WHY DO BEGINNING TEACHERS LEAVE SCHOOL?: PRE-SERVICE AND BEGINNING SCIENCE TEACHERS’ PROFESSIONAL IDENTITY AND ITS RELATION TO DROPPING OUT OF THE PROFESSION

by

JI YEON HONG

(Under the Direction of Paul A. Schutz)

ABSTRACT

With the increasing concern about high attrition rates among beginning teachers, it is imperative to better understand this dropout phenomenon. This is because teachers leaving the profession early poses a considerable burden to schools and students, and impacts school effectiveness overall. In order to explore this issue, the current study focused on teachers’ professional identity, which has been shaped from the pre-service teacher stage. This study included four groups of teachers in the teaching trajectory: pre-service teachers before student-teaching (Group I), pre-service teachers after student-teaching (Group II), dropout teachers who were in the teaching profession less than five years (Group III-A), and beginning teachers who have taught less than five years (Group III-B). Also, teachers’ professional identity was further broken down into six factors: value, efficacy, commitment, emotions, knowledge & beliefs, and micropolitics. Thus, the purpose of this study was to explore how people in different levels of the teaching profession perceive their professional identity differently, and how these perceptions are related to their dropout decision.
Under the theoretical framework of phenomenology and symbolic interactionism, this study employed multi-methods using both qualitative interview and quantitative survey. A total of 84 participants for quantitative survey and 27 for individual interview were recruited from the Secondary Science Teacher Certificate Program at the University of Georgia and those who had graduated from the same program. The survey data were analyzed using descriptive statistics, ANOVA, and MANOVA. For interview data, inductive analysis and constant comparison method were employed.

The result showed that four groups of participants perceived their professional identity differently. Their value, efficacy, commitment, emotion, knowledge & beliefs, and micropolitics showed different patterns, and the greatest difference was found in their emotional burnout. Dropout teachers’ lack of self-efficacy in managing the classroom, their unfulfilled commitment, demanding administration, and beliefs emphasizing their heavy responsibilities were perceived to be related to teachers’ emotional burnout. Based on the findings, this study suggested several implications for pre-service teacher education program and in-service teachers’ professional development.

INDEX WORDS: Teachers’ Professional Identity, Teacher Attrition, Motivation, Pre-service Teacher Education, Teachers’ Professional Development
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DEDICATION

I dedicate my dissertation to my family and friends who have supported me throughout the process. I feel deep gratitude and give special thanks to my loving parents, Jung-Pyo Hong & Jong-Bun Lee, who made all this possible.
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Finally, I would like to acknowledge my Lord who is the true source of my life.
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CHAPTER 1
INTRODUCTION

Studies on teacher retention have consistently found a high rate of attrition among new teachers (Darling-Hammond, 1999; DeWert, Babinski, & Jones, 2003; Haberman & Rickards, 1990; Quartz, 2003; Wiess, 1999). According to the Georgia Educator Workforce (2006), Georgia’s overall teacher attrition rate has risen consistently since the fiscal year of 1993. In both fiscal years of 2004 and 2005, the attrition rate exceeded 9%. In particular, teachers with fewer than three years’ experience leave at a rate of almost 14% a year, and the rate for those with three to seven years’ experience have an average attrition rate of almost 10%.

The current teacher dropout rate creates problems because of its potential impact on student learning and school district management. Although a number of studies have explored the reasons teachers leave the profession, most of these studies focused on either teachers’ demographic variables (e.g., age, gender, and ethnicity) or organizational problems (e.g., class size, property wealth, and student demographics). Those factors are important in explaining teacher dropout, but they cannot demonstrate how individual teachers interpret their environments, how teachers perceive themselves, and how an individual’s cognition, motivation, and emotion impact the decision to leave teaching.

In addition, a teacher’s decision to cease teaching is generally not a quick decision resulting from a single event. Rather, such a career decision is inevitably intertwined with the teacher’s own sense of self and identity as a teacher. Thus, in order to appropriately understand this dropout phenomenon, it is necessary to explore teachers’ own perceptions of their identities
as teachers. Teachers’ identities are neither created by a one-time event, nor unable to change; rather, they are malleable, sensitive to social context, and in ever-changing states of being (Danielewicz, 2001). Thus, the continuously developing and changing teacher identity needs to be examined within a time frame. Accordingly, it may be useful to explore beginning teachers’ decisions to dropout using the lens of “teacher identity,” which has been constructed, challenged, and changed throughout pre-service teacher education and in-service teaching experience.

Problem Statement

The National Commission on Teaching and America’s Future has noted the “need to hire more than two million teachers to handle huge enrollment increases, replace an aging teacher workforce ready to retire, and respond to the chronic attrition of new teachers that plagues American schools” (National Commission on Teaching & America’s Future, 1996). In spite of such a growing need, a sizable proportion of teachers have left the profession. According to the National Commission on Teaching and America’s Future (2003), the attrition rate of teachers has increased faster than the supply of teachers. In particular, the greatest concern in the area of teacher attrition is beginning teachers. Nationally, 30% to 50% of new teachers leave the field within their first five years (Ingersoll, 2003; Quality Counts 2000). The Alliance for Excellent Education (2004) reported alarming attrition rates: 14% of new teachers leave by the end of their first year, 33% leave within three years, and 50% leave within five years. Although statistical numbers vary depending on the research site and data collection methods used, research on teacher attrition has consistently indicated a high rate of new teacher attrition (Darling-Hammond, 1999; DeWert, Babinski, & Jones, 2003; Haberman & Rickards, 1990; Quartz, 2003 Weiss, 1999).
Among the new teachers who left the teaching profession, science teachers showed a higher attrition rate than that for teachers in other subject areas. For example, the Georgia Educator Workforce (2006) reported that science teachers have the second highest attrition at 16.7%. As Murnane and Olsen (1990) stated, science teachers are more likely to leave teaching than those in other subject areas due to the fact that they have a high opportunity cost for teaching measured by test scores and have a variety of career alternatives. In other words, science teachers have higher National Teacher Examination (NTE) scores than do other subject area teachers, and their competence may increase their opportunity to look for different career options.

Such a high attrition rate poses a considerable burden to schools and students, and impacts school effectiveness overall. It disrupts program continuity and planning, and also brings significant financial costs to school districts in recruiting and managing teachers. Public schools spend over 2.6 billion dollars annually replacing teachers. School districts spend approximately $12,500 for each teacher lost (Alliance for Excellent Education, 2004). Furthermore, the cost of teacher attrition may be severely underestimated as it is difficult to measure the impact of teacher attrition on students and their learning (Shen, 1997; Theobald, 1990). In particular, new teachers’ attrition undermines the possibility of obtaining quality teachers. No matter how well pre-service teachers are prepared and educated, much of their effectiveness grows through the actual classroom teaching experience; thus, some years of experience are required to reach the effective level (Gilbert, 2005; Rice, 2003). Since new teachers leave the profession before gaining those years of experience and learning, this is one of the contributing factors to the loss of quality teachers.
Significance and Purpose of the Study

The teacher attrition issue has been studied since the mid-1960’s (e.g., Faunce & Weiner, 1967; Gottlieb, 1964), and a number of researchers have explored the reasons that teachers leave schools in alarming numbers (e.g., Cockburn, 2000; Fresko, Kfir, & Nasser, 1997; Ingersoll, 2001; Reynolds, Ross, & Rakow, 2002; Theobald, 1990; Weiss, 1999).

Existing studies on teacher dropout fall into two categories: (1) research focusing on individual characteristics and (2) research focusing on school characteristics. The first examines certain demographic characteristics of the individual which influence teacher retention. This line of research includes demographic variables such as gender (Billingsley, 1993; Theobald, 1990), age (Bobbitt, Faupel, & Burns, 1991; Dworkin, 1980), ethnicity (Bloland & Selby, 1980; Kelly, 2004; Smith & Ingersoll, 2004), marital status (Boe, Bobbitt, Cook, Whitener, & Weber, 1997), and educational attainment (Gold, 1996). For example, several researchers have agreed that younger teachers are more likely to leave the teaching profession (Ingersoll, 2001; Kelly, 2004; Theobald, 1990), as are teachers with higher educational degrees (Kelly, 2004; Theobald, 1900).

On the other hand, research focusing on school characteristics attempts to link the teacher dropout decision to school and district characteristics such as school size, average class size, expenditure, poverty enrollment, student demographics, and minority enrollment (Bloland & Selby, 1980; Heyns, 1988; Mont & Rees, 1996; Smith & Ingersoll, 2004). For example, Ingersoll (2001) and Cloudt & Stevens (1995) revealed that teachers in schools with a large proportion of students receiving free or reduced lunch are more likely to leave teaching. In addition, Weiss (1999) noted adverse workplace conditions to be the major reason given for leaving the profession. These conditions include (a) inadequate support from the school administration, (b)
poor student motivation to learn, and (c) student discipline problems. Besides these variables, easy access to teaching positions, local unemployment rate, and community conditions were also listed (Chapman & Green, 1986; Freski, Kfir, & Nasser, 1997; Theobald, 1990). Lortie (1975) described workplace conditions as crucial in facilitating teacher retention.

As such, the existing studies attempt to explain teacher attrition from individuals’ demographic variables or from an organizational perspective with the emphasis on external factors. However, such explanations are limited in fully explaining the phenomena because decision-making and particular career practices are deeply intertwined with an individual’s meaning-making process and internal value system. Neither innate demographic characteristics themselves nor external school contexts are sufficient in explaining how teachers perceive their experience as a teacher, how they internalize the external conditions, and how they relate their career with their sense of self. Thus, this study attempts to explore teacher attrition and related issues as a function of the individual teachers’ perceptions of themselves and the teaching profession. Under the same working conditions, individual teachers react in different ways and make different decisions. Without considering individual teachers’ values and meanings, we cannot fully understand the human variation in the teaching career (Chapman & Hutcheson, 1982; van den Berg, 2002). However, this does not mean that individuals are totally independent in creating their own meanings. While the immediate context (i.e., classroom and school district) and distal context (i.e., education policy and curriculum) influence individual teachers, teachers also develop shared patterns of meaning. Given the assumption that multidirectional transactions are involved in the issue of teacher retention, this study focuses on foregrounding individual teachers’ perceptions of themselves, their teaching profession, and other related variables, while leaving organizational factors and demographic variables in the background.
In researching individual teachers’ perceptions of themselves in relation to the dropout decision, it is important to note that their perceptions of themselves develop continuously over time. Thus, it is necessary to explore not only the perceptions of beginning teachers, but also those of pre-service teachers. A number of researchers (Bullough, 1997; Flores, 2001; Flores & Day, 2006; Hobson & Tomlinson, 2001) have pointed to not only the in-service teachers’ problems but also the pre-service teachers’ perceptions and preparation in relation to the dropout decision. For example, one of the pre-service teachers in Flores & Day’s (2006) study stated, “I didn’t get the best preparation… because I think that they didn’t prepare us well enough to teach…. We realize that those theories just cannot be put into practice” (p. 224). As such, pre-service teachers perceive how they are prepared as a future teacher and how they expect the teaching career will be in their future. If pre-service teachers are not well-prepared or do not have positive and reasonable perceptions towards their career, they may “adapt strategically” to the given context without confirming their beliefs and theories (Flores & Day, 2006). This surface-level behavior, which is not rooted in their own beliefs and values, can lead to a lack of motivation, and their identity as a teacher can be destabilized.

Bullough (1997) also highlighted the importance of considering teachers’ self and identity issues in relation to pre-service training and education: “Teacher identity – what beginning teachers believe about teaching and learning and self-as-a-teacher – is a vital concern to teacher education; it is the basis for meaning making and decision making … Teacher education must begin, then, by exploring the teaching self” (p.21). Looking at pre-service teachers’ perceptions will help researchers to answer the question, as “What steps can be taken to keep teachers in the profession once they have indicated they want to be a teacher?” Thus, this
study aims to explore pre-service and beginning teachers’ perceptions of themselves and their teaching career, which may lie behind the dropout phenomena.
CHAPTER 2

LITERATURE REVIEW

This study focuses on the teachers’ decision to stop teaching through the lens of the teachers’ professional identity. This chapter provides an overview of the literature related to teachers’ professional identity development. First, existing literature on teacher identity was reviewed in order to explore how teacher identity has been researched previously. And then, several factors that are related to the pre-service teachers’ goal to become a teacher and the beginning teachers’ identity, which may affect their dropout decision, were identified and reviewed.

Teachers’ Professional Identity – The Messy Area

Teachers’ professional identity is an important factor in understanding their professional lives and career decision making. Existing studies have considered teachers’ professional identity as a key factor on teacher’s motivation, effectiveness and retention (Day, Elliot, & Kington, 2005; Day, Kington, Stobart, & Sammons, 2006; Lasky, 2005; van den Berg, 2002). This is because the ‘self’ is crucial in constructing the way we interact with the environment and make judgments in a given context. As Watson (2006) stated, “professional action is doing professional identity” (p.510). In other words, the way we perceive ourselves influences our choice of action and judgment. Thus, understanding teachers’ professional identity is important for gaining insight into the essential aspects of teachers’ professional lives such as their career decision-making, motivation, job satisfaction, emotion, and commitment.
Researchers in the area of professional identity have yet to develop a comprehensive understanding of how teachers establish a framework to guide their actions and judgments. Early on, researchers conceptualized the self as singular, fixed, stable, and decontextualized attributes that are fairly independent to the external environment (Allport, 1955; Cooley, 1902). However, these initial views were challenged, because they could not explain the diversity or change of behavior depending on the context. More recently, researchers have thought about identity as a dynamic, continually changing, and active process which develops over time through the interaction with others (Cooper & Olson, 1996; Kelchtermans, 1993; Lemke 2003; Watson, 2006). Currently researchers tend to assume that identity is relational (Johnson, 2003). That is, identity is continually being formed and reformed through the way we internalize external environment, negotiate the interactions, and externalize ourselves to others.

Hebert Mead, the founder of symbolic interactionism, also began to understand the self from this perspective. He suggested that the self is not a fixed entity or static structure; rather it is a constantly changing state of being through the process of interaction with others (1934). Mead explained that, “The self is something which has a development; it is not initially there, at birth, but arises in the process of social experience and activity” (Mead, 1934, p.135). His idea comes from the premises of symbolic interactionism. Symbolic interactionism assumes that (1) humans act toward things on the basis of meanings the things have for them; (2) the meaning of such things is derived from, or arises out of, the social interaction that one has with one’s fellows; and (3) meanings are handled in, and modified through, an interpretive process used by the person dealing with things encountered (Blumer, 1969). Thus, humans act and interact on the basis of symbols, which have meaning and value for the actor. The meaning is a result of interpretation of the objects involved, which is a social and interactive process. This aspect is congruent with
what Taylor (1989) mentioned; “Self can never be described without references to those who surround it.” (p.35). Also, the actor can be an object of his own action. He is an object to himself, and the self-object emerges from the process of social interaction. In other words, actors make themselves as objects through a process of role-taking (Blumer, 1969; Mead & Morris, 1934).

In line with Mead’s idea, if an individual interacts in a particular setting on a daily basis, then he or she is more likely to handle the meaning in the interpretive framework shared by the people in the setting. In other words, the individual develops a sense of self in relation to the setting’s particular cultural setting and the specific ways to impose meaning on the object. Given this idea, it is possible to consider an individual’s “professional self” or “professional identity,” which is shaped by the position one occupies in society. In accordance with this idea, Beijaard, Verloop, and Vermunt (2000) explained professional identity as something established and maintained through the interaction with social situations and negotiation of roles within particular contexts.

Therefore, teachers who share their experience in the teaching profession and pre-service teachers who are trained and exposed to teaching practice shape the teachers’ professional identity. In the area of teacher education, “professional identity” or “teacher identity” has been emerging, but an unequivocal framework has yet to be established in the area of teacher identity. This is perhaps due to the fact that teacher identity is a relatively new research area (Bejaard, Meijer & Verloop, 2004) and not enough research has been accumulated to generate indisputable agreement on these issues. Depending on each researcher’s research questions and purpose of study, the definition of teachers’ professional identity and its characteristics has been identified differently. For example, Gaziel (1995) explored teacher identity through the lens of teacher burnout and the effect of a sabbatical year. On the other hand, Day, Elliot, and Kington (2005)
researched teacher identity in terms of commitment issues. Several researchers, in their recently published articles, pointed out the lack of consensus on the definition and core features of teachers’ professional identity (Bejaard, Meijer & Verloop, 2004; Beijaard, Verloop, & Vermunt, 2000).

Thus, as an attempt to clarify this burgeoning area, I reviewed 12 articles published between 1993 and 2006. These are the only articles that can be drawn on from the current body of literature. Regarding the selection criteria, eight articles were chosen out of the 22 articles reviewed by Beijaard, Meijer, & Verloop (2004). Among their 22 articles, the 14 that do not have explicit definitions about professional identity were excluded. In addition, four more recent articles (2003-2006) listing “teacher identity” or “professional identity” as key terms were chosen from the literature.

The 12 articles selected defined and explained teacher identity in different ways. Table 1 shows the different emphases and angles that each study presented.

Table 1

<table>
<thead>
<tr>
<th>Author(s)</th>
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<th>Definition of Teacher Identity</th>
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<tr>
<td>Siraj-Blatchford</td>
<td>1993</td>
<td>Teachers’ sense or perception of autonomy determines their teacher identity.</td>
</tr>
<tr>
<td>Goodson &amp; Cole</td>
<td>1994</td>
<td>Teacher identity is similar to professional reality and the construction of this reality is an ongoing process of personal and contextual interpretation.</td>
</tr>
<tr>
<td>Gaziel</td>
<td>1995</td>
<td>Teacher identity is similar to a list of items that represent aspects of the profession.</td>
</tr>
<tr>
<td>Volkman &amp; Anderson</td>
<td>1998</td>
<td>Teacher identity is a complex and dynamic equilibrium between personal self-image and teacher roles one feels obliged to play.</td>
</tr>
<tr>
<td>Coldron &amp; Smith</td>
<td>1999</td>
<td>Teacher identity is not fixed or unitary; it is not a stable entity that people have but a way to make sense of themselves in relation to other people and contexts.</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Year</td>
<td>Description</td>
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<tr>
<td>Dillabough</td>
<td>1999</td>
<td>Teacher identity is never fixed or pre-determined, but arises out of the relationship between those who interpret and ascribe meaning to action, language, and everyday practice in varied social contexts and circumstances.</td>
</tr>
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<td>Samuel &amp; Stephens</td>
<td>2000</td>
<td>Teacher identity is a ‘perlocated’ understanding and acceptance of a series of competing and sometimes contradictory values, behaviors, and attitudes grounded in the life experiences of the self in formation.</td>
</tr>
<tr>
<td>Beijaard, Verloop, &amp; Vermunt</td>
<td>2000</td>
<td>Teacher identity is related to aspects of teaching common to all teachers at a general level, implying subject-matter, didactic, and pedagogical expertise.</td>
</tr>
<tr>
<td>Johnson</td>
<td>2003</td>
<td>Teacher identity shifts in teachers’ relationships with people, with learners as well as colleagues. Understanding who I am is relational, constructed and altered by how I see others and how they see me in shared experiences and negotiated interactions.</td>
</tr>
<tr>
<td>Lasky</td>
<td>2005</td>
<td>Teacher identity is how teachers define themselves to themselves and to other. It is a construct of professional self that evolves over career stages and can be shaped by school, reform, and political contexts.</td>
</tr>
<tr>
<td>Day, Elliot, &amp; Kington</td>
<td>2005</td>
<td>Teacher identity is the result of an interaction between personal experiences, and the social, cultural, and institutional environment in which they function on a daily basis. Identities are closely bound with personal and professional values, and they change according to circumstance over the course of a career.</td>
</tr>
<tr>
<td>Watson</td>
<td>2006</td>
<td>Professional identity is a reflexive project applied to the context of our working lives.</td>
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Although different researchers defined teacher identity in different ways, there are common features, such as it being an ongoing process and contextually influenced. In other words, teacher identity is not fixed or static; rather it is the result of interpretation and re-interpretation of experiences. Thus, professional identity not only answers the question, “Who am I at this moment?” but also, “Who do I want to become?” (Beijaard et al., 2004, p.122). As Siegert and Chapman (1987) emphasized the temporal dimension of professional identity, each action and decision teachers make is influenced by their past experience and present context and becomes a condition that shapes the context for future action. Thus, teacher identity is an ongoing process which develops over time.
In addition, each teacher develops a different identity depending on the value and context he or she adopts. Van den Berg (2002) also emphasized how context plays a role in forming individual teachers’ professional identities: “The assumption that teachers’ meanings are not entirely determined by individual psychological factors was examined. The functioning of teachers is also influenced by the dominant political structures and culture within a school” (p.595). As Lasky (2003) mentioned, teacher identity is influenced by the culture and structure of social setting, but the relationship is complex and reciprocal. Teacher identity is shaped by the structural and cultural features of the teaching profession, but it also contributes to the shaping of the environment.

