you first started teaching, what surprised you about how teaching felt?
3. If you could give teaching advice to a new hire, someone fresh-out-of-grad-school, what would the advice be?
    a. What makes you value this advice?
4. What are some things about teaching that keep you up at night?

   a. What do you do about them?
5. What are some of the teaching skills that you have experienced, seen, or heard about that you admire?
   a. Who had these skills?
   b. How have you tried incorporating these skills into your practice? If so, tell me about that experience.
6. Think back to when you started teaching. . .and to now.
   a. What was it like when you first started teaching? (Purpose: Learning about the participant and their experiences as a novice professor)
   b. How would you describe teaching now?
   c. What are some of your significant changes you have made to your practice?
   d. What has contributed to your serious changes in practice?
7. In the past, how have you overcome challenges?
   a. What do you do for yourself to recognize that you have overcome a challenge?
8. Tell me about your experiences attending the UTC program.
   a. How has formal PD affected your teaching?

Concluding Initial Interview Script

Wow. Big think! Thank you so much for sharing your story with me. I really appreciate hearing about your experiences. You mentioned _____ and _____. I wonder if you have _____ artifacts that you might share with me to add to my data analysis. I can make copies or can have electronic copies.

OK–so next steps. We need to first book a time to observe a class, then a second interview with you. Is there a particular class you would like me to watch?

Awesome. OK, so can you give me a lesson plan or a game plan of what you hope to teach in that class? We can talk about it now, or you can email me some things.

Cool. Are you OK if I give you another idea to simmer on? Thanks! I know so much of what I'm asking about is big think! Next time, one of my interview questions will ask you for a metaphor for your development as a teacher. That's a hard question on the spur of the moment, so I wanted to introduce it today.

Any questions?

Okay, so I'll be in touch, and thank you again for your support and time.

Follow-Up Interview Script

Great to see you again. I have gone through and transcribed our first interview, and I really appreciate and understand more of your teaching journey by going through that in greater detail. I'm really excited to talk to you about your class, too!

I am going to begin with some clarifying questions relating to our initial interview and my classroom observations to make sure I understand the information you shared with me. Do you have any questions before we get started?

Follow-Up Interview Questions

1. In the first interview, you said, _____. I noticed _____ when you were teaching. Can you tell me a little more about how you learned to do that?
2. I noticed you [describe actions] while you were teaching. Tell me about the thinking you had when you did [actions].
   a. What led up to knowing how to do [describe action]?
3. If I were to observe that same class [state title of class] when you first started teaching, what might I have seen?

   a. How have you have changed as an educator and person since then?
   b. What in your teaching has changed?
   c. Why do you think you made _____ changes?
   d. How did you learn to do _____ changes?
   e. What resources did you use to make _____ changes?
   f. How do you think _____ changes affect students' learning? How do you know that they affect students' learning?
4. What is your metaphor for how you develop as an educator?

Appendix B

Invitational Email to Participants

Dear _____,

I would like to introduce you to one of our Visiting Fellows, Kerri Burchill, and invite you to participate in her research study. Kerri's study will give the University insight into how we can better support our new faculty and will also help us improve our UTC program. Since you are one of our new faculty and have attended the UTC program, I was hoping you might consider being involved in Kerri's study.

Kerri would like to conduct two interviews that focus on how you have engaged in your own development, as well as observe one class, which focuses on the developmental processes you use in practice. Outside of this opportunity to reflect and identify your developmental processes, you will be remunerated $50, a small token of appreciation, towards a conference or membership of your choosing.

Kerri has more details, but I wanted to make the introduction and let you know that you were hand chosen. I think you would enjoy participating.

Please email Kerri (cc'd here) if you are interested.

[Name of Faculty Development Center Director]

Appendix C
Individual Email Inviting Participants to Participate

Morning _____,

I hope this email finds you warm. Even though I am from Calgary, I feel like I've never been this cold!

At any rate… I am emailing to follow-up on [Director of Northern University's Faculty Development Center] email yesterday and wanted to personally extend an invitation to participate in my research study. As [Director of Northern University's Faculty Development Center] indicated, my study focuses on the processes and practices professors use to develop their pedagogical skills. Ironically, the existing empirical literature tells us how to conduct faculty development, but has little insight into the ways in which professors develop. Your participation will help identify the ways in which professors develop. My broad goal is that the data collected in this study will help to inform the type of activities professional development programs incorporate.

Your participation in my study will involve:
One initial audio-recorded interview that captures your journey of pedagogical skill development (approximately one hour);
ne classroom observation intended to capture the pedagogical skills you use (no extra time required);
One follow-up audio-recorded interview that delves into the processes and practices you used to develop the pedagogical skills you discussed in the initial interview and demonstrated in the classroom observation (approximately an hour); and,
An analysis of pedagogical artifacts that capture your pedagogical skill development that may have come up in our discussions. Examples of pedagogical artifacts may include: syllabi from the first and current classes you teach, assessments, lecture slides, etc.