Given these characteristics of professional identity, researchers attempted to identify components that constitute the professional identity. For example, Kelchtermans (1993) listed five interrelated parts of professional identity: self-image, self-esteem, job-motivation, task perception, and future perspective. Lasky (2003) also identified several factors included in teacher identity such as commitment, knowledge, beliefs, values, emotional well-being, and vulnerability. It is a meaningful attempt to explain what constitutes teacher identity and how those factors influence teachers’ identity formation and reformation process. Thus, in the following section, firstly pre-service teachers’ goal setting to become a teacher and beginning teachers’ characteristics were described, and then several psychological factors that constitute pre-service and beginning teachers’ professional identity were identified.

Pre-service Teachers and Beginning Teachers

Pre-service teachers, whether they went through student-teaching or not, are those who decided to become a teacher and thus enter a teacher education program, but are not yet exposed
to an actual classroom environment on a daily basis in the role of “teacher”. They already set a
goal to become a teacher and they are in the path to actualize the goal.

Goal to Become a Teacher

Generally, goals are defined as a subjective representation of what one would like to have happen and what one would like to avoid in the future (Ford, 1992; Markus & Nurius, 1986, Schutz, 1991). In the cognitive literature, goals are said to be key organizational processes that influence people’s thoughts, memories, and interpretations of what they see in the world. Goals also provide directions for thoughts, behavior, and strategies (Schutz, Crowder, & White, 2001). Thus, people’s goals answer the question, “Why am I doing this work?” (Dowson & McInerney, 2001), because people initiate and persist in behaviors to the extent they believe the behaviors will lead to desired outcomes or goals (Deci & Ryan, 2000). In the goal setting process, Nuttin (1984) criticized researchers’ tendency to premise impersonal, instinctual, and unconscious human motivation, and emphasized the importance and need to focus on how personalized motivation is transformed into a goal setting process. As such, goals like “becoming a teacher” are rarely recognized as total abstraction (Markus & Nurius, 1986). Instead the goal is represented as a particular individual’s goal, such as “my becoming a teacher”. In other words, the flip side of it is that the self cannot exist in isolation. Rather it is connected with other motivational structures, such as future goals and life task goals (Cantor & Kihlstrom, 1987).

Possible Self as a Teacher

When one’s self represents individuals’ ideas of what one would like to become, and what one is afraid of becoming, we call these “possible selves” (Markus & Nurius, 1986). In particular, the former is called the “hoped-for self” and the latter is called the “feared self”. Possible selves are cognitive manifestations of goals, aspirations, motives, and fears (Markus &
Nurius, 1986; Markus & Wurf, 1987). For those who decide to become a teacher, the “teacher self” would be one of the possible selves.

Markus & Nurius’ (1986, 1987) working self-concept is helpful to conceptualize how people construct their possible selves. Unlike traditional views on the self, which assume a uniform, static, and generalized self-concept, the working self-concept postulates a continually active and shifting array of self-knowledge. This array changes depending on the individual’s past experience, and the individual’s present interaction with social circumstances. It also forms a disposition towards the future. Thus, those who have a teacher self as a future possible self form the array of self-knowledge, which was influenced by past experience and present interaction with circumstances.

The working self-concept, a continuously forming array, also guides people’s direction for the future--because possible selves function as incentives for future behavior (Markus & Nurius, 1986). While their past and current self-knowledge form their future possible self, possible self also defines its current self by providing an evaluative and interpretive context for the current view of the self. This is because possible selves not only encompass the desired end state, but also guide the ways and steps to achieve the end state. Thus, Markus and Nurius (1986) referred to possible selves as a cognitive bridge between the present and the future.

Once these pre-service teachers enter into the profession, they need to adapt to a new environment while encountering many challenges and responsibilities. As a novice teacher, they begin to teach in the actual classroom, and also begin to transact with various stakeholders involved in schooling which generates unexpected factors and dynamics. In particular, beginning teachers who just entered the profession are vulnerable to stressful classroom realities and policy demands and, therefore. are at risk in regards to their professional development. Johnson and
Ryan (1983) described this as a “reality shock”, which threatens their ongoing goal pursuit and commitment. Thus, the initial years of teaching are considered an important phase in teachers’ professional development (McCormack, Gore, and Thomas, 2006). In the following sections, I’m going to review studies that discuss how pre-service and beginning teachers form and reform their professional identity in relation to six factors: value, efficacy, commitment, emotions, knowledge & beliefs, and micropolitics.

Value

Within motivation literature, Atkinson (1957, 1966) originally defined value as the relative attractiveness of succeeding or failing at a task. Later, Rokeach (1973, 1979) articulated it and redefined values as beliefs about the desired end state, which is represented as a goal. In the achievement motivation literature, subjective task values have been defined more specifically as how a task meets different needs of individuals (Battle & Wigfield, 2003; Brophy, 1999; Eccles, Adler, Futterman, Goff, Kaczala, Meece, & Kidgley, 1983; Wigfield & Eccles, 1992).

Eccles et al. (1983) proposed four major components of subjective task values: attainment value, intrinsic value, utility value, and cost. Attainment value refers to the importance of doing well on a given task; intrinsic value is the enjoyment one gains from doing the task; utility value refers to how a task fits into an individual’s future plan; and cost refers to what the individual has to give up to do a task. Eccles et al.’s (1983) empirical study revealed that achievement performance, persistence, and choice of achievement tasks can be predicted by subjective task values. Along the same line, pre-service teachers’ career choice and their commitment to the choice are also influenced by their values.

When pre-service teachers view the teaching profession as central to their own self (i.e., when they hold attainment value), their career becomes an important goal (Wigfield & Eccles,
2002). As Markus & Nurius (1986) mentioned, if actions manage to proceed with an uncertain identity, then they are completely robbed of their meaning. In addition, it is necessary for pre-service teachers to hold utility value, in order to maintain and stay attached to their career choice. Utility value deals with instrumental meaning of a present behavior for future goals (Van Calster, Lens, & Nuttin, 1987; Nuttin & Lens, 1985; Raynor, 1981). Thus, utility values are usually represented as plans, strategies, sub-goals, and pathways for the long-term goal. If pre-service teachers are aware of the meaning of their current behavior in relation to the future goal of becoming a teacher, they will be able to develop a coherent sense of self, because their current self is well aligned with their future self. By definition, possible selves also represent not only cognitive forms of the end states, but also plans and strategies for achieving them (Markus & Nurius, 1987). This is because “people use their possible selves as a blue print for action” (Markus & Nurius, 1987, p.160). Thus, holding utility value also implies the potential for having clear and well-developed possible selves. It is important to have a clear view of the self, because otherwise possible selves are less useful in guiding one’s action and, thus, behavior is more likely to be determined by situational factors (Markus & Nurius, 1987).

As opposed to pre-service teachers who understand the profession perceptually, in-service teachers need specific plans and strategies to fulfill their daily job. Entering a teaching career does not automatically lead an individual to become a good teacher. As Halisch & Kuhl (1987) argued, choice of an action does not directly lead to an outcome; rather it involves steps and tasks related to the goal. Thus, in order to achieve a goal, one needs to successfully fulfill each task related to the goal. However, if the individual cannot find a goal-relevant meaning from the tasks, (i.e., if the individual does not hold utility value for the tasks), motivation for the tasks is weakened. For example, when there are school policies that the teacher cannot agree
with or demand a lot of time, the teacher cannot locate utility value in those tasks. This weakened utility value hampers the teachers’ volition to complete the tasks, which in turn leads to impaired successful completion of tasks in the classroom. When the beginning teacher repeatedly experiences failure, it leaves a negative imprint on them in regard to the teaching profession.

As attribution theories suggest, if the individual attributes perceived failure to external, stable, and uncontrollable factors, one is less likely to make an effort and persist in the tasks (Weiner, 1985; 1986; 1992). For example, beginning teachers who attribute their failure to environmental factors such as adverse school policies (external), and believe that an adverse working condition is not going to be changed (stable) -- and also think there is not much they can do to change it (uncontrollable) -- they may be less likely to put forth volitional effort or persist in the career.

When beginning teachers begin to consider leaving their career, they consider cost of the decision. In other words, when people have choices, they weigh advantages and disadvantages of each option and count the relative importance of them. Cost, one of the motivational components of subjective task value, refers to the lost opportunities that result from choosing one option over the other (Eccles et al. 1983; Eccles, 1987). When beginning teachers make a decision to leave their career, they weigh the options and realize that more negative aspects such as emotional exhaustion, fear of failure, and the amount of effort to achieve the goal are primary factors involved in continuing their teaching career as opposed to giving it up.

Although values are related to pre-service teachers’ motivation to pursue the goal to become a teacher and in-service teachers’ commitment to the goal, it cannot fully explain their career goal setting and goal pursuit. For instance, pre-service teachers or in-service teachers who
value a teaching career, but doubt their ability to teach and manage the classroom, will neither choose the goal to become a teacher, nor make a commitment to the goal. Where value leaves off, self-efficacy may be able to explain pre-service and beginning teachers’ motivation through emphasis on their beliefs concerning the capabilities to learn and employ knowledge and skills.

Self-efficacy

According to Bandura (1986), self-efficacy is defined as “people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performance” (p.391). Bandura (1977) postulated the self-efficacy concept as a mediator. Thus, external influences such as economic conditions, educational and familial structures, socioeconomic status (Pajares, Miller, & Johnson, 1999), and actual ability or skill do not directly affect subsequent performance (Pajares, 2000). Rather they are filtered through the beliefs about one’s capabilities to learn or perform behaviors at designated levels. In other words, Bandura’s key contention is that “people’s level of motivation, affective states, and actions are based more on what they believe than on what is objectively true” (Bandura, 1977, p.2). This is because self-efficacy beliefs help determine what individuals do with the knowledge and skills they have. Thus, self-efficacy influences individual’s choice of activities or goals, as well as how much effort they expend, how long they persevere in the face of difficulties, and their resilience to failures (Bandura, 1993; Pajares, 1996). For pre-service or in-service teachers, self-efficacy explains different perceptions individuals have regarding problems or difficulties. Thus, for example, pre-service teachers who have a stronger sense of efficacy perceive problems differently than those who believe there is little they can do to change the problems they perceive (Evnas & Tribble, 1986). Accordingly, self-efficacy plays a critical role in envisioning and realizing possible selves as a teacher.
Bandura (1977) and Pajares (1996) identified mastery experience, vicarious experiences, verbal persuasions, and physiological indexes as major sources of influence for one’s perceived self-efficacy. Thus, for instance, when pre-service teachers see people who have similar abilities to themselves and successfully achieve their goal of becoming a teacher, it helps them to develop possible selves as a teacher. Furthermore, this vicarious experience that is achieved through modeling those who have successfully gone through the steps helps individuals to visualize what changes are needed to modify their behaviors and essential efforts in achieving their goals (Bandura, 1994).

For beginning teachers, if teachers frequently experience failure to accomplish their classroom goals and classroom management, or if they cannot get encouragement or positive feedback from fellow teachers, then they tend to have a high possibility of forming weak efficacy beliefs. As efficacy beliefs work to determine how much effort people will expend on an endeavor and how long they will persevere when confronting obstacles (Bandura, 1977, 1993; Pajares, 1996), those who have a low sense of efficacy will put forth less effort and will not strongly persevere when difficulties arise. Teachers who put less effort on their work do not seek to improve their own knowledge and expertise and those who could not persevere in the face of obstacles may not remain in the profession.

Commitment

Eccles et al.’s (1983) task value theory claimed that achievement performance, persistence, and choice of achievement tasks can be predicted by the value that one holds. Self-efficacy theories also emphasized the role of self-efficacy in predicting choice of activities, effort, and persistence (Bandura, 1986). Although I do not deny their predictive and explanatory
power, those motivational constructs are limited, because they are basically an individual’s subjective ideas, which may not be precisely grounded in reality.

Pre-service teachers’ subjective perceptions are largely due to their lack of experience in the actual classroom in the role of “teacher”. Thus, the student-teaching experience is of great importance for pre-service teachers, as it provides a chance for extensive exposure to, and training in, the teaching profession through planning and implementing instruction, managing the classroom, evaluating students’ progress, and communicating with other professionals and parents under the supervision of mentoring teachers and university advisors. Through experience and reflection, pre-service teachers may get a better idea of what the teaching profession is like and how they will fit in the profession (Chapman, 1984; Chapman & Green, 1986).

However, when pre-service teachers do not get the chance to obtain enough experience to develop a precise and realistic understanding of the teaching profession, their subjective perceptions may generate distorted possible selves. In other words, pre-service teachers’ possible selves are not well-anchored in concrete social experiences as teachers, thus they tend to distort information or events so as to verify the prevailing view of self. This distortion is represented as the gap between perception and reality, which may weaken persistence towards the goal. Such phenomena imply that, if a goal setting or career choice is treated as an outcome, not as a possible determinant of subsequent behaviors, then the potential and realistic meaning of the goal cannot be explored (Serow, Eaker, & Ciechalski, 1992). This is the reason why motivation literature considers not only goal setting, but also subsequent commitment to the goal.

For pre-service teachers, goal commitment is actually ‘commitment to the career choice’, because they have made a decision to become a teacher, but they are not working as a teacher in the actual classroom. As opposed to ‘executive motivation’, which occurs after making a
decision and a commitment to the goal, ‘choice motivation’ refers to deliberating on goals and committing to the choice (Husman, McCann, & Crowson, 2000; Kuhl, 1984). In vocational psychology, choice motivation has been called a “commitment to career choices”, which means a clear sense of one’s career preference along with a firm attachment to a particular career goal (Blau, 1988; Jordaan & Heyde, 1979; Super, 1957). Commitment to career choice not only includes certainty or decidedness about the goal, but also self-confidence about one’s choices, a positive sense of one’s vocational future, and an awareness of potential obstacles (Blustein, Ellis, & Devinis, 1989). Thus, if pre-service teachers hold commitment to their goal to become a teacher, their subsequent behavior, task choice, and effort will more likely be aligned with their goal to become teachers.

In-service teacher commitment has been identified as an important factor determining the quality of education, and teachers’ decision to dropout (Chapman, 1983; Huberman, 1993; La Turner, 2002; Meyer & Allen, 1997; Nias, 1981; Reyes & Shin, 1995). This is because one’s level of commitment tends to influences work performance, absenteeism, and burnout as well as students’ achievement and attitudes (Firestone, 1996; Firestone & Pennell, 1993; Graham, 1996; Louis, 1998). In spite of the perceived vital role of commitment, there is little consensus about the definition of commitment. As Mowday, Porter, and Steers (1982) pointed out, “researchers from various disciplines ascribed their own meanings to the topic, thereby increasing the difficulty involved in understanding the construct” (p.20).

Some educational researchers have used a descriptive approach in studying commitment. Instead of making a prescriptive definition of commitment, they asked teachers how they define and describe commitment (Coladarci, 1992; Elliott & Crosswell, 2002; Lortie, 1975; Nias, 1981; Tyree, 1996). Even though definitions and dimensions of commitment vary across researchers
and teachers, there exist some common features. First, commitment is a goal relevant concept, and it entails attachment to the goal. The most frequently used word in defining commitment is “attachment”. For example, in general, Kroll (1970) defined commitment as a strong and pervasive sense of attachment to a set of beliefs, ideas, and future directions. In terms of teaching career, Coladarci (1992) defined commitment as “the degree of psychological attachment to the teaching profession.” In addition, Blau (1989), a vocational psychologist, defined career commitment as a concept that encompasses a clear sense of one’s occupational preference along with a firm attachment to a particular vocational goal. Locke and Latham (1990), Campion and Lord (1982), and Locke and Latham (2002) more explicitly addressed a goal relevant definition of commitment. They defined commitment as the determination to try for a goal and the persistence in pursuing it over time. This implies an unwillingness to lower or abandon the goal. Locke, Latham, and Erez (1988) added, “it is virtually axiomatic that if there is no commitment to goals, then goal setting will not work.”

Another common feature of commitment is that it entails contextual reference. In other words, commitment does not exist in a vacuum (Steen, 1988; Tyree, 1996). The contextual references of teacher commitment includes school atmosphere, teachers’ knowledge on subject matter and pedagogy, teaching strategy, students’ characteristics, and professional community (Elliotte & Crosswell, 2002; Roy & Gray, 2004; Tyree, 1996). These contextual references come from the fact that the teaching career’s very nature involves complex and rich working relationships with a number of stakeholders and organizations (Elliotte & Crosswell, 2002).

The final common feature among commitment literature is that commitment is a multidimensional construct (Meyer & Allen, 1997; Nias, 1981; Tyree, 1996). Extant theories posit three dimensions constituting commitment; identification, involvement, and loyalty.
Teacher identification with a teaching career refers to the extent to which teachers strongly support or associate their goals with those of the school and education system. Involvement means their reported willingness to go beyond the bounds of required work. Loyalty to the teaching career indicates teachers’ willingness to remain in the profession.

As such, teachers’ commitment is significant in teachers’ professional development, but commitment itself cannot fully explain why beginning teachers leave their school. The additional factors like emotions, knowledge and beliefs, and micropolitics, which cannot be easily replaced by commitment, will be discussed further below.

Emotions

Emotion is biological to some extent, but is predominantly a social construction. According to Schutz, Hong, Cross, and Osbon (2006), emotion is defined as “socially constructed, personally enacted ways of being that emerge from conscious and/or unconscious judgments regarding perceived successes at attaining goals or maintaining standards or beliefs during transactions as part of social-historical contexts” (p.344). Thus, emotions are inextricably interconnected with teachers’ experience, beliefs, and the context surrounding them. In the area of teacher education, researchers agreed that teaching is an emotionally charged profession, and especially noted negative emotions such as burnout, anger, and depression (Carlyle & Woods, 2002; Gold & Roth, 1993; Hargreaves, 2000).

According to Maslach and Jackson (1984, 1986) burnout is one of the most critical emotions for teachers, and it has three features: emotional exhaustion, depersonalization, and reduced accomplishment. Emotional exhaustion refers to feelings of being overextended and, thus, there is nothing left to give to others on an emotional or psychological level. Secondly,
depersonalization means impersonal and detached response towards students, colleagues, parents, and administrators. Finally, reduced personal accomplishment is feelings of lack of competence and effectiveness in one’s professional life.

In addition, Farber (1991) and Cherniss (1980) defined burnout as the mismatch between input and output. That is, burnout stems from a discrepancy between expected rewards and input effort. This discrepancy is perceived as individuals’ unmet psychological needs and unfulfilled expectations. According to Gold and Roth (1993), burnout is also characterized by progressive disillusionment, which develops gradually over time. Some other researchers focused on uncertainty and ambiguity as a source of burnout. Uncertainty arises as a result of a lack of information, and ambiguity comes from multiple meanings regardless of the amount of information (Weick, 1995). A teaching career is often characterized by uncertainty and ambiguity (Lortie, 1975). Those who have low tolerance for uncertainty or ambiguity are easily hampered from earning psychological rewards and career satisfaction and, thus, burnout is more likely to occur.