The information you share will be protected in two ways. First, all information gathered in my study will be anonymous. The faculty at Northern University's Faculty Development Center will not know who participates in my study and any reference to the information you share will be anonymously reported. Secondly, before I submit my dissertation, I will member-check with you to confirm that I am capturing your thoughts accurately. There are no known risks with this study.

My case study involves as many at least three to five participants. In total, 12 individuals have been invited to participate in this study. The participant selection was guided by:
Participants who have attended one or several of CTL's half-courses;
Professors who have taught less than six years part-time or three years full-time; and
Have a doctorate degree.
If you do not meet these criteria, you are unfortunately ineligible for this study. :(

I hope you consider becoming a party of my study. Not only will your contributions inform an area of research that is currently absent, but this study will provide a space for you to reflect on

the ways you have developed your pedagogical skills. If you have any questions about the study, please do not hesitate to contact me.

If you feel comfortable moving forward, I would like to set up the first interview at your earliest convenience. I can come to you, we can meet in a coffee shop – you name it, I'll be there!

Kerri

Kerri Burchill
Doctoral Candidate
Eastern Michigan University
Cell: 347-404-1507

Appendix D

Email Confirming Participation

Huge smile on my face - I am so grateful you are volunteering! I am glad you share my passion for this work and this topic.

I live in Baltimore, and am here as Visiting Fellow through Dec. 4th.
I am free for the initial interview:
- [list dates and times]

Looking forward to meeting and hearing your story!

Kerri

Kerri Burchill
Doctoral Candidate
Eastern Michigan University
Cell: 347-404-1507

Appendix E

Seeding the Interview Email

Dear _____ -

Thanks for your email. I am so grateful you are willing to participate. [Date] works for me, too, so I will see you at [place] at [time].

In preparation for our initial interview together, it might be helpful if you were able to ponder how you came to be the teacher that you are today. In other words, give some thought to your journey of development as a teacher.

Kerri

Kerri Burchill
Doctoral Candidate
Eastern Michigan University
Cell: 347-404-1507

Appendix F

Classroom Observation Note Taking Form

Pedagogical Skills

1. High Standards
2. Recognizing diversity amongst the students
3. Cooperation amongst students
4. Interaction between professor and student
5. Prompt feedback
6. Time management skills (encouraging independence)
7. Active learning
8. Conveying content in understandable ways
9. Understanding relationship between teaching and learning
10. Commitment to teaching and learning
11. On-going PD
12. Other

Professor's action	Pedagogical Skill #	Context	Proactive/ Reactive	Professor's subsequent actions	Researcher's lingering thoughts or questions

Appendix G

Consent Agreement

Brief Information

I am a doctoral candidate in the Educational Studies Doctoral Program at Eastern Michigan University. My research project is an interview-based qualitative case study that explores the processes and practices novice professors use to develop their pedagogical skills. Your participation in my study will involve:

- One initial audio-recorded interview that captures your journey of pedagogical skill development;
- One classroom observation intended to capture the pedagogical skills you use;
- One follow-up audio-recorded interview that delves into the processes and practices you used to develop the pedagogical skills you discussed in the initial interview and demonstrated in the classroom observation; and,
- An analysis of pedagogical artifacts that capture your pedagogical skill development and the processes and practices you use/used to develop. Examples of pedagogical artifacts may include: pre and post-assessments in [Northern University's teaching certificate program], syllabi from the first and current teaching semesters, assessments, lecture slides, etc. The exact nature of the pedagogical artifacts will emerge from the interviews and classroom observation.

Participation in the study is completely voluntary. Sharing teaching artifacts is voluntary. There are no repercussions if you choose not to participate. All reporting of the data gleaned in this study will be anonymous. I will be the sole person with electronic copies of the electronic data. I may discuss the findings with my Dissertation Chair so that I can accurately. Your name will not be used when I present my findings. Further, the University and the [formal professional development program name's] will not be named. Lastly, the Faculty Development Centre will not know which professors chose to participate in the program.

Benefits of the Project

This research project serves to better understand the processes and practices novice professors use to develop their pedagogical skills so that educational developers can design more effective programs to support novice professors' development, be it through formal and informal program designs. The benefits to you as participant may be the opportunity to reflect on a develop a greater consciousness of the processes and practices you use to develop your pedagogical skills.

There are no foreseeable risks to participating in the project.

Dissemination of Results

Findings from the research project will be shared in a presentation at [Northern University]. Any member of the public and [Northern University] may attend the presentation where I report my findings. Prior to presenting, I will member check and confirm that I am capturing your thoughts accurately. If you query how the information is presented, we can agree on different wording or I can remove the information. If you would like to see the final report, a copy will be sent to you as well. The findings may be used in later professional presentations at Conferences or submitted for publication. Any dissemination of findings will be anonymous and complete confidentiality will be ensured.