Teachers’ burnout is not a minor issue in education, because it leads to changes in teachers’ attitudes and effort which can be observed as “reduced personal responsibility for outcomes, greater self-interest, less idealism, emotional detachment, work alienation and reduced work goals” (Hughes, 2001, p.289). Such negative shifts cannot be ignored, especially when the burnout is frequent, intense, and prolonged, because it has the potential to negatively affect both teachers’ professional development and students’ learning. In sum, burnout can be a contributing factor for beginning teachers’ reduced motivation to pursue the career and a desire to leave the profession.
Knowledge & Beliefs

Knowledge is one of the key parts in constituting teacher identity because “the behavior of teachers is primarily a reaction to the manner in which they cognitively process the situation.” (Van den Berg, 2002, p.592). According to Borko and Putnam’s (1996) framework, teachers’ knowledge can be organized around three different domains: general pedagogical knowledge, subject matter knowledge, and pedagogical content knowledge. The general pedagogical knowledge refers to general knowledge about teaching, learning, and learners independent of specific subject matter. Secondly, subject matter knowledge refers to knowledge of content, facts, and concepts in subject matter. Lastly, pedagogical content knowledge (PCK) refers to the transfer of subject matter knowledge in a way that best facilitates student learning (Borko & Putnam, 1996; Shulman, 1986a, 1986b, 1987; Hoy, Davis, & Pape, 2006). In particular, PCK has been given increased attention because teaching effectiveness is dependent on how well content knowledge is transferred into pedagogical representation (Shulman & Quinlan, 1996). Shulman (1986a) explained PCK as the “ways of representing and formulating the subject that make it comprehensible to others” (p.9). He also used the metaphor that PCK is the “special amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding” (Shulman, 1987, p.8).

In some different literatures, PCK has been explained as “practical knowledge”. Practical knowledge refers to the knowledge of teachers in regard to their classroom situations, and consists of declarative knowledge and procedural knowledge (Van den Berg, 2002; Beijaard & Verloop, 1996). In other words, practical knowledge contains knowing facts and information, and knowing how to proceed and execute specific tasks (Gagne, Yekovich & Yekovich, 1993; Paris, Lipson & Wixson, 1983). In addition, Beijaard and Verloop (1996) tried to conceptualize
practical knowledge in relation to other frameworks such as “implicit theories” and “knowledge-in-action”.

These diverse ways of explaining practical knowledge show that an unequivocal system to discuss teacher’s knowledge has not been decided upon. Actually, with the increased attention to teachers’ knowledge, different frameworks and diverse organizing schemes continue to thrive (Borko & Putnam, 1996; Calderhead, 1996; Hoy, Davis, & Pape, 2006).

Besides teachers’ knowledge, beliefs that individuals hold about teaching and being a teacher are also considered as important bases for teachers’ identity formation and reformation processes. This is because beliefs mediate identity and behavior (Korthagen, 2004; Van den Berg, 2002), and the beliefs teachers hold may influence their judgment and behavior in the classroom (Pajares, 1992; Walkington, 2005). In-service teachers’ beliefs have been formed, in part, during the pre-service stage, and it is difficult to change their beliefs instantly. Ashton and Gregoire (2003) mentioned, “In the case of deeply held beliefs, such as many of the entering beliefs of pre-service teachers, the original beliefs are not replaced but rather continue to influence their thoughts and behaviors.” (p.102). These concerns show how difficult it is to change one’s pre-occupied beliefs, and why pre-service teachers experience difficulty when attempting to influence their professional identity. Further more, this realization provides the insight that if the interventions and reform plans do not come with a change in teachers’ beliefs, there is the danger of only surface level change. Given the importance of a change in beliefs, teacher educators have begun to teach pre-service teachers in a way that challenges their pre-existing beliefs about teaching, learning, subject matter, and self as a teacher (Ashton & Gregoire, 2003; Borko & Putnam, 1996). This challenge will make pre-service teachers’ implicit beliefs explicit, thus increasing the opportunity to confront conflict and inadequacy of their beliefs.
Micropolitics

Micropolitics arose as a challenge to traditional theories of organizations which emphasize a rational, clear, and ordered system. Micropolitical perspective highlights a pattern of interplay between control (domination) and conflict (resistance) (Ball, 1994), and everyday lives of those inside organizations (Blase, 1987). Understanding micropolitics in the teaching profession is useful and meaningful, because school is considered an organization where the exercises of authority and power are complex and difficult. Because of the nature of school organization, teachers’ motivations are often influenced by micropolitics. Van den Berg (2002) stated that;

An exploration of the micropolitical perspective provides insight into the manner in which some teachers can quickly stagnate in their environment. They strive toward the acquisition and maintenance of a stable work situation…. The micropolitical perspective thus emphasizes the use of formal and informal power by individuals and groups to attain their goals within organizations.

(p.538)

Micropolitical perspective is especially useful when examining various relationships in the school organization, because teachers activate micropolitical processes as they interact with administrators or colleagues.

Also, viewing schools as micropolitical entities may help to explain how external interventions influence individual teachers’ subjective behavior and motivation. When the external interventions and policies encounter the already existing patterns of power, social relations, and culture, those who were involved in the patterns need to adjust their beliefs, attitudes, and emotions (Ball, 1994). Such an adaptive process may give rise to problems or
energize individual members in the organization. Thus, teachers’ professional identity, the impact of external interventions, and teachers’ diverse relationships can be explained within a micropolitical framework.

Conclusion

Teaching is not just a methodology or a way of acting, rather it is a “state of being” that requires engagement with identities (Danielewicz, 2001). Also, teacher identity is not a fixed or unchangeable entity, but a process of becoming; thus it is necessary to explore how pre-service teacher identity is related to beginning teacher identity. Pre-service teachers’ possible self and goal to become a teacher were highlighted, and beginning teachers’ characteristics were added. Also, six factors -- value, efficacy, commitment, emotion, knowledge and beliefs, and micropolitics -- were reviewed in relation to the pre-service teachers’ goal to become a teacher and beginning teachers’ professional identity. Those six factors were recognized as an essential foundation in understanding in-service teachers’ decision to leave the profession within their first few years.

Research Questions and Hypothesized Model

As a teacher’s professional identity is not a fixed or unified entity, but rather is in the process of becoming, it is necessary to explore how pre-service teacher identity is related and influences beginning teacher identity. In particular, this study focuses on exploring pre-service teachers’ own perception of their professional identity, and beginning teachers’ own perception of themselves as a teacher through the interaction with their environment. Teachers’ professional identity is also multifaceted and complex; thus, it needs to be unpacked for investigation. Several factors that influence pre-service teachers’ professional identity and beginning teachers’ dropout decision were identified in the review of the literature. These factors included commitment,
value, self-efficacy, emotions, knowledge and beliefs, and micropolitics. Figure 1 below summarizes a hypothetical model that shows how those six factors are situated in relation to teachers’ professional identity development.
Good Teacher/Effective Teacher/Quality Teacher

Value
Emotion
Knowledge & Beliefs
Efficacy
Commitment
Micropolitics

Beginning Teachers’ Professional Identity

Future

Present

Past

Pre-service Teachers’ Professional Identity

Commitment
Value
Emotion
Efficacy
Knowledge & Beliefs
Micropolitics

Figure 1. Hypothesized Model
Based on the existing literature, I propose that pre-service teachers’ professional identity is formed and reformed through the interaction of six factors: commitment (Blustein et al., 1989; Elliott & Crosswell, 2002; Nias, 1981; Serow, 1994; Tyree, 1996), value (Eccles et al., 1983; Wigfield & Eccles, 1992; Wigfield & Eccles, 2002), self-efficacy (Bandura, 1977, 1986, 1993; Pajares et al. 1999, 2000; Pajares, 1996), micropolitics (Ball, 1994; Van den Berg, 2002), knowledge & beliefs (Ashton & Gregoire, 2003; Borko & Putnam, 1996; Grossman, 1990; Hoy, Davis, & Pape, 2006; Shulman, 1986, 1987), and emotions (Hargreaves, 1998; Zembylas, 2003, 2004). Pre-service teachers’ professional identity is influenced when they begin a career in the teaching profession. Thus, beginning teachers’ professional identity emerges from their pre-service teachers’ professional identity via transactions among the six aforementioned factors. Again, the six factors constituting beginning teachers’ professional identity play a critical role in beginning teachers’ professional development. Also note that all these are the result of the interaction between the individual and the environment, which changes over time. I assume that if those six factors are developing well and balancing each other, they will lead beginning teachers to be good teachers who directly affect the quality of education. On the other hand, if those six factors are not developing well or are not balanced with each other, then beginning teachers may eventually decide to leave the profession, which is detrimental to the education.

Given this hypothesized model and framework, this study seeks to answer the following sets of questions.

(1) How do people in different levels of the teaching profession (i.e., before student-teaching, after student-teaching, beginning teachers who left the teaching profession, and beginning teachers who have five years experience or less) perceive themselves as a teacher?
a. Are their value, efficacy, commitment, emotion, knowledge & beliefs, and micropolitics different?

b. If they are different, how are they different?

(2) How is the beginning teachers’ decision to dropout related to their perceptions of professional identity?

a. How do beginning teachers perceive the way their value, efficacy, commitment, emotion, knowledge and beliefs, and micropolitics form and influence their decision to leave the career?
CHAPTER 3
METHODS

This chapter provides a discussion of the methodology that informed the investigation into pre-service and in-service teachers’ professional identity development and its relation to beginning teachers’ dropout decision. First, a detailed explanation of the theoretical framework to guide this study is presented, followed by an explanation of the study design and methods used to collect and analyze the data.

Theoretical Framework

This study is influenced by three different theoretical perspectives: Symbolic Interactionism, Phenomenology, and Post-positivism.

Symbolic Interactionism

Symbolic interactionism rests upon the premises that (1) humans act toward things on the basis of meanings the things have for them; (2) the meaning of such things is derived from, or arises out of, the social interaction that one has with one’s fellows; and (3) meanings are handled in, and modified through, an interpretive process used by the person dealing with things he or she encounters (Blumer, 1969). Thus, humans act and interact on the basis of symbols, which have meaning and value for the actor. The meaning is a result of interpretation of the objects involved, which is a social and interactive process. Also, the actor can be an object of his or her own action. He or she is an object to him or herself, and the self-object emerges from the process of social interaction. In other words, actors make themselves as objects through a process of role-taking (Blumer, 1969; Mead & Morris, 1934). Because of these characteristics of symbolic
interactionism and its assumptions, it needs to orient inquiry towards individual actors, especially how they make meaning in relation to social interaction and how they generate their own sense of self in the world around them. Thus, this study focuses on exploring how individual teachers construct meaning in their teaching career and how they shape their sense of self as a teacher.

Phenomenology

Phenomenology intends to see the world anew, as it really is, rather than as it is constructed through acculturation (Husserl, 1952). Phenomenology assumes that each phenomenon has essence that is universal to human experience, and tradition or culture overlies the essence, so we need to be critical of inherited and prevailing meanings. Wolff (1984) stated that phenomenology “asks us not to take our received notions for granted … but to call into question our whole culture, our manner of seeing the world and being in the world in the way we have learned it growing up” (p. 192). Thus, inquiry under a phenomenological perspective asks questions such as, “Is this what the experience is really like?” (Van Manen, 1940, p.99) or “What is the structure and essence of experience of this phenomenon for these people?” In other words, phenomenological inquiry systematically attempts to uncover the internal meaning structure of lived experience. Consequently, it involves understanding certain phenomena from the actor’s perspective by approaching it in as open a manner as possible. Accordingly, this research attempts to understand teachers’ professional identity and dropout issue from the teachers’ perspective, not from the researcher’s pre-conceived notions.

Post-Positivism

Finally, post-positivism is the third theoretical perspective that informs this study. Post-positivism assumes the non-foundationalist view that human knowledge is not based on an unchallengeable or absolute foundation. Post-positivists accept possible imperfection and
fallibility of evidence and regard human knowledge as conjectural (Philips & Burbules, 2000). As post-positivism focused on finding the most warranted assertibility, addressing the issue of values is inevitable. The internal and epistemologically relevant values, which are related to the aim of science to produce warranted knowledge, should direct the research, but external or epistemologically irrelevant values need to be restricted. What protects science from intrusion by external or epistemologically irrelevant values is communal activity -- open inquiry and discussion, peer review, openness to counter evidence, receptiveness to criticism, and so forth. Thus, inquiry based on such a foundation needs to be open to the community of peers (Morris, 1999). Therefore, opportunities to discuss current research with colleagues or researchers have been sought in order to obtain feedback and to complement any weaknesses or limitations.

By using these three different theoretical frameworks, this study focuses on systematically describing the characteristics of dropout phenomena, generating conceptual categories, discovering associations among phenomena, developing causal propositions fitting the data, and understanding the way participants construe, conceptualize, and act upon the world around them.

Design of the Study

The selection of a research paradigm represents a choice of beliefs that may underlie and guide the entire research process (Guba, 1990). Thus, justification for choosing particular methodologies and methods also should be aligned with the researcher’s ontological, epistemological, and theoretical beliefs. In addition, a good match between research problems and methods employed to elucidate the problem are known to be a core issue in educational research.
As addressed in the subjectivity statement (See Appendix A), this research is based on the eclectic research paradigm. In other words, it is assumed that “all knowledge and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context” (Crotty, 1998, p.42) (Constructionism), but at the same time, it is believed that reality and knowledge exist independently of an individual’s consciousness (Objectivism).

Such eclecticism implies that there exists multiple realities and multiple truths. Also this is further elucidated in three theoretical perspectives: symbolic interactionism, phenomenology, and post-positivism. This combined perspective led me to employ multiple methodologies and methods accordingly. This is not because epistemology and method are dependent or linearly related to each other (i.e., Objectivism – Quantitative methods; Constructionism – Qualitative methods); rather, it is because methods should be employed that best answer the research questions (Onwuegbuzie & Teddlie, 2003; Schutz, Chambless, & DeCuir, 2004). The methods should be driven by the research questions and regarded as tools to solve problems (Maxcy, 2003; Tashakkori & Teddlie, 1998). In this study, it is necessary to combine two methods in order to best achieve the research purpose.

Multi-methods are defined as “those that combine the qualitative and quantitative approaches into the research methodology of a single study or multiphased study” (Tashakkori & Teddlie, 1998, pp. 17-18). In employing multi-methods, it is important to mix methods “in a way that has complementary strengths and non-overlapping weaknesses” (Johnson & Turner, 2003). Creswell (2003) classified multi-methods into six strategies depending on implementation sequence and priority. The current research can be identified as ‘Qualitative dominant concurrent
triangulation strategy’ (See Figure 2). Qualitative dominant concurrent triangulation strategy refers to the idea that the quantitative survey and qualitative interview are concurrent, occurring in one phase of the research, but greater weight is given to the qualitative approach.

![Figure 2. Concurrent Triangulation Strategy (Qualitative Dominant)](image)

Qualitative methods permit inquiry into selected issues in great depth with careful attention to detail, context, and nuance (Patton, 2002). As qualitative methods have a holistic and inductive approach, they are not constrained by predetermined analytical categories. In particular, this research employs the in-depth interview technique for the purpose of exploring pre-service teachers’ and beginning teachers’ perception of themselves and their career. Shank (2002) used the metaphor of the lantern for the qualitative approach, as the in-depth interview using open-ended questions is expected to illuminate dark areas so that things previously obscure can be seen.

Although qualitative methods can produce a wealth of detailed data, it is not easy to obtain data from a large number of people. Such disadvantages of qualitative methods can be complemented by quantitative data confirming that those phenomena are widespread. This is exactly the purpose of employing the concurrent triangulation strategy. Creswell (2003) mentioned that “it is selected as a model when a researcher uses two different methods in an attempt to confirm, cross-validate, or corroborate findings within a single study” (p.217).

The quantitative method makes it possible to measure the reactions of many respondents to a limited set of questions, thus facilitating comparisons and statistical aggregation of the data.
(Patton, 2002). Punch (1998) also mentioned that researchers are comparing automatically when they use the techniques of quantitative research, because measurement encapsulates the concept of comparison. Among various quantitative methods, this research employs repeated cross-sectional design, which involves the measurement of different samples of the population at one point in time (Baltes, Reese, & Nesslroade, 1988; Coleman, 1981). Repeated cross-sectional design provides a snapshot of the phenomena or variables included in the study; thus, it may reveal how those variables are represented in the cross-section of a population. In this research, four different samples at different levels in the teaching profession (i.e., before student-teaching, after student-teaching, dropout teachers, and non-dropout beginning teachers) are included. However, it is known that repeated cross-sectional design neither measures change over time, nor can establish causal relationships. Baltes et al. (1998) referred to this weakness as a “weak short cut to the study of change” (p.123). The purpose of the current study is not to explore change over time, but to explore different phenomena across different professional developmental stages. Therefore, the weakness of cross-sectional design may not significantly undermine this research.

Participants

Characteristics of Participants

Data were collected from three groups of participants based on their stages in the process of becoming science teachers: before student teaching, after student teaching, and beginning teachers. The beginning teachers were further differentiated into two groups -- beginning teachers who were not considering dropout and beginning teachers who are considering dropout or who had already left the profession. There are various routes to becoming a science teacher, but the participants of the current research were limited to those who were in the Secondary
Science Teacher Certificate Program at the University of Georgia or those who had graduated from the same program. This selection criterion was helpful in obtaining a more homogenous group of participants and also facilitating access to participants. Given this criterion, there were three different groups coming from different routes -- those who were in the BSED (Bachelor’s in Science Education) program, those who already had a degree in a science area, and those who were in the M.Ed program. (See Appendix B for different routes for becoming a science teacher.)

Regardless of his or her route to becoming a science teacher, each participant needed to take Block I courses. Thus, Group I consisted of those taking Block I courses. Block I courses included ESCI 3450 (Practicum in Science Education), ESCI 4450/6450 (Science Curriculum and Learning), and ESCI 4460/6460 (Methods of Science Teaching). Also, participants taking Block I courses had not yet experienced student teaching. As this research is aimed at capturing pre-service teachers’ perception of themselves and the teacher education program, data were collected at the end of Block I courses in order to ensure that participants had fully experienced these courses.

Group II consisted of those participants taking Block II courses. Block II courses included ESCI 5460/7460 (Science Education School-Based Internship), ESCI 5470/7470 (Reflection on Science Teaching), and ESCI 5480/7480 (Philosophy and Leadership in Science Classroom Practice), which contained 11 weeks of student-teaching experience. As with Group I, data were collected at the end of Block II courses in order to ensure that participants completed student-teaching.

Finally, Group III consisted of those participants who had gone through the Secondary Science Teacher Certificate Program at the University of Georgia and had five years of teaching experience or less. Group III was further classified into two sub-groups. Group III – A included
those who were considering dropping out or those who had already dropped out from the teaching profession. Participants in this group were geographically spread across the country. Group III – B included beginning teachers who were currently teaching in the State of Georgia and had never considered dropping out from the profession.

Demographics of Participants

For survey data, the maximum available participants were recruited during three consecutive semesters: spring semester of 2006, fall semester of 2006, and spring semester of 2007. Among the 84 participants who completed the survey, 31 belonged to Group I, 23 belonged to Group II, and 30 belonged to Group III. Among the Group III participants, Group III – A (Dropout teachers) included 20 and Group III – B (Non-dropout teachers) included 10. Detailed demographic information is listed in Table 2.

Table 2

Participants’ Demographic Information

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Group III – A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Dropout)</td>
</tr>
<tr>
<td>Number of Participants</td>
<td>31</td>
<td>23</td>
<td>30</td>
</tr>
<tr>
<td>Age</td>
<td>Min. = 19</td>
<td>Min. = 21</td>
<td>Min. = 23</td>
</tr>
<tr>
<td></td>
<td>Max. = 74</td>
<td>Max. = 35</td>
<td>Max. = 70</td>
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<td></td>
<td>Mean = 26.29</td>
<td>Mean = 26.30</td>
<td>Mean = 34.33</td>
</tr>
<tr>
<td>Number of years taught</td>
<td>Min. = 0</td>
<td>Min. = 0</td>
<td>Min. = 2.85</td>
</tr>
<tr>
<td></td>
<td>Max. = 0</td>
<td>Max. = 0</td>
<td>Max. = .5</td>
</tr>
<tr>
<td></td>
<td>Mean = 0</td>
<td>Mean = 0</td>
<td>Mean = 6</td>
</tr>
<tr>
<td></td>
<td>Min. = .5</td>
<td>Min. = 1</td>
<td>Min. = 6</td>
</tr>
<tr>
<td></td>
<td>Max. = 6</td>
<td>Max. = 6</td>
<td>Mean = 2.75</td>
</tr>
<tr>
<td></td>
<td>Mean = 2.90</td>
<td>Mean = 2.75</td>
<td></td>
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</tbody>
</table>
For interview data, a total of 27 participants were recruited from those who had completed the survey. Among the 27 participants, eight belonged to Group I, five belonged to Group II, seven belonged to Group III – A, and seven belonged to Group III – B. Participants in Group I did not have any teaching experience at all, and those in Group II had only student-teaching experience. Among the seven interviewees in Group III – A, two of them (Bona and Christa) were currently teaching but considering dropout from the teaching profession, and the remaining five interviewees had already left the profession. All participants in Group III – B were currently teaching in the State of Georgia. Each participant’s detailed demographic information is listed in Table 3.

**Table 3**

Participants’ Demographic Information

<table>
<thead>
<tr>
<th>Group</th>
<th>Pseudonym</th>
<th>Sex</th>
<th>Age</th>
<th>Number of years taught</th>
<th>Interview type</th>
<th>Semester interview conducted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I</td>
<td>Kate F</td>
<td>F</td>
<td>30</td>
<td>0</td>
<td>Face-to-face interview</td>
<td>Fall 2006</td>
</tr>
<tr>
<td></td>
<td>Jacob M</td>
<td>M</td>
<td>22</td>
<td>0</td>
<td>Face-to-face interview</td>
<td>Fall 2006</td>
</tr>
<tr>
<td></td>
<td>Sonya F</td>
<td>F</td>
<td>27</td>
<td>0</td>
<td>Face-to-face interview</td>
<td>Fall 2006</td>
</tr>
<tr>
<td></td>
<td>Jenna F</td>
<td>F</td>
<td>23</td>
<td>0</td>
<td>Face-to-face interview</td>
<td>Fall 2006</td>
</tr>
<tr>
<td></td>
<td>Sean M</td>
<td>M</td>
<td>32</td>
<td>0</td>
<td>Face-to-face interview</td>
<td>Fall 2006</td>
</tr>
<tr>
<td></td>
<td>Stephanie F</td>
<td>F</td>
<td>21</td>
<td>0</td>
<td>Face-to-face interview</td>
<td>Fall 2006</td>
</tr>
<tr>
<td></td>
<td>Stacey F</td>
<td>F</td>
<td>19</td>
<td>0</td>
<td>Face-to-face interview</td>
<td>Fall 2006</td>
</tr>
<tr>
<td></td>
<td>Linda F</td>
<td>F</td>
<td>24</td>
<td>0</td>
<td>Face-to-face interview</td>
<td>Spring 2007</td>
</tr>
<tr>
<td>Group II</td>
<td>Bill M</td>
<td>M</td>
<td>27</td>
<td>0</td>
<td>Face-to-face interview</td>
<td>Fall 2006</td>
</tr>
<tr>
<td></td>
<td>Joe M</td>
<td>M</td>
<td>23</td>
<td>0</td>
<td>Face-to-face interview</td>
<td>Fall 2006</td>
</tr>
<tr>
<td></td>
<td>Barbara F</td>
<td>F</td>
<td>34</td>
<td>0</td>
<td>Face-to-face interview</td>
<td>Fall 2006</td>
</tr>
<tr>
<td>Name</td>
<td>Gender</td>
<td>Age</td>
<td>Years of Experience</td>
<td>Interview Type</td>
<td>Date</td>
<td></td>
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<tr>
<td>------------</td>
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<td>-----</td>
<td>---------------------</td>
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<td>------------</td>
<td></td>
</tr>
<tr>
<td>Stephanie</td>
<td>F</td>
<td>21</td>
<td>0</td>
<td>Face-to-face interview</td>
<td>Spring 2007</td>
<td></td>
</tr>
<tr>
<td>Beck</td>
<td>M</td>
<td>35</td>
<td>0</td>
<td>Face-to-face interview</td>
<td>Spring 2007</td>
<td></td>
</tr>
<tr>
<td>Bona</td>
<td>F</td>
<td>24</td>
<td>3</td>
<td>Face-to-face interview</td>
<td>Spring 2007</td>
<td></td>
</tr>
<tr>
<td>Rosa</td>
<td>F</td>
<td>29</td>
<td>2</td>
<td>Face-to-face interview</td>
<td>Spring 2007</td>
<td></td>
</tr>
<tr>
<td>Kirra</td>
<td>F</td>
<td>30</td>
<td>4</td>
<td>Face-to-face interview</td>
<td>Spring 2007</td>
<td></td>
</tr>
<tr>
<td>Kalli</td>
<td>F</td>
<td>29</td>
<td>1.5</td>
<td>Face-to-face interview</td>
<td>Spring 2007</td>
<td></td>
</tr>
<tr>
<td>Maree</td>
<td>F</td>
<td>47</td>
<td>3</td>
<td>Face-to-face interview</td>
<td>Spring 2007</td>
<td></td>
</tr>
<tr>
<td>Joyce</td>
<td>F</td>
<td>35</td>
<td>2</td>
<td>Phone interview</td>
<td>Spring 2007</td>
<td></td>
</tr>
<tr>
<td>Christa</td>
<td>F</td>
<td>27</td>
<td>5</td>
<td>Phone interview</td>
<td>Spring 2007</td>
<td></td>
</tr>
<tr>
<td>Mason</td>
<td>M</td>
<td>26</td>
<td>2</td>
<td>Face-to-face interview</td>
<td>Spring 2007</td>
<td></td>
</tr>
<tr>
<td>Bryan</td>
<td>M</td>
<td>23</td>
<td>1.5</td>
<td>Face-to-face interview</td>
<td>Spring 2007</td>
<td></td>
</tr>
<tr>
<td>Calvin</td>
<td>M</td>
<td>26</td>
<td>1</td>
<td>Face-to-face interview</td>
<td>Spring 2007</td>
<td></td>
</tr>
<tr>
<td>Hardi</td>
<td>F</td>
<td>28</td>
<td>1</td>
<td>Face-to-face interview</td>
<td>Spring 2007</td>
<td></td>
</tr>
<tr>
<td>Chase</td>
<td>M</td>
<td>31</td>
<td>5</td>
<td>Face-to-face interview</td>
<td>Spring 2007</td>
<td></td>
</tr>
<tr>
<td>Andrew</td>
<td>M</td>
<td>28</td>
<td>5</td>
<td>Face-to-face interview</td>
<td>Spring 2007</td>
<td></td>
</tr>
<tr>
<td>Debbie</td>
<td>F</td>
<td>30</td>
<td>1.5</td>
<td>Face-to-face interview</td>
<td>Spring 2007</td>
<td></td>
</tr>
</tbody>
</table>

Data Collection

*Semi-Structured Interview*

Semi-structured interviews were conducted based on the research questions and participants’ stage in the teaching trajectory. Twenty-five participants participated in a face-to-face interview, but two participants had a telephone interview due to the geographic distance. Each interview was administered individually and was also audio-taped. Core questions were pre-developed to explore participants’ perceptions, and probes were also used based on their answers. Pre-developed interview questions were guided by the main research questions, and sample interview questions included, “How do you describe yourself as a future science teacher?” and “In what way do you think yourself fitting to the teaching profession?”. Appendix C shows core interview questions in relation to the research question.

The first set of interview questions was designed to gain insight into pre-service and in-service teachers’ perception of their professional identity; the second set of interview questions was designed to ask beginning teachers’ perception of the decision to dropout.
**Survey Questionnaire**

Survey questionnaires were used to confirm or cross-validate findings from the interview data. Five different kinds of surveys were used for this study to measure the following: the participants’ value, self-efficacy, commitment, emotion, and power relations.

*Value scale.*

The value scale was adopted from the Perceived Task Value Scale (Eccles, O’Neill, & Wigfield, 2005) and the Instrumentality Scale (Husman, McCann, & Crowson, 2000). The value scale included two items from the intrinsic interest value subscale and two items from the attainment value subscale of the Perceived Task Value Scale and three items from the utility value subscale of the Instrumentality Scale. As a result, this value scale consisted of seven items which measured three subscales of intrinsic interest value, attainment value, and utility value. Regarding the psychometric properties of the original scale, the intrinsic interest value subscale had a reliability alpha of .76, and the attainment value subscale had a reliability alpha of .70. The utility subscale showed an even stronger reliability value (α > .83). Discriminant and predictive validity information for these scales can be found in Eccles et al. (2005) and Husman et al. (2000). In order to meet the research purpose, some wording in the original scale was modified. Also, slightly different wording was used for pre-service teachers and in-service teachers. Participants were asked to respond using a 7-point Likert scale ranging from 1 to 7. The full items are attached in Appendix D.

*Teacher efficacy scale.*

Teachers’ efficacy was measured using the Teachers’ Sense of Efficacy Scale – Short Form (Tschannen-Moran & Hoy, 2001). The Teachers’ Sense of Efficacy Scale-Short Form is a 12-item self-report measure designed to assess efficacy in student engagement (4 items), efficacy
in instructional strategies (4 items), and efficacy in classroom management (4 items). Respondents were asked to answer using a 6-point Likert scale ranging from 1 (nothing) to 6 (a great deal). The developers reported reliability alphas of .90 for all 12 items. Reliability coefficients for the subscale of “efficacy in student engagement”, “efficacy in instructional strategies”, and “efficacy in classroom management” were found to be .81, .86, and .86, respectively. Construct validity information was reported in an article by Tschannen-Moran & Hoy (2001). The full items are attached in Appendix E.

Commitment scale.

In measuring commitment, different scales were used for pre-service and in-service teachers because pre-service teachers are committed to their career choice rather than the career itself. Thus, for pre-service teachers, the Vocational Exploration and Commitment (VEC) scale, which is a subscale of the Commitment to Career Choices Scale (CCCS), was used (Blustein, Ellis, & Devenis, 1989). The VEC is designed to measure variations in one’s level of commitment to career choices. The reliability coefficient alphas for derivation samples and cross-validation samples were .92 and .91, respectively. Concurrent validity information was provided in an article by Blustein et al. (1989). Respondents were asked to answer using a 7-point Likert scale ranging from 1 (never true about me) to 7 (always true about me). Eight out of nineteen items were selected based on factor loadings and theoretical suitability.

For in-service teachers, the Work Commitment Index (WCI) was used (Blau, Paul, & John, 1993). The WCI consists of four subscales of occupational commitment, job involvement, value of work, and organizational commitment. Among the four sub-constructs, only occupational commitment was selected for this research because value of work is overlapping with the value scale, and organizational commitment or job involvement is not the focus of this
study. In the subscale of occupational commitment, eight out of eleven items were selected based on factor loadings and theoretical suitability. The reliability coefficient alpha was .91 for occupational commitment, and test-retest reliability was also high ($r = .90$). In addition, discriminant validity was reported in Blau et al. (1993). Respondents were asked to answer using a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). Full items for both the VEC and the WCI are attached in the Appendix F.

_Burnout scale._

The Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1986) was used to measure teachers’ emotional dimension. The MBI consists of three subscales of emotional exhaustion, depersonalization, and personal accomplishment. Emotional exhaustion assesses feelings of being emotionally exhausted by one’s work, and depersonalization measures an unfeeling and impersonal response towards recipients of the career. The third subscale, which assesses feelings of competence and successful achievement in one’s work with people, was excluded from this study because this construct is overlapping with the teacher efficacy scale. Reliability coefficients for the emotional exhaustion and depersonalization were found to be .90 and .79, respectively. Test-retest reliability was .82 and .60 for the subscales of emotional exhaustion and depersonalization, respectively. Convergent validity and discriminant validity can be found in the Maslach & Jackson (1986) manual. Respondents were asked to answer using a 6-point Likert scale ranging from 1 (a few times a year or less) to 6 (every day). Full items are attached in Appendix G.

_Empowerment scale._

The School Participants Empowerment Scale (SPES) (Short & Rinehart, 1992) was used to assess teachers’ empowerment. The SPES consists of six subscales of decision making,
professional growth, status, self-efficacy, autonomy, and impact. Among these, decision-making and status were selected for this study because other subscales are either overlapping with other measures or weakly related to the purpose of this study. Reliability for the decision-making and status subscales was .89 and .84, respectively. Content validity information was described in the Short & Rinehart (1992) article. Respondents were asked to answer using a 5-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). As pre-service teachers are not working in the school context, future tense was used for them. Full items are attached in Appendix H.

_Demographic information._

At the end of the survey, participants were asked to report their demographic information. For Groups I and II, participants were asked their gender, age, major, year in school, grade level they plan to teach, and subject(s) they would like to teach. For Group III – A and III – B, participants were asked their gender, age, number of years they have taught, grade level and subject(s) they have taught, and whether they have considered dropout or if they have already left the teaching profession. Follow-up contact information was asked of all four groups of participants. Actual questions are attached in Appendix I.

_Procedure_

Data were gathered for three consecutive semesters: spring semester of 2006, fall semester of 2006, and spring semester of 2007. The number of participants in each semester is summarized in Table 4 below.
Table 4

Data Collection Procedure Summary

<table>
<thead>
<tr>
<th></th>
<th>Spring, 2006</th>
<th>Fall, 2006</th>
<th>Spring, 2007</th>
</tr>
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<td></td>
<td>Survey</td>
<td>Interview</td>
<td>Survey</td>
</tr>
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</tr>
<tr>
<td>Group II</td>
<td>7</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Group III – A</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Group III – B</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>0</td>
<td>26</td>
</tr>
</tbody>
</table>

Data collection for pre-service teachers consisted of two rounds: First, a survey questionnaire, which was designed to measure value, efficacy, commitment, burnout, and empowerment, was given to the participants. Secondly, an interview was conducted to capture pre-service teachers’ perception of identity. Data collection for in-service teachers also involved two rounds: In the first round, a survey questionnaire, which was designed to measure value, efficacy, commitment, burnout, and empowerment, was given. At the same time, a background questionnaire was also given to aid the researcher in identifying those who were considering dropout or who had already left the profession. Next, an interview was conducted for both dropout teachers and non-dropout teachers. Appendix C shows data collection procedures in relation to the entire research design and research questions.

Data Analysis

Interview Data

The analytic techniques chosen for this research were the integration of inductive analysis with a phenomenological framework and the constant comparison method. As previously mentioned in the theoretical framework section, this study was approached using the phenomenological framework. Phenomenology intends to see the world anew, as it really is,
rather than as it is constructed through acculturation (Van Manen, 1940). Phenomenology assumes that each phenomenon has essence that is common to the human experience, and tradition or culture overlies the essence, so the researcher needs to be critical of inherited and prevailing meanings (Moustakas, 1994). Consequently, phenomenology involves understanding certain phenomena from the actor’s own perspective by approaching it in as open a manner as possible. It was assumed that there was some essence of science teachers’ professional identity development and dropout phenomena, and the researcher wanted to understand the essence from teachers’ own perspective. Thus, throughout this analysis process, an attempt was made to set aside or “bracket” the researcher’s preconceived ideas so the view of the science teachers would be at the center of the analysis.

The first step of the phenomenological analysis was horizonalizing -- that is, to find out and list statements about how individuals experience the target phenomena and to treat each statement as having equal worth (Creswell, 2003; Moustakas, 1994). First, the audio-taped interviews were transcribed verbatim. Then, the transcripts were checked for accuracy by colleagues knowledgeable about qualitative methods. Also, the interview transcripts were sent to the participants for member checks. In order to condense extensive text into core themes which reflect the overall context (LeCompte & Preissle, 1993), data were inductively analyzed. First, each transcript was read thoroughly and all responses relevant to the phenomenon of interest were noted on the transcript. Coffey and Atkinson (1996) recommended reading and rereading transcripts several times in order to accurately reflect participants’ answers. When events or beliefs were found to be similar in nature, they were grouped under broader and more abstract categories (Bogdan & Biklen, 1982; Strauss & Corbin, 1990). These categories were formulated into meanings, and the meanings were clustered into themes. In this process of generating the
codes, words or phrases that emerged directly from the transcripts were used in order to stay as close to the original transcripts as possible. As LeCompte and Preissle (1993) stated, the codes systematically organize and reduce the original data set, so the researcher can manage and retrieve meanings from the transcripts. After the codes were constructed, the data were examined for patterns across all participants. Relevant responses, in the form of direct quotes from the participants, were then extracted to create a textural description of the phenomenon (Moustakas, 1994). Through this iterative ongoing analysis, these preliminary categories were gradually modified, replaced, and refined. Once the themes were generated, the data were deductively tested by examining deviate narratives. The hypothesized model (see Figure 1) was elucidated and modified through this analysis procedure.

Through this inductive and phenomenological analysis procedure, the opposing patterns and regularities were identified. In order to contrast those themes, the constant comparison method rooted in the Grounded Theory approach was adapted (Charmaz, 2000; Strauss & Corbin, 1994, 1998). With the pre-developed codes and categories in mind, the opposing transcripts were constantly compared by reading each interview back and forth in order to identify commonalities and variations between them (Strauss & Corbin, 1998).

While analyzing the data, interpretation was also made concurrently. According to Patton (2002), interpretation is the researcher’s efforts to make sense of the data using his or her own experience, perception, and intuition. In other words, the researcher’s interpretive framework determines the ways to impose meaning to the data. Thus, as Wolcott (1994) asserted, it is important to provide neither too much unwarranted personal opinion, nor too little truly insightful commentary. In order to avoid those pitfalls, several strategies suggested by several researchers were employed (Coffey & Atkinson, 1996; Hesse-Biber & Leavy, 2006; Wolcott,
Firstly, deviant cases in the interpretation process were examined because those irregularities would allow the researcher to explore regularities and patterns in a more comprehensive way (Coffey & Atkinson, 1996). Second, the researcher’s interpretation was made available for discussion with fellow students and scholars who were studying a similar topic and their feedback was also sought. These systematic analyses and interpretation processes described above provided a thorough exploration of the science teachers’ professional identity and the dropout issue.

**Survey Data**

Before conducting the statistical analysis, missing values were substituted by the construct’s mean score. Although mean substitution has the drawback of reducing the variance of the variables, this study used mean substitution, as only a small number of values were missing in a random pattern, and the distribution was not skewed. In addition, mean substitution has the advantage of preserving data and being easy to use (Roth, 1994).

First, an independent sample T-test was conducted to determine if it was possible to merge Group III-A and Group III-B. If the mean difference of the two groups was not significant, then it was reasonable to merge the two groups for the following analysis. Otherwise, Group III-A and Group III-B needed to be separated due to the significant mean difference. In addition, descriptive statistics such as mean, standard deviation, minimum, and maximum were reported.

Second, both analysis of variance (ANOVA) and multivariate analysis of variance (MANOVA) were used for the survey data. SPSS (Statistical Package for the Social Sciences) version 11.5 was used for all the statistical analyses.

One-way ANOVA was conducted to determine if there was significant difference between Group I, Group II, Group III-A, and Group III-B with respect to the teachers’
professional identity construct itself, which includes five variables (efficacy, value, emotion, commitment, and micropolitics). In other words, the null hypothesis for this analysis was that the four groups’ population means of the sum score were equal:

\[ H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4, \]

where \( \mu_j \) denotes the mean of composite score of Group \( j \). ANOVA was chosen because it supports the comparison of mean scores from more than three groups of scores. Generally, ANOVA is robust to violations of the normality assumption and to moderate violations of homogeneity of variance (Maxwell & Delaney, 2000). If a significant difference was found, follow-up tests were conducted to evaluate pairwise differences among the means. As a follow-up test, Fisher’s LSD was chosen because it is the most liberal of all Post Hoc tests, and more powerful than the Bonferroni test (Aspelmeier, 2002). \( \eta^2 \) was also used to calculate effect size since it reflects the proportion of the total variance that is attributed to an effect.