If you would like to participate in the research study, please read and sign the consent form below.

Consent Form

I agree to participate in two interviews conducted by Kerri Burchill as part of a research study about the processes or practices novice professors use to develop their pedagogical skills. I understand that each of the two interviews will last approximately 60 minutes and that the interviews will focus on the processes and practices I use to develop my pedagogical skills and any other related issues that I would like to discuss. Additionally, I understand that Kerri Burchill will observe one of my classes while I am teaching. I understand that, through the interviews and classroom observation, Kerri may ask to see artifacts that I have created as part of my teaching practice, including the pre- and post-assessment I created in the [teaching certificate program]. I understand that the sharing of these artifacts is voluntary.

I understand that my participation in the interviews is completely voluntary, that I may choose not to answer certain questions or go "off the record" at any time, and that I may withdraw and discontinue participation at any time with no negative consequences, no penalty, nor loss of benefits. I further understand that my confidentiality will be protected at all times and that a fictitious name will be assigned to me after the interviews are completed, and that any identifying characteristics about me or my family or [Northern University] will be deleted. The transcripts of the audio recordings will be assigned a numerical code and kept in a locked filing cabinet in the apartment of Kerri Burchill, as well as on a password protected computer file. I further understand that if I decide at any point after the interview that I do not wish to participate, my tapes and transcripts will be destroyed and no material will be used from the interviews.

I agree to allow these confidential research findings from my interview(s) to be anonymously shared in three ways: 1) with faculty from the Faculty Development Centre at the University of Windsor who permitted the researcher to conduct the study; 2) during Eastern Michigan University presentations; and, 3) future publications, conferences, and professional settings. I understand that my confidentiality will be fully protected at all times and that should I choose to not want my information disclosed at the University of Windsor, the researcher will not disclose.

This research protocol and informed consent document has been reviewed and approved by the Eastern Michigan University Human Subjects Review Committee (IHSRC) for use from October 20, 2014 to July 1, 2015. If you have questions about the approval process, please contact the UHSRC at human.subjects@emich.edu or call 734-487-0042.

I give permission for my interview to be audio recorded and the data therein to be analyzed and anonymously shared.

Interview Respondent's Name: _____

Signature: _____ Date: _____

I give permission to allow Kerri Burchill to observe one of my classes while I teach.

Interview Respondent's Name: _____

Signature: _____ Date: _____

I give permission to allow Kerri Burchill to analyze the artifacts I share.

Interview Respondent's Name: _____

Signature: _____ Date: _____

This research protocol and informed consent has been reviewed and approved by the Eastern Michigan University Human Subjects Review Committee (UHSRC) for use from October 1, 2014 to October 1, 2015. If you have questions about the approval process, please contact the UHSRC at human.subjects@emich.edu or call 734-487-0042

Appendix H

Eastern Michigan University IRB Approval Letter

RESEARCH @ EMU

UHSRC Determination: **EXEMPT**

DATE: **November 10, 2014**

TO: **Kerri Burchill, MA, MEd, MHRM**
Department of [*DEPARTMENT NAME*]
Eastern Michigan University

Re: **UHSRC: #**
Category: Exempt category *B1*
Approval Date: November 10, 2014

Title: **Insights into the Processes and Practices Novice Professors Use to Continually Develop Their Pedagogical Skills Beyond Participation in Formal Professional Development Programs**

Your research project, entitled **Insights into the Processes and Practices Novice Professors Use to Continually Develop Their Pedagogical Skills Beyond Participation in Formal Professional Development Programs,** has been determined **Exempt** in accordance with federal regulation 45 CFR 46.102. UHSRC policy states that you, as the Principal Investigator, are responsible for protecting the rights and welfare of your research subjects and conducting your research as described in your protocol.

Renewals: Exempt protocols do not need to be renewed. When the project is completed, please submit the **Human Subjects Study Completion Form** (access through IRBNet on the UHSRC website).

Modifications: You may make minor changes (e.g., study staff changes, sample size changes, contact information changes, etc.) without submitting for review. However, if you plan to make changes that alter study design or any study instruments, you must submit a **Human Subjects Approval Request Form** and obtain approval prior to implementation. The form is available through IRBNet on the UHSRC website.

Problems: All major deviations from the reviewed protocol, unanticipated problems, adverse events, subject complaints, or other problems that may increase the risk to human subjects **or** change the category of review must be reported to the UHSRC via an **Event Report** form, available through IRBNet on the UHSRC website

Follow-up: If your Exempt project is not completed and closed after **three years**, the UHSRC office will contact you regarding the status of the project.

Please use the UHSRC number listed above on any forms submitted that relate to this project, or on any correspondence with the UHSRC office.

Good luck in your research. If we can be of further assistance, please contact us at 734-487-3090 or via e-mail at human.subjects@emich.edu. Thank you for your cooperation.

Sincerely,

Beth Kubitskey

Chair