In order to run one-way ANOVA, the data from five surveys were merged to obtain a total score. There were a total of 57 items, and a possible score range was a minimum of 57 to a maximum of 341. Several items in the commitment scale were reverse coded so that higher scores would consistently reflect high commitment. In addition, for consistency of interpretation, the Maslach Burnout Inventory was also reverse coded, so that higher ratings would indicate positive states (i.e., higher value, higher efficacy, higher commitment, lower burnout, and higher empowerment).

MANOVA was used to analyze differences between Groups I, II, III-A, and III-B based on five different variables -- value, efficacy, commitment, emotion, and micropolitics. Instead of conducting separate \( F \) tests for each variable, MANOVA was chosen because multiple
hypothesis testing may increase type I error and lose statistical power (Huberty & Olejnik, 2006).
The null hypothesis for this analysis was that the four groups’ population centroids of each variable were equal:

\[
H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4,
\]

where \(\mu'_j = [\mu_{j1}, \mu_{j2}, \mu_{j3}, \ldots, \mu_{jp}]\), the vector mean of outcomes in Group \(j\). As a criterion to determine the statistical significance, Wilks lambda criterion (\(\Lambda\)) was used, since it is the oldest and the most widely used criterion. Typically, if a particular multivariate criterion is reported, then the corresponding effect size index is also reported (Huberty & Olejnik, 2006). Thus, tau squared (\(\tau^2\)), which measures the proportion of variation in the underlying constructs that are explained by the grouping variables, was used as the effect size index. When there were significant differences among the four groups, a Fisher’s LSD post hoc analysis was applied to determine the source of differences. In addition, when the multivariate test was significant, the pair-wise contrasts were computed to find specific vector differences.
CHAPTER 4
FINDINGS

The purpose of this study was to explore how people in different levels of the teaching profession have different professional identities and how the beginning teachers’ decision to drop out is related to their professional identity. This chapter presents findings from both quantitative and qualitative data organized into three sections: (1) comparison of four groups (before student-teaching group, after student-teaching group, dropout teachers, and non-dropout teachers) in terms of their perception of themselves as a teacher; (2) comparison of four groups in terms of their value, efficacy, commitment, knowledge, beliefs, emotions and micropolitics; and (3) relationship between the dropout teachers’ decision to leave the profession and their professional identity with comparison to non-dropout teachers.

How Do People in Different Levels of the Teaching Profession Perceive Themselves Differently as a Teacher?

*Interview Data*

Qualitative interview data were examined in order to answer the above question. Each person and each group is different and unique, but there are similar themes across the four groups. When asked about their general perception about their teaching career and being a teacher, all four groups’ interviewees consistently mentioned four different aspects that are important for teachers: (1) being enthusiastic, (2) caring for students, (3) having patience, and (4) knowing how to handle different situations.
The most frequent response from the participants was to be an enthusiastic and energetic teacher. Participants used adjectives such as “motivated, interested, fun, playful, impassioned, enjoy, and passionate” to describe themselves as a future science teacher or a current science teacher. For example, Bill, one of the pre-service teachers in Group II, stated, “Well, I think enthusiasm is the first that comes to mind; first for kids but also for the subject. You have to want to be there.” Debbie, a 2nd year physical science teacher who is currently teaching 8th graders, responded, “Love what you do, if you don’t love it, the kids know, so I think the most important would be passion.”

Participants in the four groups of interviewees also consistently mentioned having patience and caring for their students. Calvin, who is currently teaching physical science to 9th graders mentioned, “Of course, patience and all the normal things and caring about the students. That’s big one, too. So, they don’t really care what you know until they know that you care about them.” Also, having patience was often addressed in relation to the fourth theme of knowing how to handle different situations. Rosa, who taught 8th grade earth science for 2 years and left the teaching profession, articulated this aspect: “The first one, you have to have lots of patience. Second, you have to be the kind of person that can deal with all students - deal with people and people meaning students with disabilities, students with different learning levels. You have to be able to deal with all people and I think that goes back to patience.”

Knowing how to handle different situations is often related to teachers’ flexibility to handle unexpected situations or to adapt to the different ways that students’ learn. Jenna, a pre-service teacher in Group I, indicated, “Flexibility would be one, which will allow them to deal with the students; like interrupting things, or not understanding things that they had expected everyone to understand, be able to go back over stuff, to be able to plan around.” Hardi, a first-
year science teacher who is teaching honors and college prep physics to 11th graders, also added, “I think one of the biggest things that I learned just within the first year of teaching is that you shouldn't use the word ‘tolerate’. You shouldn't tolerate differences in people, but I realize that I have to embrace the differences in all of my students. So, it's not a matter of, ‘Oh, I can put up with these kinds of kids.’, but it's more, ‘Well, they're different and I have to adjust the way I teach to fit them’. So, I think the flexibility is definitely an important feature that you have to have. You can't be, ‘This is my way and this is the only way it's going to work.’, because student X might be okay with that, but student Y might not be able to adjust to that.” Existing studies that have examined effective teachers’ characteristics often listed flexibility as one of them because things do not always turn out as expected and on-the-spot adaptations and innovations are important in classroom teaching (Colton & Sparks-Langer, 1993; Tamblyn, 2000).

Besides those four themes that consistently appeared across the four groups, only the pre-service teachers (Groups I and II) shared certain themes different from dropout or non-dropout teachers. One of the salient aspects of those in the pre-service group was their uncertain and vague perception about teaching career and their future self as a teacher. They often answered, “I don’t know.” or “I’ve never thought about that [characteristics of teaching career].” When asked to describe a teaching career, Sonya, a pre-service teacher who had just entered the teacher education program (Group I), answered, “It’s like I’ve never thought before, I don’t know, I guess you just teach.”

Another salient perception of pre-service teachers was the fact that they want to be someone that students want to go to class for. More than half of the pre-service teachers who were interviewed described themselves as a future science teacher in that way. For instance, Bill, who just finished student-teaching (Group II), stated, “I want to be like the really fun science
teacher, the one where the students want to take your class and enjoy your class. I definitely don’t want to be the teacher where kids dread coming to your class and don’t like you.” It seems important for those pre-service teachers to be a teacher well-liked by students. This is quite different from non-dropout teachers, who put more emphasis on pedagogy and discipline. Hardi, a 11th-grade physics teacher, mentioned, “What is most important to me for the rest of my life is ‘How can I better present this in a manner that they will understand?’, not, ‘Can I just throw these things out on them?’”

Although there was no big difference between the two pre-service groups (Groups I and II), there seemed to be meaningful differences between dropout teachers (Group III-A) and non-dropout teachers (Group III-B) regarding the way they view themselves as a science teacher. All of the dropout teachers who were interviewed (Group III-A) seemed to have very high expectations of their teaching and view themselves as caretakers of every aspect of their students’ lives. For instance, Bona, who is teaching biology to 10th graders and who has seriously considered leaving the teaching profession, stated, “I try to be really supportive of the students and try to reach out to them on a personal level and take an interest in their lives.” Their high expectation about teaching is often expressed in the way they employ a lot of different teaching strategies in their classroom. Maree, who left her teaching career after teaching biology to 9th graders for three and half years, shared, “I would describe myself as more hands-on, a lot of visual learning, a lot of reinforcements, and a lot of interaction in the classroom…. So, I very never ever sit down in a classroom. I was jumping around like crazy doing everything and spending a lot of time preparing presentations and Jeopardy games and all that good stuff.”

As opposed to the dropout teachers (Group III-A), non-dropout teachers (Group III-B) described themselves as someone who is fostering autonomy of students and guiding students to
have meaningful learning. Debbie, an 8th-grade physical science teacher, commented, “What I love most about it [teaching science] is the ability to explore on my own and figure things out on my own, so I’m trying to teach the students to do that.” Another in-service teacher, Mason, who is teaching 9th-grade biology, articulated his view of himself as a science teacher: “I’m really trying to make the information, the concepts meaningful and relevant to their lives. How and why is this important to me? How am I ever going to use this information? I think that’s really behind what I do and I think that’s the best way to describe me.” In addition, they often emphasized the ability to organize and plan things out and their strong content knowledge as their core characteristics that are well-aligned to the teaching career.

In order to further examine different perceptions of the four groups regarding their professional identity, six different factors (value, efficacy, commitment, emotion, knowledge and beliefs, and micropolitics) were studied. The next set of findings reveals how people in each group hold different perceptions regarding the six factors.

How Do People in Different Levels of the Teaching Profession Perceive Their Value, Efficacy, Commitment, Emotion, Knowledge and Beliefs, and Micropolitics Differently?

In an attempt to answer the above question, both quantitative survey and qualitative interview data were analyzed.

Survey Data

Prior to conducting quantitative data analysis, a Cronbach’s alpha internal consistency reliability measure was calculated. The results revealed an alpha coefficient of $r = .925$ for emotion scale; $r = .895$ for commitment scale; $r = .896$ for micropolitics scale; $r = .798$ for value scale; and $r = .879$ for efficacy scale. The coefficient alpha for overall professional identity was .901. Generally speaking, the higher the alpha, the more reliable the test is (Green, Salkind, &
Akey, 2000). However, the alpha is affected by the number of items in the scale; thus, a relatively low coefficient of value scale is not problematic since it has the least number of items (7 items).

First, an independent sample T-test was conducted to see whether a significant mean difference exists between Group III – A (Dropout teachers) and Group III – B (Non-dropout teachers). The results showed that Group III-A and Group III-B were significantly different on the commitment, emotion, and value scale (p=.000, p=.000, and p=.023, respectively). Thus, the two groups needed to be separated for the following analyses.

In order to examine how people in different levels of the teaching profession perceive themselves differently on the six factors, descriptive statistics were explored to compare the differences. Table 5 shows each group’s mean, standard deviation, minimum, and maximum on each variable. These results are based on the sum score of each scale.

Table 5

Descriptive Statistics of Five Measures and Overall Construct on Each Group

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
<th>Group III-A</th>
<th>Group III-B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment</td>
<td>N</td>
<td>31</td>
<td>23</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Min.</td>
<td>26</td>
<td>32</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Max.</td>
<td>56</td>
<td>56</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>44.90</td>
<td>47.48</td>
<td>32.75</td>
</tr>
<tr>
<td></td>
<td>S.D.</td>
<td>8.32</td>
<td>7.46</td>
<td>12.37</td>
</tr>
<tr>
<td>Emotion</td>
<td>N</td>
<td>31</td>
<td>23</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Min.</td>
<td>65</td>
<td>50</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Max.</td>
<td>84</td>
<td>84</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>78.74</td>
<td>70.83</td>
<td>57.10</td>
</tr>
<tr>
<td></td>
<td>S.D.</td>
<td>4.23</td>
<td>8.67</td>
<td>15.33</td>
</tr>
<tr>
<td>Value</td>
<td>N</td>
<td>31</td>
<td>23</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Min.</td>
<td>26</td>
<td>30</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Max.</td>
<td>49</td>
<td>49</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>41.90</td>
<td>41.17</td>
<td>37.45</td>
</tr>
<tr>
<td></td>
<td>S.D.</td>
<td>5.33</td>
<td>5.61</td>
<td>8.13</td>
</tr>
</tbody>
</table>
The following graph may better illustrate the differences among the four groups.

![Graph](image)

*Figure 3. Different Patterns of the Four Groups on the Five Factors*
The dropout teachers (Group III – A) showed a remarkably different pattern than that of the other three groups. They had the lowest scores across the five variables. As the higher score means positive states (e.g., more commitment, more efficacy, and less burnout), this implies that dropout teachers see these five factors differently from the other groups.

Even though the sample size of Group III-B (non-dropout teachers) was small (N = 10), ANOVA and MANOVA analysis were continued in order to examine the group difference. First, one-way ANOVA was conducted to determine whether the four groups differed significantly on the teachers’ overall professional identity. ANOVA results indicated that the differences between the groups were significant \( F(3,80) = 16.088, p = .000, \eta^2 = .376 \). That is, the four groups perceive their professional identity differently, and 37.6% of the variance in professional identity is accounted for by participants’ stage in the teaching trajectory.

As a follow-up test, Fisher’s LSD was conducted to evaluate pair-wise differences among the means. As Table 6 illustrates, the significant mean differences were found only when Group III-A (dropout teachers) was paired with other groups.

Table 6

Fisher’s LSD Post Hoc Analysis

<table>
<thead>
<tr>
<th>Group (I)</th>
<th>Group (J)</th>
<th>Mean Difference (I – J)</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>II</td>
<td>.386</td>
<td>.963</td>
</tr>
<tr>
<td>I</td>
<td>III-A</td>
<td>53.816*</td>
<td>.000</td>
</tr>
<tr>
<td>I</td>
<td>III-B</td>
<td>1.316</td>
<td>.904</td>
</tr>
<tr>
<td>II</td>
<td>III-A</td>
<td>53.430*</td>
<td>.000</td>
</tr>
<tr>
<td>II</td>
<td>III-B</td>
<td>.9304</td>
<td>.935</td>
</tr>
<tr>
<td>III-A</td>
<td>III-B</td>
<td>-52.500*</td>
<td>.000</td>
</tr>
</tbody>
</table>

*. The mean difference is significant at the .05 level.
Next, MANOVA was conducted to examine the mean differences between Group I, Group II, Group III-A, and Group III-B on the five measures. In order to run a MANOVA, three assumptions should be met: (1) the independence of the outcome variable observation vectors, (2) existence of multivariate normality, and (3) homogeneity of the covariance matrices of the groups (Huberty, 1994). The outcome variable observation vectors are assumed independent because the individuals completed the survey without viewing other respondents’ answers. Multivariate normality is difficult to determine; therefore, univariate normality was tested using the Kolmogorov-Smirnov test. Commitment and emotion scales were not normal, and the rest of the scales were normal. However, Stevens (1996) asserted that the F test is robust with respect to Type I error against non-normality; thus, the MANOVA analysis, which is implemented by F statistic, was continued. In order to test the third assumption of homogeneity of covariance matrices, Box’s M was examined, and homogeneity was not assumed (Box’s \( M = 108.103, \ F_{(45,4880.031)} = 2.053, p = .000 \)). However, according to Huberty & Olejnik (2006), the Box M test often has a very large degree of freedom which results in an extremely sensitive test of the null hypothesis. Due to this limitation, researchers do not heavily rely on the results of this test; rather they examine the log determinants to examine how much the covariance matrices differ. The log determinant for Group I was 17.932, 19.101 for Group II, 18.501 for Group III-A, and 14.683 for Group III-B. As there was no huge difference among the three groups’ log determinants, it was acceptable to continue the MANOVA analysis.

A MANOVA was conducted to simultaneously compare mean differences of the five measures across three groups. The results of the MANOVA indicated that there was a significant mean difference among the four groups (\( \Lambda = .370, F_{(15,210.204)} = 6.085, p = .000, \tau^2 = .282 \)). That is, the five measures of commitment, emotion, value, micropolitics, and efficacy were
significantly different among Group I, Group II, Group III-A, and Group III-B. In addition, 28.2% of the variation in the underlying constructs was explained by participants’ grouping. As the MANOVA result was significant, a Fisher’s LSD post hoc analysis was conducted to examine the source of differences.

Table 7

*Fisher’s LSD Post Hoc Analysis*

<table>
<thead>
<tr>
<th></th>
<th>Group (I)</th>
<th>Group (J)</th>
<th>Mean Difference (I – J)</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment</td>
<td>I</td>
<td>II</td>
<td>-2.575</td>
<td>.296</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>III-A</td>
<td>12.153*</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>III-B</td>
<td>-4.397</td>
<td>.178</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>III-A</td>
<td>14.728*</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>III-B</td>
<td>-1.822</td>
<td>.590</td>
</tr>
<tr>
<td></td>
<td>III-A</td>
<td>III-B</td>
<td>-16.550*</td>
<td>.000</td>
</tr>
<tr>
<td>Emotion</td>
<td>I</td>
<td>II</td>
<td>7.916*</td>
<td>.003</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>III-A</td>
<td>21.642*</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>III-B</td>
<td>4.242</td>
<td>.217</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>III-A</td>
<td>13.726*</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>III-B</td>
<td>-3.674</td>
<td>.304</td>
</tr>
<tr>
<td></td>
<td>III-A</td>
<td>III-B</td>
<td>-17.400*</td>
<td>.000</td>
</tr>
<tr>
<td>Value</td>
<td>I</td>
<td>II</td>
<td>.729</td>
<td>.664</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>III-A</td>
<td>4.453*</td>
<td>.013</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>III-B</td>
<td>-.9968</td>
<td>.653</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>III-A</td>
<td>3.724*</td>
<td>.049</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>III-B</td>
<td>-1.726</td>
<td>.456</td>
</tr>
<tr>
<td></td>
<td>III-A</td>
<td>III-B</td>
<td>-5.450*</td>
<td>.023</td>
</tr>
<tr>
<td>Micropolitics</td>
<td>I</td>
<td>II</td>
<td>-4.311</td>
<td>.096</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>III-A</td>
<td>8.745*</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>III-B</td>
<td>1.345</td>
<td>.692</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>III-A</td>
<td>13.057*</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>III-B</td>
<td>5.657</td>
<td>.113</td>
</tr>
<tr>
<td></td>
<td>III-A</td>
<td>III-B</td>
<td>-7.400*</td>
<td>.043</td>
</tr>
<tr>
<td>Efficacy</td>
<td>I</td>
<td>II</td>
<td>-1.373</td>
<td>.495</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>III-A</td>
<td>6.823*</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>III-B</td>
<td>1.122</td>
<td>.672</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>III-A</td>
<td>8.196*</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>III-B</td>
<td>2.496</td>
<td>.368</td>
</tr>
<tr>
<td></td>
<td>III-A</td>
<td>III-B</td>
<td>-5.700*</td>
<td>.046</td>
</tr>
</tbody>
</table>

*. The mean difference is significant at the .05 level.
As Table 7 showed, significant differences were found when the dropout teachers (Group III-A) were paired with the other groups across the five variables. Only for emotion did Group I and Group II also show a significant difference. Dropout teachers (Group III-A) showed low scores on those five variables when compared with other groups, which means they have low commitment, weak efficacy belief, more burnout, low value, and negative perception on power relations. Regarding emotion, the result also suggests that pre-service teachers who have not experienced student-teaching yet perceive that they will have less burnout in the teaching profession than will the pre-service teachers who finished student-teaching.

Next, six pair-wise contrasts were computed to get specific vector differences.

Table 8

*Contrast Analysis Result*

<table>
<thead>
<tr>
<th>Contrast Group</th>
<th>Λ</th>
<th>F (5,76)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I vs. Group II</td>
<td>.736</td>
<td>5.440*</td>
<td>.000</td>
</tr>
<tr>
<td>Group I vs. Group III-A</td>
<td>.531</td>
<td>13.440*</td>
<td>.000</td>
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<tr>
<td>Group I vs. Group III-B</td>
<td>.894</td>
<td>1.794</td>
<td>.124</td>
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<tr>
<td>Group II vs. Group III-A</td>
<td>.620</td>
<td>9.318*</td>
<td>.000</td>
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<tr>
<td>Group II vs. Group III-B</td>
<td>.918</td>
<td>1.361</td>
<td>.249</td>
</tr>
<tr>
<td>Group III-A vs. Group III-B</td>
<td>.725</td>
<td>5.773*</td>
<td>.000</td>
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</table>

*. The mean difference is significant at the .05 level.

As the result showed, the differences between centroid of dropout teachers (Group III-A) and that of the rest of the groups (Groups I, II, or III-B) were generalizable to their respective populations. Also, the difference between centroid of Group I (pre-service teachers before student-teaching) and Group II (pre-service teachers after student-teaching) was generalizable to their respective populations.
This quantitative data showed that the people in the four groups have different perceptions on those factors. In particular, the dropout teacher group (Group III-A) was differentiated from the rest of the groups. The pair-wise contrast result also revealed that Groups I and II were different on those five factors, and Fisher’s LSD post-hoc analysis showed that a statistical difference between Groups I and II was found on the emotion variable ($p = .003$). The following qualitative data further elucidates the quantitative findings by showing how they are different and what the differences mean.

Interview Data

Value.

Using the Wigfield and Eccles (1992) expectancy x value theory framework, intrinsic value, which is the interest and enjoyment the individual gets from the activity, and attainment value, which refers to the importance of doing well on a given task, were used to guide the interview questions. Regarding intrinsic value, the four groups consistently mentioned their interest in becoming or working as a science teacher. Their interest lay in three different aspects of teaching: (1) helping students learn, (2) interacting with students, and (3) interest in science.

Stephanie, who has not experienced student-teaching yet (Group I), stated her interest in teaching in this way: “I have a little brother. I enjoy helping him with his homework and things he doesn’t understand. It just makes me feel good, because I can tell him stuff and it helps him and makes him smarter. It’s just a nice feeling to be able to help. So, it seems like teaching is a really okay career choice.” Stacey, another interviewee in Group I, added: “It’s [becoming a teacher] because you actually want to teach. So, I’ve just always been interested in helping kids learn and helping them understand. I’m just wanting to open up those new doors for them.”
Bill, a pre-service teacher who finished student teaching, expressed his interest in interacting with students: “I just really loved it – enjoyed working with kids and being around them and helping them out. So, that made me decide to change majors, because I enjoyed working with kids so much that I thought instead of majoring Forestry and Wildlife Biology. So, I changed my major to Science Ed because I realized that I really liked working with kids a lot better.” As such, the interviewees consistently mentioned their interest in “working with kids” and “being around them.”

Finally, participants in the four groups shared their interest in science. For example, Kirra, who had taught 10th-grade biology and 11th-grade chemistry for four years, stated: “I was interested in science first, and then discovered that I really was interested in teaching. … I feel like I’m going to need to take biology again. I’m just really interested. I just think it’s fascinating. Biology’s fascinating.” Over 60% of the interviewees across the four groups talked about their interest in science. It is also interesting to note that teachers who dropped out of the profession (Group III – A) expressed their strong interest in working as a science teacher. This result is fairly consistent with the quantitative data. Among the five factors surveyed, value has the highest score for the dropout teachers. This result suggests that value may not be the major contributing factor for the beginning teachers who made the decision to leave the teaching profession.

Although there were common themes across the four groups, only pre-service teacher groups (Group I & Group II) shared a theme different from that of the dropout or non-dropout teacher groups (Group III – A & Group III – B). Pre-service teachers often stated their interest in becoming a science teacher in relation to their past schooling experiences. It seems that both negative and positive experiences related to past teachers influenced their interest to become a
teacher. Sean, a pre-service teacher in Group I, gave this explanation about how his negative experience affected his interest: “I had some teachers in high school that weren’t very good teachers and I thought, ‘You know, I can do better than they did and I can make up for the fact that they weren’t very good.’ So, that’s one of the big motivations that I want to become a teacher.” On the other hand, positive school experience also had an impact on pre-service teachers. For instance, Stephanie in Group II brought up her past experience in college: “I had this really good biology professor and he just really inspired me to like do what he was doing, which made biology so interesting that I would want to learn it more. So, I just wanted to do the same for others, like for younger generation.”

As Cooper and Olson (1996) claimed, the pre-service teachers’ self is not yet substantive, but being constructed through the ongoing experience and interaction. Thus, their self is not strictly determined by the present environment; rather, their teacher identity is in the process of being shaped by past experience and current circumstances. As Cooper and Olson emphasized the influence of the pre-service teachers’ past experience on their present identity formation, pre-service teachers in Groups I and II reported how their past experience affected their current interests.

In terms of attainment value, interviewees from all four groups talked about the importance of becoming a good teacher in order to make a difference in the lives of students. Linda, a pre-service teacher in Group I, emphasized, “It’s important to me, because I think this is a real way that I can make a difference into maybe a few people’s lives. Maybe just be a good example as a person to them, or maybe spark interest and graduate a doctor or something. It’s my way of making my impact on the world, and this is the best way for me to do it.” Even if most of the interviewees agreed that teaching is important because of its impact on students, only dropout
or non-dropout teachers (Group III – A & Group III – B) stressed the importance of increasing scientific literacy for students. As an attempt to reform science education, National Science Education Standards (NSES) (National Research Council [NRC], 1996) and the Benchmarks for Science Literacy (Benchmarks) (American Association for the Advancement of Science, 1993) introduced and defined science literacy as the knowledge and understanding of scientific concepts and processes required for personal decision-making, participation in civic and cultural affairs, and economic productivity. Thus, scientifically literate students can understand science concepts and identify scientific issues underlying national and local decisions (NRC, 1996).

The concept of scientific literacy was reflected on both dropout and non-dropout teachers’ perception of the importance of teaching science. Bryan, who is currently teaching physical science to 9th graders, articulated this view: “I think science literacy is the ultimate goal of science courses, so that people can go through world and know why a tree is there, or know the purpose of a tree before they cut it down, and to realize how important it is to recycle, or drive a car that doesn’t get two miles per gallon.” Matt, a 3rd-year biology teacher, also added, “It is important to just help my students have some scientific literacy, understand what’s going on. I try to tell my students all the time, ‘You’re living in interesting times and your generation is facing a lot of issues. … You decide how you want to cast that vote, how you think taxpayer dollars should be spent, how you’re going to make these life-altering decisions in your life.’ So, I think it’s really important so that we’re preparing our students for these important decisions that need to be made and helping them appreciate science around them.”

In contrast to this in-service teachers’ focus on improving scientific literacy for students, pre-service teachers put more emphasis on their own personal satisfaction. Here, Barbara, who finished student-teaching (Group II), expressed why it is important for her to be a teacher: “It’s
important definitely, because it’s what I want to do for the rest of my life. … I guess because I’m afraid that if I don’t do this then, there’s nothing else to do. Yes, so it’s personal satisfaction and that, yeah, it’s a career that fits with what I want for my future.” This comment echoes with what Fuller (1969) described as “concern about self”, which includes non-teaching concern, concerns about adequacy, and concerns about being liked or liking.

As the interview data showed, all four groups revealed their interest in teaching science, and they perceived teaching as important due to its impact on students. However, pre-service groups (Groups I & II) and dropout or non-dropout teachers (Group III-A & Group III-B) showed different perceptions of their interest or importance of teaching science. Pre-service teachers tended to link their past schooling experience to their current view and they also put more emphasis on their own personal fulfillment than on students’ growth or learning. For dropout or non-dropout teachers, the importance of teaching science was centered on the issue of scientific literacy. That is, it was more important for them to increase students’ knowledge about science so that students could understand scientific issues around them and make a better decision.

**Commitment.**

When the participants were asked about the meaning of “being committed” to becoming a science teacher or to work as a science teacher, they shared two common themes: One was to become a life-long learner who is always looking for a better way or better ideas to improve their teaching. Matt, a 3rd-year biology teacher, explained what it meant to be committed in working as a science teacher: “I think it means that you are dedicated to being a lifelong learner; that you’re always looking for a better way to do something with your students. … It’s not just between 8:00 and 3:00 every day. You’re at home and you’re flipping through the channels and
you see that there’s going to be a great program on that you would love to show a clip for your students. It means getting an old football game that you recorded on VHS and you're going to record over that for that little special. … It’s always about looking at improvement and looking towards what’s going to help your students the best.” It seems that to be committed is to seek out new methods, to constantly form ideas, to find more presentable and effective ways to teach, and to continuously challenge yourself. According to Nias (1981), such a perception about commitment is labeled as “commitment as occupational competence.” Committed teachers are seeking to improve their own knowledge and expertise not just to fulfill required work, but to improve the quality of education. This view is in line with Jackson’s (1968) research findings. After interviewing 50 teachers, he concluded that, “A teacher is no teacher at all, if he is merely a piece of an institution. He too must stand for qualities extending beyond the official boundaries of his task” (p.155).

The second common theme of commitment was career longevity. Being committed means “staying and continuing to teach.” According to Nias’ (1981) framework, commitment as career-continuance refers to the willingness to stay in the career. Those who are not committed in this sense tend to say, “I’m happy to teach for the time being, but I’m not committed to it for any length of time, and certainly not for life” (Nias, 1981).

Given this general agreement about the meaning of commitment, pre-service teachers highlighted the need to successfully finish the teacher education program. For them, “being committed to become a teacher”-- often means to following through the program and completing it successfully. In addition, only the pre-service teachers who were interviewed described their commitment as a “calling.” They expressed this idea in this way: “I feel like it’s what I’m called to do” and “I feel like it’s what I’m meant to do.” The concept of calling can be traced back to
medieval Christianity. Mintz (1978) explained how the concept of a calling has been changed in modern society:

The congruence between the experience of being summoned by an outside agency and that of being impelled by an inner necessity… Instead God is doing the calling, it is society or duty which beckons; the call is itself experienced as a sense of inner conviction rather than as a spiritual prompting; instead of religious fervor it is ‘intellectual passion’ which accompanies the work. (p. 18; p. 40)

As Serow (1994) and Serow, Eaker, & Ciechalski (1992) pointed out, the basic idea of the “goodness of fit” between the field’s work and one’s own psychological aspiration remains substantially intact in the commitment of teachers in modern society.

One of the interesting descriptions of pre-service teachers’ commitment was their extreme expressions such as “completely committed,” “100% committed,” or “a 24/7 thing.” As opposed to this, dropout teachers or non-dropout teachers described their commitment in a more practical way. Kirra, a 4th-year biology teacher, described her perception about commitment as follows: “I think being a committed science teacher you have to know your limits and do your best within your limits, but cut yourself off at 6:00. No more work or whatever, or after the end of the school year, ‘I’m not going to work this summer. Next summer I’ll take a science class, but this summer I’m just going to have fun’. You know those kind of things; knowing your limits and giving it your best within your limits.”

Dropout or non-dropout teachers agreed that “being committed” means to invest more time and effort to improve students’ learning. For instance, Bryan, a 2nd-year physical science teacher, explained that being committed means “being willing to spend a few minutes after school or before school to help those kids who are not as quick learners as the others, having a
morning review session, or make-up lab days. Instead of just giving a kid a zero for missing a lab, then leave a set of the materials out and then one day a week have those kids come in to make up the lab that they missed.” The meaning of commitment was often explained through the description of non-committed teachers. Debbie, an 8th-grade physical science teacher, added, “The ones that come in as close to when the first period starts and leaves as quickly as possible. … They don’t care what their room looks like, so they’re not trying to show off student work. They’re not contacting parents. They do a lot of seat work, so their kids are sitting there doing worksheets and they’re at their desk doing whatever.”

Committed teachers described by the interviewees in Group III-A and Group III-B have an obsession with “taking the job seriously and making it work.” Concerns theory conceptualized this commitment category as “task concern” (Fuller, 1969; Van den Berg, 2002). Task concern is related to improving one’s professional ability, effort, and potential to master required knowledge and methods of teaching and learning.

The four groups of participants shared the common theme of perceiving commitment as occupational competency and as career-continuance. However, Groups I and II put more emphasis on the need to finish the teacher education program, and Groups III-A and III-B highlighted investing more time and effort in teaching. Pre-service teachers in Groups I and II seemed to have a relatively idealistic perception about commitment, in comparison with those who had teaching experience. Also, only pre-service teachers described their commitment in terms of the concept of “calling.”

Self-efficacy.

As Bandura (1986) defined it, efficacy refers to peoples’ beliefs about their capabilities to perform a task at designated levels. The survey data showed a quantitative difference in those
efficacy beliefs held by each group of participants (See Table 5 and Figure 3). Given the result, these qualitative interview questions were aimed at exploring the area of confidence that participants perceived to have.

There were two common themes that emerged from all four groups’ answers: (1) confidence about the ability to give lectures and explain concepts and (2) confidence about content knowledge. Jenna, a pre-service teacher who has not experienced student-teaching yet (Group I), explained her confidence about giving lectures to students: “I’m most confident about talking in front of the classroom. I think dealing with lectures or explaining things, I can explain things fairly well.” Maree, a former biology teacher in Group III-A, articulated her ideas on this: “If the students are interested in a topic, and we just get into a conversation about it, that I like a lot …. Just on the spot thinking up ideas, thinking up analogies to explain it better or to go a little further.”

The second theme was the participants’ confidence about content knowledge. For example, a 3rd-year biology teacher, Mason, explained his confidence about content knowledge in this way: “I’m very confident about my content knowledge. Having the biology background, having that undergrad degree, having taken a lot of graduate level courses, having kind of taken courses in very different aspects of science and different aspects of biology, I feel very confident in my content knowledge.”

Even if the four groups’ participants shared these themes commonly, still pre-service teachers in Groups I and II often expressed their overall lack of confidence. Stephanie in Group II described her lack of confidence and even fear about going through the first year of teaching: “I don’t really think I’m competent in anything. I’m really scared about the first year, so I really don’t know if I have something that I can for sure say that I’m confident about.” Another pre-
service teacher in Group I, Stacey, also expressed her low efficacy beliefs in relation to her teacher education program experience: “To be honest, I’m not 100% confident in anything really like about teaching. I’m still very scared. I just feel like with the education program at UGA it’s a good program, but at the same time I feel like I still don’t know a lot, even though I’m taking - I’ve already taken most of the basic education classes and I’m starting my block one. Sometimes I just sit there and I feel like I still don’t know what exactly is going on or what needs to be done. So, I just kind of - I don’t feel a hundred percent confident, because I just feel out of the loop half the time.”

As several researchers have reported (Ashton, 1985; Evans & Tribble, 1986), novice teachers or pre-service teachers who hold a lot of concerns, yet simultaneously confess a low sense of efficacy, are especially vulnerable to stressful classroom realities and are, therefore, at risk for professional development.

Besides this overall lack of confidence, pre-service teachers can be characterized by their confidence about building a relationship with students as a friend or a general caregiver. For example, Stacey in Group I stated, “I guess I’m confident about being able to talk them as a friend… I’ve always been able to talk to kids when I was baby-sitting or summer camp. If a kid wanted to come to me and talk to me, I think I could definitely help.” This confidence is quite different from non-dropout teachers’ confidence about building a relationship with students in a more pedagogical way. Debbie, a 2nd-year physical science teacher described her confidence about interacting with students: “I’m most confident about relating to the students…. I’m able to gauge if the students understood or not. … I think I’m really in tune with my students on a communication level, like making eye contact and nodding their head and not falling asleep or whatever.”
Another difference among these four groups was found in the area of classroom management. Interviewees in Groups I, II, and III-A professed their lack of confidence in handling students in the classroom. Pre-service teachers in Groups I and II stated, “I’m a little unsure of classroom management;” “I’m least confident about classroom management;” and “I’m not confident about getting the kids engaged and keeping their attention.” Rosa, who left the career after two years of teaching experience (Group III-A), talked about her difficulty and lack of confidence in classroom management: “How do you handle the students? There was no textbook written on how to handle a particular student. Yeah, we have books that give us advice on classroom management, but it doesn’t work for every child. So that was probably the piece that I was always wondering about because it was always so unpredictable.” Maree, a former biology teacher (Group III-A), provided a specific example: “I had students during a lab with microscopes - I had two students rolling on the floor hitting each other and I kicked them out of the classroom. They said that they were just playing, and I said, ‘I don’t care. We have microscopes and it’s very expensive microscopes,” and they’re rolling on the floor hitting each other. I don’t even see how that happens in a classroom. It’s crazy.”

In contrast, non-dropout teachers in Group III-B expressed their strong confidence about classroom management. For instance, Andrew, who had taught biology and physical science to 9th and 10th graders for five years, stated, “I’m most confident about classroom management and just dealing with kids. I’m pretty good at controlling a classroom. I haven’t written a single kid up this semester. I don’t have classroom problems.” Hardi, another non-dropout teacher who is teaching physics, added, “I think that I’m able to give them the freedom to go and investigate things on their own, but then I also have a control of the class so that I don’t let them completely loose and go crazy.”
As such, the four groups showed different perceptions about their efficacy beliefs. Although they generally felt confident about explaining concepts and holding strong content knowledge, the pre-service teachers expressed their lack of overall confidence about teaching. In addition, unlike in-service teachers, pre-service teachers had confidence about establishing a relationship with students as a friend or a caregiver. In-service teachers put more emphasis on pedagogical communication with students in building a relationship with them. Except for the non-dropout teacher group (Group III-B), the rest of the three groups shared their difficulty and lack of confidence in managing the classroom and dealing with students.

*Emotions.*

Among a variety of emotions that teachers’ experience, this study focuses on the emotional burnout and stress. Most of the participants across the four groups agreed that the teaching profession is associated with a high level of emotional burnout. Andrew, who is currently teaching physical science and biology, explained how teachers perceive and experience emotional burnout: “How much is emotional burnout associated? Oh, a lot. … When you teach and when you get home, you feel like you’ve worked in the lumberyard for 15 straight hours. You’re just wiped out. I mean you feel worn down and you feel like you’ve just wore yourself out and you really hadn’t done any physical activity. It’s just emotionally worn down. It’s a taxing job. It definitely puts stress on you. I think it’s associated with it a lot and it’s why a lot of teachers get out of it.”

Although the participants acknowledged a high level of emotional burnout associated with the teaching career, not all of them endorsed that they themselves actually experience the burnout. Pre-service teachers did not admit that they would experience burnout in their future career. For example, Jacob in Group I and Barbara in Group II stated respectively, “I don’t think
it [burnout] will be a huge factor in it with me as a science teacher because I just – I’m not easily stressed out … I’m just the type of person,” and “I don’t think it[burnout] has anything on me. I just do not see me getting burned out on the desire to teach even on the worst days, because I feel burned out when I’m bored. I don’t see how they’re going to bore me.” They seemed to have a strong conviction that their “personality” will prevent them from getting burned out easily; thus, they will not be burned out even if a lot of burnout is associated with the teaching career. This belief is in line with the way they perceive the source of burnout and stress. Pre-service teachers often attributed burnout and stress to the individual teachers’ personality and characteristics. Jacob in Group I explained his perception about the source of emotional burnout: “I think it [being burned out] goes back to the kind of personality that a person has. If you’re a pessimist or an optimist or if you – on how you view teaching and if you enjoy your job and that kind of thing.” Such an attribution implies that they believe the cause of burnout is internal and stable to the individual, and not easy to change or control. As Wiener (1985) suggested, what we attribute our success or failure to is a reflection of our beliefs about the world and how we interact with the world. For these pre-service teachers, attributing the emotional burnout to their internal, stable, and uncontrollable personality may result in finding different careers when difficulties arise, rather than searching for possible strategies and help within the career.

These pre-service teachers’ views are totally different from the dropout teachers (Group III-A). They admitted that they actually experienced huge emotional burnout, and also explained the source of stress as classroom management and heavy workload. Classroom management was most frequently and repeatedly mentioned by a lot of participants. Kirra, a former biology and chemistry teacher, stated, “I had those days where I was like, ‘I just can’t take it anymore.’ Most of the times that was because of students I felt I couldn’t control, that were unruly or
disrespectful, not motivated, hateful or vulgar, those kind of things.” Maree, a former biology teacher, echoed the other dropout teachers’ responses: “I had some incidents with students cheating and having the parents send a note to higher ups and get it overturned and that was upsetting. I had students pour a bottle of Listerine into my rigor tank ecosystem and kill all my fish and frogs and things. After incidents like that, I just couldn’t -- it was just too stressful. I just couldn’t do it anymore. My husband says I take everything too personally. I’m not able to just say, ‘Ah, that’s just the way kids are’. I always am just hurt by it. I felt like, I’m working so hard and this is what happens’.”

It seems that teachers are more burned out when they take those negative events personally. Bona, who is considering dropping out, also talked about this issue: “I'm taking things too personally… I need to probably learn how to just let things go. Things happen. You deal with it and just let it go, but I let things just kind of stew inside and it carries on to the point where I lose sleep. I get sick. My immune system becomes weakened and I get sick from it.” As Aultman, Williams, Garcia, and Schutz’s (2006) study showed, teachers negotiate the appropriate emotional ‘line’ or ‘boundary’ in building a relationship with students, because it is important to find a balance between a sense of professionalism and a useful level of involvement.

The second source of stress that was identified by the dropout teachers was heavy workload. For example, Rosa, a former earth science teacher who had taught for 2 years, complained, “Teachers taking a lot of work home. There were times when my family had to help me grade tons and tons of paper. Just grading papers, you have to take that home. Then lesson plans, you have to have that organized. It’s not just a 9 to 5 job. It's never ending, so emotionally yeah burned out.” Such a complaint was often addressed in relation to ineffective school administration which burdens the teachers with unnecessary work. Kirra, who left the teaching
profession, articulated this: “That’s [ineffective administration] where you get most people getting very agitated and just tired of dealing with it. … They [administrators] sit there and bring you in and you have to go through these meetings and sit through these guest lecturers and turn in this extra paperwork on this, that and the other of just nonsense. They want to see you doing all these fancy things in your classroom, but I don’t have time to do all this.”

Although non-dropout teachers also admitted some level of emotional burnout, it seemed not to seriously affect their professional lives. Participants in this group explained how they get over these negative emotions. Mason, a 3rd-year biology teacher, used the metaphor of golf in order to explain how he got over the emotional burnout: “I kind of sometimes think of the teaching profession as kind of like somebody that’s into golf. … You have a lot of bad shots, but then you’ll have that one good shot and it pulls you back all the time. There’s usually something, even if it’s a small something each day, that kind of helps you get through that emotional burnout; that helps you to get to the next day. I think the peaks are so much higher than the valleys. That really good teaching moment, that really good interaction, … that sustains you through those times when it seems like you’re getting a little burnt out.”

Another physical science teacher, Calvin, explained how he avoided burnout: “I knew how to separate, ‘Okay. That’s their problem and I care about it, but it’s not my problem and I’m not going to fix their anorexia or I’m not going to fix their drug problem. I care about it, but it’s not mine’. I think in the beginning I viewed myself as just an older version of a high school student. So, they were my buddies and we were kind of on the same level, and so I think that wasn’t necessarily good. And so, I think that I matured and knew how to distance myself from the problem and ally myself with my real peers, which were the other teachers and administrators, and then I didn’t feel as drained and I got a lot more help, too.” In contrast to the
dropout teachers, these non-dropout teachers try to establish appropriate emotional boundaries, which help them to reduce burnout and stress. As Aultman et al.’s (2006) study highlighted, too much or too little involvement with students was perceived negatively by teachers; thus, it is important to find a balance between the two.

Teachers’ emotions and their burnout appear to be critical in understanding their professional lives and career satisfaction, because it contributes in establishing a framework in which teachers interact with others and take particular roles. Although participants in this study agreed that teaching is an emotionally-laden profession, the ways they related the burnout with themselves and the attribution they have about those emotions were different depending on the groups. Pre-service teachers tended not to endorse emotional burnout as something that they would experience and attributed emotional burnout to the individual teacher’s internal, stable, and uncontrollable personality. Teachers who had left the teaching profession admitted that they experienced a lot of emotional burnout, and attributed it to classroom management and heavy workload. Non-dropout teachers also admitted that they were experiencing emotional burnout, but they perceived that rewards from teaching were far greater than the stress, and also they tried to establish emotional boundaries which allowed them to decrease burnout and stress.

Knowledge & Beliefs.

Based on Borko & Putnam’s (1996) framework, subject matter knowledge and PCK were examined in this study. Regarding subject matter knowledge, participants in the four groups consistently mentioned that they had strong knowledge of content, facts, and concepts in science subject matter. However, pre-service teachers repeatedly mentioned the need to refresh their memories about specific facts or terms, and dropout or non-dropout teachers emphasized different levels of content knowledge depending on the subject. Pre-service teachers were not
using their content knowledge on a daily basis for teaching; thus, they may not have had an 
active schema. For example, Sean, a pre-service teacher in Group I, described his strong content 
knowledge and some concerns in this way: “I know a good amount of it [content knowledge]. I 
definitely had all the classes… even though I don’t remember them off the top of my head. There 
are some stuff that I don’t have straight in my head as much as I would like to, like mitosis and 
miosis. I get those a little bit confused and haploid and diploid. I know that I need to get all that 
straightened out, but I think I know enough to at least explain it.” This perception also implies 
that it is perceived to be important for these pre-service teachers to familiarize the specifics in 
teaching.

On the other hand, the dropout or non-dropout teachers admitted that they had strong 
content knowledge in general, but focused on different levels of content knowledge depending 
on different subjects. For instance, Debbie, an 8th-grade physical science teacher, elucidated this 
view: “It [content knowledge] depends on the subject. My chemistry I feel really strong in. My 
astronomy I feel really strong in. Physics, I’m not as strong in that. … Light I’m not all that 
strong in. I’m about one step ahead of the kids. Electricity, I feel like I’m five steps behind the 
kids in that one.” These teachers tended to provide more specific information about the content 
knowledge by distinguishing different subjects and different topics.

In terms of the PCK, there was a different pattern between pre-service teachers and 
dropout or non-dropout teachers. Pre-service teachers tended to perceive that they had weak 
PCK, but dropout or non-dropout teachers thought they knew pretty well about how to transform 
the subject matter knowledge into the way that students could understand and learn. Bill, who 
just finished student-teaching, talked about how much he knew about the way to convey content 
knowledge to students: “I know a little bit; not a lot, because, like I said, I’ve just had the student
teaching experience to pull from. I’m sure there’s lots of different ways to convey the material that I haven’t found yet or come up with. That’s one of the things that I really want to work on, because I want to be able to make it fun and interesting for the students. I think that’s a big part is being able to explain it in a way that they understand it.” Pre-service teachers tended to explain their lack of PCK in relation to their lack of actual teaching experience.

In contrast to these pre-service teachers, dropout or non-dropout teachers consistently mentioned that they can convey the content knowledge to most students in a way to facilitate their learning. Debbie, who is currently teaching physical science, explained, “I think I’m good there. My learning style is a mixture of pretty much all of them. I need to see it, but I also need to hear it. I need to feel it, experience it. And so, teachers I think naturally teach - their teaching style is naturally associated with their learning style and because I’m a mixture of all, I naturally do all. In terms of my ability to get across to all students, I think I’m getting across to 99% of them.”

Kirra, a former biology and chemistry teacher, added how in-service teachers can develop their PCK:

I feel pretty confident that I know how to do that only because I tried to do it in a lot of different ways for each topic. I think conveying the knowledge and also coming up with innovative ways to do it. … One teacher told me, ‘You just try to incorporate one new thing a year or one new lesson every couple of months. Don’t try to reinvent the wheel right now this year.’, and I thought that was wise. So, I think I was good at it, but I just think there’s always so much more room to grow. Sometimes you don’t realize how not good you are at it until you meet
that one student who just doesn’t get it. That’s what causes you higher to grow again in communicating the knowledge.

Kirra’s answer explains how in-service teachers develop their PCK through the classroom teaching practice.

Regardless of the grouping, participants agreed that having a strong PCK refers to the ability to use different teaching methods, so that students who have different learning styles can learn the content. Rosa, who left the teaching profession after two years of experience, explained, “I think learning how to convey it, first you need to learn something more about your students about how they like to learn, and so maybe what I always do is try to do a mixture. For those students who like to take notes, then learn that way maybe incorporate a little of that. Those who like to learn visually, incorporate a little of that and those who like hands-on incorporate that. … I think it will include all students when you convey it.” As Joe, a pre-service teacher, mentioned, “a good teacher is prepared to use lots of different models, lots of different strategies in order to teach that class.” These comments demonstrate the participants’ underlying assumptions and beliefs about teaching and learning.

It was the shared beliefs of the four groups’ participants that every student learns differently; thus, you have to teach them differently. Mason, a 3rd-year biology teacher, articulated this view: “I think the teaching is trying to hook them [students] into what you’re going to do in providing these different learning opportunities for them that are meeting their different interest levels, their different learning styles, and engaging them so that they are then actively conceptualizing what’s going on, relating it to what’s their prior knowledge, and growing from there.” Based on these beliefs, “differentiated instruction” has been studied and applied to classroom teaching practice. According to Tomlinson (1999), not all students are
alike; thus, it is important to provide students multiple options for taking in information and making sense of ideas. Therefore, in differentiated classrooms, teachers begin where students are, not the front of a curriculum guide. Differentiated instruction suggests shifting the emphasis from the ‘teacher and instruction’ to the ‘student and learning’, and thus one of the obvious features of the differentiated classroom is student-centered teaching and learning.

In line with this idea, all of the groups except the dropout teacher group (Group III-A) stressed students’ active role in learning. For instance, Joe, who finished student-teaching (Group II), explained teachers’ and students’ roles: “Teachers need to sort of help students realize that they are the ones trying to learn and that they’re responsible for learning on their own. It’s up to the teacher to help explain and help revise and help guide, but it’s up to the students to be the ones that actually take the steps and to learn.” Another pre-service teacher, Kate (Group I), added, “20% depends on what teachers bring, and 80% depends on the students.” This view is quite opposite to that of the dropout teachers. Kirra, the former biology and chemistry teacher, emphasized teachers’ active role and responsibility: “Students don’t know how to communicate… So, it’s a lot of responsibility on the teacher to not only know the content, communicate the content, but also gauge the learner.” Another dropout teacher, Rosa, agreed with Kirra’s opinion: “I have those beliefs that students had different learning style that required me to do a lot more work, a lot more remediation. Maybe one student needed me to read the questions; whereas other students didn’t or maybe I had to make up different activities for a student and other students didn’t require that. I guess it all goes back to the emotional drain.”

The final common theme of teachers’ beliefs is that teaching and learning are perceived to be an inseparable process. Barbara (Group II) and Debbie’s (Group III-A) respective comments well represent this belief: “I think everybody should do both. To be an effective
learner, teaching somebody else is the best way to really learn it,” and “They [teaching and learning] go hand in hand. If you want to learn something, teach it. If you’re going to teach anything, you have to learn part of it.”

Regarding teachers’ knowledge and beliefs, all four groups shared that they have strong content knowledge, yet pre-service and in-service groups had different emphases. Groups I and II stressed the need to review specifics before teaching, but Groups III-A and III-B talked about different levels of content knowledge depending on different subjects. These dropout and non-dropout teachers also acknowledged their strong PCK, unlike pre-service teachers who expressed their concern about weak PCK. All four groups consistently shared their beliefs that teaching and learning cannot be separated, and not all students learn the same way. Although they share these beliefs, Group I (pre-service teachers before student-teaching), Group II (pre-service teachers after student-teaching), and Group III-B (non-dropout teachers) supported the idea that students are the owners of their learning and, thus, they should take charge of their learning process, whereas Group III-A (dropout teachers) put greater emphasis on teachers’ role and its impact than students’ responsibilities.

Micropolitics.

As Ball (1987) and Blase (1987) claimed, school organization is not a rational, ordered, or unitary system, but a place where individual differences, goal diversity, conflict, different values, and informal power exist among teachers and administrators. Given this assumption, interview questions were asked to understand participants’ perception about the power relations and their connection to their teaching practice.
The participants in the four groups agreed that they perceived that they have a high level of respect from colleagues, but do not have much power and control in the school organization. Pre-service teachers expected they would have a high level of respect, and dropout or non-dropout teachers mentioned that they were well-respected by colleagues. Sonya in Group I stated, “I think I’ll be well respected. I think, of course, coming in, I’m a novice. I’m a first year teacher, but I think I will earn their [colleague teachers’] respect by just my enthusiasm and my work ethic.” A physical science teacher, Bryan added, “I think it’s probably as high of a respect as it could possibly be. If I speak, they listen to me. They ask me for help. I ask them for help and we help each other. I don’t ever get belittled.” These comments illustrate their satisfying relationship with colleagues, but the relationship with administrators seems not as harmonious as that with colleagues.

Teachers often complained about lack of interaction with administrators and the relatively weak power they had concerning school administration. Rosa, a dropout teacher, expressed her discontent regarding school administrators: “I think there’s even more of a disconnect between the administrators and the school and the teachers. I think they have no idea what’s going on in the classroom. They came around. They evaluated you and they pat you on the back and say you’re a good teacher, but then they sit in the office all day so they really don’t know what goes on. So that was basically it. So, control I would say, you don’t have any power.”

There is an interesting point to note regarding teachers’ relationship with administrators. Although non-dropout teachers were not satisfied with the relationship with administrators, they suppressed or did not make it a big deal. Hardi, an 11th-grade physics teacher, described how she felt and how she managed the relationship with administrators: “I’ve never ever once spoken to our Principal; like never. Maybe ‘Hi,’ but never really talked to him about anything. I’m kind of
scared of him, not because he’s a scary person, but he seems very set in his way and so I don’t really want to go over that boundary. As long as he doesn’t make me do really, really retarded things that I don’t think are useful I think I can put up with that. People who I really work with on an everyday basis are important to me more than the people above that.” According to Achinstein (2002), it is thought to be essential in the teacher community to actively engage in conflict and to make a dialogue about different opinions. The reason is that conflict can create the context for improvement and renewal, and also provides an opportunity to reflect upon the taken-for-granted assumptions (Schön, 1983; Tabachnich & Zeichner, 1991). Non-dropout teachers’ lack of active engagement in administration may affect their professional development and growth of teacher community in an unhealthy way.

Regardless of their relationship with administrators or their status in school, participants in the four groups agreed that the power relations affect their classroom teaching because of two reasons: (1) The positive relationship with colleague teachers increases the opportunity to get help and support from each other, and (2) a supportive administration provides a safe environment that backs up the teachers when needed. A pre-service teacher in Group I, Stephanie, explained how the relationship with other teachers would affect her teaching: “I think they have a lot of effect, because I hope that when I’m teaching that I can go to other teachers and get help from them. We can share ideas and it’s not like a competition. It’s more of a cooperation…. So, having their input and their guidance will definitely affect the way I teach.” Kirra, who had taught chemistry and biology for four years, agreed, “Well, I think it [power relationship] had a profound effect. Because when I would team with other teachers it would help me be a better teacher, because it would free my time up to be better at grading papers while that teacher did a lesson plan, and then we would switch roles. So, it just kind of relieved some
of the burden of all the work when we would work together.” As such, they emphasized that it is about a community and team, not a competition; thus, collaboration is important for classroom teaching.

Secondly, participants agreed that power relations affect their classroom teaching because a supportive administration provides a safe environment for teachers, which in turn affects their teaching in the classroom. A former chemistry teacher, Kalli mentioned, “I think it’s very important to have support from the administration, because they need to be there to back you up if there's a problem, and they were there to back me up when there were problems and others weren’t.” Debbie, a current physical science teacher, and Hardi, who is teaching physics to 11th-graders, further explained how it affects classroom teaching: “I think it [administration] affects it [classroom teaching] a lot, because I feel safe. I know if anything happens I can call on anyone and they’ll help me take care of it, so I don’t have to worry about anything, discipline, because the teachers and the administration trust me and I trust them. So, it’s extremely important, because it provides a safe environment for me to explore.” and “I’m not some emotionless robot. If I don’t feel comfortable in the environment that I’m in, I don’t think I would be good at what I do.” These comments highlight the importance of supportive administration and positive relationships for teachers’ professional happiness and their classroom teaching.

Participants in this study agreed that micropolitics is important because positive relationships and supportive administration increase the opportunities to get help from other teachers and to create a safe environment. In terms of the acquisition of power and control, the four groups of participants shared that they do not have strong power to influence school administration, but they perceived to have enough respect from colleagues.
In sum, the data showed that meaningful differences exist among the four groups in terms of their value, efficacy, knowledge and beliefs, emotion, commitment and micropolitics. In an attempt to figure out how the dropout teachers’ perceptions are related to their decision to dropout, dropout teachers’ data were further analyzed in comparison with non-dropout teachers’ data.

How Is the Beginning Teachers’ Decision to Dropout Related to Their Perceptions of Professional Identity?

The dropout teachers (Group III-A) can be divided into three different sub-groups based on the major reason for making a dropout decision. Bona, Rosa, and Maree explained that they left the profession due to the classroom management issue. For Kirra, Joyce, and Christa, their decision was due to a family issue, such as pregnancy and taking care of their own children. Finally, Kalli left the profession because of another career opportunity. Only the second group of teachers (Kirra, Joyce, and Christa) plan to return to the teaching profession once their own children are grown up.

For the first sub-group of participants (Bona, Rosa, and Maree), the classroom management and discipline issue seemed to be very critical in their professional lives. Maree and Rosa, who left the teaching profession after teaching less than three years, explained how hard it was for them to manage the classroom. Maree said, “The biggest challenge is to maintain a level of discipline in the classroom. You spend so much time trying to get those interested or back on task, or to be quiet or listen, participate with us. I feel like I’m explaining photo-synthesis while screaming at people, yelling because they won’t stop talking. … I felt like if I stayed I would have to be mean, meaner and meaner. … So, I’ve given up now.” Rosa claimed that, “A lot of new teachers struggled, especially with discipline issues, classroom management issues. We
really struggled. We had the content and we had our lesson plans and all that stuff down and they were great, but if you don’t have a classroom that is willing to – or students that are willing to accept that and you have behavior issues, then that great lesson plan is out the window.”

Such a classroom management problem may increase their stress and burnout. When asked what they thought about the benefits of making a dropout decision, they mentioned ‘less stress’ and ‘less burnout’. Maree stated, “Well, I’d say immediately I am feeling a lot less stressed, because I think there was a lot of stress going into the classroom everyday.” In addition, Bona’s comment showed that students’ negative behaviors affect her significantly, especially when she took it personally: “Well, you never know, but I’m hoping to find a career where I go home and I don’t have to - it doesn’t affect my personal life, my emotional life so much. I’m just so affected. When I’ve had a bad day at work, I’m so affected by the kids and what’s going on that I bring it home with me so much. So, over time I feel like that could really wear on me, but I don’t know. Another job may do that as well. I’m not sure, but I guess that is the one thing that I would really look for in another career is something that I don’t have to take home with me so much; that I could leave it at work and I didn’t take it so personally.”

Unlike these dropout teachers, a non-dropout teacher, Calvin, explained how he handles his emotions in dealing with classroom management and discipline issue: “I think it’s good, because I think I compartmentalize pretty well. I’m pretty good about if something bad happens I don’t take it home with me, and so I don’t go home and worry about something awful that a kid said or did that day. So, that’s one thing. I can be fairly stoic in front of the students and so I don’t get too angry or too upset of whatever too quickly. So, I think in terms of that I’m able to banter with them pretty well. So, I think in terms of that I think I’m okay for it.”
Regarding the classroom management problem, dropout teachers tended to think that their personality was not really fitting to the job. Kalli described that she is not a strong enough disciplinarian: “I don’t think I’m like a strong enough personality to handle 30 teenagers, especially the kids who don’t have a strong parent support at home and they don’t have strong discipline at home. I don’t think I’m a strong enough disciplinarian.” In contrast with that, students in non-dropout teachers’ classroom are well-regulated while having some freedom as well. Andrew, who is teaching physical science and biology, described his classroom management: “Open and playful with the kids. I keep it a very loose setting most of the time. They have a lot of rules and regulations they have to follow and they got to get to know me, but once they get to know how to act in my class it’s a pretty loose setting.” Corresponding with this, non-dropout teachers often explained their reason for not dropping out from the profession in terms of their enjoyment and confidence in interacting with students.

The issue of classroom management leads the teachers to think about their own personality, especially their patience. Whether a dropout teacher or non-dropout teacher, they consistently agreed that patience is required for the teaching profession. However, two teachers, Maree (dropout teacher) and Hardi (non-dropout teacher), showed almost an opposite approach in dealing with their impatient personality. The following quote shows how Maree perceives how her impatience influenced her teaching practice:

I didn’t think I had the patience to work with children. But I thought that after having my own children, I had gained a lot more patience with someone who really I needed to kind of work at their level and help them, guide them. So, that’s why I thought, “Well, I can do this [teaching].”…. There was a lot of stress going into the classroom everyday. I sort of felt like I was losing
patience with them [students], so I guess it turned out I was right the first
time. I shouldn’t have been a teacher.

On the other hand, a physical science teacher, Hardi, explained how her impatience diminishes through the teaching practice:

I still do think of myself as a very impatient person. I’m very impatient when I do things and even when I’m at my house and my husband doesn’t do things my way it just drives me crazy, but it’s amazing to see how that aspect of my life doesn’t necessarily show up in teaching. Sometimes I’m amazed how patient I can be with my kids, which is I think one thing that I’m benefiting because I think it’s important to be patient and I’m learning that from my kids. So, I think in that aspect I’ve learned to - I know that I need to be more patient, but then in the classroom I feel like I’m becoming more patient.

It is interesting to note that for one teacher, an impatient personality was weakened due to the classroom teaching, but for another teacher the impatience increased because of the classroom teaching experience.

For the second sub-group of participants (Kirra, Joyce, and Christa), their major reason for leaving the profession was due to their family issues. By dropping out of the teaching profession, they could have more time and energy to take care of their own children. Kirra explained her dropout decision and the family issue in relation to their commitment: “I would never want my commitment to science teaching to supersede my commitment to my family, or my commitment to my personal health.” Joyce added, “When I’m working, I’m very committed to that almost to the point where it would have interfered with my family. Having two kids and
also working would have been very stressful on our family. …I needed to focus my commitments elsewhere [family] for the time being. That was probably the main reason I stopped teaching.” As such, they acknowledged the need and importance of finding a balance between commitment to being a successful mother and commitment to being an effective teacher.

Finally, Kalli, in the third sub-group, left the teaching profession because she decided to become a veterinarian: “I got into veterinary school and I always wanted to go to vet school. I got accepted in the spring and it was a really hard decision because I really felt like I needed another year to really find myself in the classroom, to find who I was as a teacher, but I’d really always wanted to go to veterinary school, too, so it was a really hard decision for me but, I guess, it’s follow your dream.” She described this decision in terms of her intrinsic value, meaning the enjoyment one gains from performing the task: “I guess, yes, because my interest in working as a veterinarian was greater than working as a science teacher.” It seemed to be important to have a strong interest in their chosen career in order to continue working and not to be superseded by other career alternatives.

Corresponding with this, dropout teachers indicated that their interests had decreased over time: “I think my first day I went in a little naïve, not realizing that you’re the only one up there and you’re in control of all of these kids whether they’re going to pass the Gateway Exam and the high school graduation test, and some of them don’t care about passing those tests, I don’t think that had crossed my mind as much, so my interests decreased while I was teaching.” However, non-dropout teachers viewed that their interests had grown: “I guess because they’ve grown. When I started, it was ‘Okay. I get off in the summers. This will be great’, and now it’s because I love what I do. When I started, I didn’t know if I would like it. I was still trying to
figure out what I wanted to do, and so two years later I'm more excited about what I do than when I started.”

Regardless of these sub-groups, dropout teachers complained about the ineffective administration from time to time. For example, Rosa, who left the profession after two years of teaching experience stated, “At my school, to send a student up for cursing you out was looked at like, ‘Why did you send the student up here? You need to handle that in your classroom,’ and so I think the administration didn’t really support the new teachers. They sort of automatically assumed that they knew how to discipline their classroom.” Also, Christa added how the lack of leadership at the administrative level burdened the teachers with needless tasks:

Our principal was unable to make a decision based on the students’ best interests and stick to it…. Those of us who would felt like we had just wasted our time since there was then no follow through on what we did. We were asked to complete a report card on each of our students that listed which concepts they had mastered. The reports were sent home - even though many of them were not completely filled out - but they were not used to determine what kind of training teachers needed to teach the concepts that the students were not mastering.

In contrast to these dropout teachers who did not have an effective administration and a good support system, non-dropout teachers seemed to get good support from colleagues, even if the administration was still ineffective. Hardi mentioned how support from her co-workers affected her professional life. She complained about school administrators, but added:

I think one of the most important things is the support that you get as a first year teacher. For instance, our school is wonderful in that our department, or
not just our department but even within the teachers who teach physics, we collaborate so much that my first semester, which was obviously the most difficult. When you walk in the class and you know absolutely nothing and you have no resources, you need somebody there to help you and show you, guide you in getting started, which I definitely had. I think if you don’t have that I could see why it would be so overwhelming and why people would decide to drop.

It seems that one of the most critical factors is to have a good support system and mentoring program to help teachers stay in the profession.

Findings from this study suggest the need to examine the hypothesized model (Figure 1) again in order to clarify the interrelations among the six factors, and to explore possible ways to better prepare pre-service teachers and to improve beginning teachers’ professional development. The following chapter will discuss the implications of this study.
CHAPTER 5
DISCUSSIONS AND IMPLICATIONS

The findings in the present study revealed how teachers in different levels of the teaching profession tend to perceive themselves differently, especially on the six factors of value, efficacy, commitment, knowledge and belief, emotion, and micropolitics which constitute teachers’ professional identity. The following chapter re-examines the hypothesized model (Figure 1) by highlighting salient interrelationships among six factors discovered from the data, and implications for better teacher preparation program for pre-service teachers and recommendations for beginning teachers’ professional development are provided.

Highlights of the Hypothesized Model

*Common Patterns across Four Groups*

While the six factors tend to be connected to each other in a variety of ways, the data from the 27 interviewees revealed several salient interconnections among them. As Figure 4 shows, knowledge and beliefs were related with efficacy, value, and commitment. In addition, value and commitment were also linked.

In terms of self-efficacy and knowledge, both pre-service teachers and in-service (i.e., dropout or non-dropout) teachers in this study stated that they felt confident about knowing a fair amount of content knowledge. In other words, their confidence mostly came from the amount of content knowledge they perceived they had. The way knowledge and efficacy were connected for these teachers is similar to the way knowledge and value were linked for them. Regarding the intrinsic value, although each group has different emphases, they all agreed that they like to
teach science, because they like science itself. Their interest and curiosity for science seem to be an important source of intrinsic value. In addition, they often talked about the importance of doing well on a given task such as teaching to help students understand science content knowledge (attainment value).

Regarding the relationship between commitment and beliefs, their beliefs about teaching and learning seem to frame the way they conceptualize the meaning of commitment. Participants believed that teaching and learning were inseparable, thus it is important to continually learn while you are in the teaching profession. Given these beliefs, they tended to perceive commitment to mean being a life-long learner who is continually learning and developing better ideas to improve their teaching. Commitment was also perceived as being “interested”, “excited”, or “enjoying” teaching, which overlaps with the concept of intrinsic value. However, it is not possible to determine the causal relationship between commitment and intrinsic value. As the literature review showed in Chapter 2, commitment is multidimensional, and thus has been conceptualized in various ways. The overlap with commitment and intrinsic value can be attributed to the fact that commitment is not a unitary structure which has a clear boundary with other constructs.

*Figure 4. Interrelations among the Six Factors across All Four Groups*
**Unique Pattern of Dropout Teachers in Comparison with Non-Dropout Teachers**

In spite of the common patterns described above, the dropout teachers revealed different interrelations among six factors distinct from the rest of the groups. Figure 5 below highlighted the unique pattern that emerged only from the dropout teacher group.

![Figure 5. Interrelations among the Six Factors for Dropout Teachers](image)

For these dropout teachers, emotional burnout was a critical issue for their professional lives. Unlike the common pattern described previously, the unidirectional relationship between emotion and other factors (commitment, efficacy, knowledge and beliefs, and micropolitics) were highlighted for dropout teachers in current study. In other words, the dropout teachers in this study thought that unfulfilled commitment, lack of efficacy, demanding administration, and beliefs emphasizing teachers’ heavy responsibilities were contributing factors for emotional burnout. However, it is necessary to note that the reverse relationship has been researched (i.e., emotions are contributing factors for other psychological constructs), and thus the multidirectional relationships are claimed in emotion research (Frijda et al., 2000; Lazarus & Smith, 1988), although it was not saliently revealed for the current study.
Regarding the question of asking the dropout teachers about the perceived connection between commitment and burnout, Rosa, who left the teaching profession stated, “I think commitment is related to my decision, because I knew I wanted to be a certain kind of teacher and I wanted to be successful in the classroom. I felt like some days I wasn’t able to accomplish that, and so I think that goes back to the emotional drain, and so yeah.” Their unfulfilled expectations seem to be perceived as a lack of commitment, which leads to their emotional drain.

The connection between burnout and classroom management has been discussed at length in Chapter 4. In addition to that, dropout teachers also feel inefficacious about the classroom management issue, and they often related their lack of efficacy to their emotions. That is, their low efficacy beliefs deriving from classroom management may have led to negative emotions such as fear, stress, and burnout, especially when they took students’ misbehavior personally. For example, Bona who is considering dropping out mentioned, “I’m not confident about discipline. There were classes where I knew I had some big trouble makers, and I would dread every time they walked into the classroom no matter what kind of great lesson plan I had. I know I have a hard time getting over bad things that happen in the classroom or it really stresses me out. I’m so affected by the kids and what’s going on that I bring it home with me so much.”

As I described in Chapter 4, this pattern was not observed from non-dropout teachers in this study. This may be because they feel confident about classroom management and handling students’ misbehavior, and seem to have developed ways to maintain appropriate emotional distance from students.

Emotional burnout is also related to dropout teachers’ beliefs about teaching and learning. These dropout teachers tend to hold beliefs that teachers should take charge of students’ learning and, thus, their perceived role was a major determining factor in the quality of
education. These beliefs may have led the dropout teachers to burden themselves with excessive effort and work. Kirra, a former biology and chemistry teacher described her beliefs and consequent actions: “Students don’t know how to communicate… So, it’s a lot of responsibility on the teacher to not only know the content, communicate the content, but also gauge the learner. … I felt like I was always on stage and so maybe I did too much of the work myself and didn’t make the students do enough of it.” Such a burden may have led to their emotional burnout, as Kirra continued: “The biggest thing to bother me is that I don’t have enough time to do all this. That’s where most people getting very agitated and tired.”

Finally, micropolitics and emotional burnout were linked, especially when dropout teachers experience ineffective administration and unsupportive colleagues, because they felt that it created unnecessary and redundant work for teachers. For example, Joyce, who left teaching after 2 years of experience, mentioned,

They [administrators] make us do things that in their minds it’s helping me, but when I have to sit through ridiculous training on how to become a better teacher from an Assistant Principal who has never taught science, it's very frustrating that and I don’t have control over whether I can go or not…. You’re not really given all the resources you need to be the most effective [teacher]. That would be sharing of ideas or having more time to plan [with] any of those of a science teacher. You’re always having to set up a lab and take one down, so you need extra time and sometimes you don’t. Time and resources are lacking.

Such connections among feeling emotional burnt out and other factors were not present in the non-dropout teachers’ data. That is, the four arrows in Figure 5 do not appear for them.
These non-dropout teachers felt confident about classroom management, achieved satisfactory levels of commitment, believed students are the ownership of their learning, and experienced a support and collaboration with colleagues, even if the administration was unsupportive.

Figure 6 below merged the two figures discussed above in order to illustrate pre-service teachers’ and dropout teachers’ professional identity development. Pre-service teachers’ perceptions about those interrelations reveal the way they envision their future possible self as a teacher. Pre-service teachers’ goal of becoming a teacher led them to form the array of self-knowledge, which has the pattern described above. Pre-service teachers’ future-oriented perceptions about themselves play a role forming their future behavior and, thus, their perceptions cannot be separated from in-service teachers’ view of self. In other words, the way in-service teachers perceive their current teacher self has been shaped through their continuously forming array of self-knowledge, which includes the possible self they had at the pre-service stage. Figure 6 provides a full illustration of both pre-service and in-service teachers’ perceptions within a time frame.
Figure 6. Highlights of the Hypothesized Model
As Figure 6 shows, for the teachers interviewed in this study, emotional burnout seems to play a key role in the development of the dropout teachers’ professional identity and their school lives. The importance of emotion has been studied in the area of teacher education and educational psychology. In the following section, I attempt to connect these findings to the existing literature as the process of navigating future research directions and recommendations for teacher education programs and in-service teachers’ professional development.

Implications: Pre-service Teacher Education Programs

Researchers have emphasized emotions as a significant and ongoing part of being a teacher (Day, Kington, Stobart, & Sammons, 2006; Hargreaves, 2001; Schmidt & Datnow, 2005; Zembylas, 2003). They noted two aspects of emotions. First, emotions constitute one’s inner essence, and thus identification of emotions depends on the identity of the person. Second, emotions are socially constructed and managed through the interaction with others. Teachers construct their emotions through transactions among students, teachers, and administrators, and it becomes a vital and integral part of being a teacher. The current study also confirmed the importance of emotions for teachers’ dropout decision and their professional identity.

In spite of the importance of emotions in education, it seemed not to be much of an issue for the pre-service teachers who participated in this study. As described in Chapter 4, they didn’t think they would experience emotional burnout in their teaching, because their personality was strong enough to withstand whatever difficulties might come. Such an optimistic view, which seemed not to be grounded in the reality of their limited classroom experiences in the role of teacher, overlooked the relational aspect of emotions and underestimated the impact of environment on individual’s emotions. These pre-service teachers had not been exposed to the classroom environment on a daily basis, thus they may lack actual experience. They learn about
content knowledge and educational theories, but they may not get sufficient opportunities to transform those ideas into practice.

The current study revealed that pre-service teachers in Group II, who just finished student teaching showed much lower score on emotions than Group I, who have not experienced student-teaching, and the mean difference between the two groups was statistically significant (See Table 7). That means, pre-service teachers who completed student-teaching held less idealistic views than those who hadn’t done student teaching (i.e., those who hadn’t been in the classroom as a teacher at all yet). There might be a fine line between healthy optimism and unrealistic idealism.

As an attempt to better understand this quantitative result, qualitative data were compared between Groups I and II. However, current data do not provide enough information to determine whether the less idealistic view of participants in Group II is a positive state or not. The question we may need to ask: Is a realistic perception about emotional burnout useful for pre-service teachers’ professional development? This is a necessary question for pre-service teacher education because it is important in teacher training programs to foster per-service teachers’ optimistic perception and successful sense of self.

Finally, it should be noted that current data cannot verify the causal relationship between the amount of teaching experience and teachers’ perceptions about emotions. However, pre-service teachers in this study agreed that student-teaching experience is helpful for their professional development and non-dropout teachers’ retrospective view also acknowledged its positive effect on their teaching practice. The importance of student-teaching experience cannot be ignored, and future research is also necessary to explore pre-service teachers’ perception about their emotional burnout and preventative training model for them.
In addition, one of the most important issues in teacher education programs is to lessen the gap between theory and practice, because the gap between educational theories pre-service teachers learned in college and the demanding reality in-service teachers live in the classroom and school can make them feel lost. For example, a current physical science teacher, Debbie, criticized the teacher education program: “Have your college professors had experiences in an American school. Be very real. It’s [the teacher education program] just not realistic. What they do is so theoretical and higher education in academia is needed and it’s very much based on theory, but then these teachers leave the education program with all this theory and no practical [knowledge], so it needs to be practical.… I know that theory is important, but theory does you no good in the real world unless you’ve understood how to apply that theory into practical situations.” Such a perception of a discrepancy between theory and practice generates consequential problems. Under the confusion and feeling of loss, when pre-service teachers enter the profession, they “adapt strategically” to the given context without confirming their beliefs and theories. This surface level of behavior which is not rooted in their own beliefs and values can lead to a lack of motivation, and their identity as a teacher can be destabilized.

Bullough (1997) has emphasized the importance of teacher education programs in forming pre-service teachers’ professional identity. He stated: “Teacher identity – what beginning teachers believe about teaching and learning and self-as-a-teacher – is a vital concern to teacher education; it is the basis for meaning making and decision making … Teacher education must begin, then, by exploring the teaching self” (p.21). Therefore, the teacher education program plays a critical role in building teachers’ professional identity, and needs to be improved in a way to enhance the practicality of teaching, to increase awareness of the significance of emotions, and to reflect on their own professional identity formation.
First, participants in this study suggested a better student-teaching experience with more time, more diverse teachers, and more diverse students. Bryan, a current physical science teacher, and Rosa, a dropout earth science teacher suggested, “Possibly more time student teaching. We went 68%, maybe 75% of the way through the semester and then we had to start meeting every night or every day during the day. So we couldn’t continue our student teaching. I think that we should be allowed to start the semester and end the semester. I want to see what it’s like. … Possibly being able to experience more than one teacher. If we get accustomed to one class and one period a day, they should require us to go visit another teacher and observe them. I don’t think I was ever asked to observe any other teachers in science on my hall to see how they teach.” Rosa added, “I think student teaching needs to involve more real life classroom situations. … I think realistically speaking when I did my student teaching those students were excellent. They knew they were going to have a student teacher coming in and they had to be on their best behavior, and usually you got the best class and it was just that one class, and they got used to you and so that was great. So, I thought that my real teaching experience would be a reflection of my student teaching and it was not. I think that was one of the reasons why I started seeking other areas to work.” So although the participants in this study acknowledged that their student-teaching experience was helpful, they also thought that there was room for improvement.

Second, existing studies stress the importance of recognizing the centrality of emotions in classroom teaching, because the recognition may increase their repertoire of strategies for teaching (Calderhead, 1996; Hargreaves, 1998; Meyer & Turner, 2002; Sutton, 2004; Williams et al., 2007; Zembylas, 2003), and the chance to seek out help and resolutions when burnout occurred, instead of suppressing it or treating it as a trivial matter.
Finally, Korthagen (2004) suggested a core reflection approach for teacher education programs. Core reflection encourages reflection by asking questions to clarify one’s identity such as, “Am I willing and able to adopt the kind of behavior that is apparently necessary to maintain classroom discipline? Does this behavior suit me? Do I still want to become a teacher? Is there actually room for what inspired me to become a teacher in the first place?” (p.90). Core reflection often takes the form of activities that construct life through language (i.e., life path, river of experience, architecture of self, exchange of stories, and portfolios). Korthagen valued these activities in that they help pre-service teachers to make implicit influence explicit, and unconscious socialization or adaptation more consciously. In other words, core reflection helps pre-service teachers to consciously direct their own identity development.

Implications: Beginning Teachers’ Professional Development

The challenge to support and retain beginning teachers is a continuing burden for today’s schools. However, the retention of teachers should not only focus on short-term attractions, but also on the long-term agenda to establish their professional identity and to create better plans that are genuinely interested in the perspective of teachers, and not simply an additional meeting or responsibilities, without meaning or value attached to it.

As the current study shows, the most salient feature of dropout teachers in this study was their emotional burnout. As Figure 5 showed, the burnout is connected to their efficacy, commitment, knowledge and beliefs, and micropolitics. In addition, dropout teachers’ interview data revealed that classroom management was one of the sources of burnout, and often times their lack of efficacy to handle disruptive behaviors led to emotional burnout. According to Bandura (1977), people who are not confident about a particular activity tend to consider it as a threat and, thus, try to avoid it. Therefore, a teacher who doubts their ability to handle students’
misbehaviors may have a hard time developing into quality teaching professionals. In terms of the relationship between burnout and efficacy, Leiter (1992) stated burnout as a crisis in self-efficacy. Several empirical studies also found out that people who have low self-efficacy also tend to have a higher degree of burnout (Rabinowitz, Kushnir, & Ribak, 1996; Chwalisz, Altmaier, & Russell, 1992; Brouwers & Tomic, 2000).

According to self-efficacy literature, there are four sources influencing one’s efficacy beliefs: mastery experience, vicarious experiences, verbal persuasions, and physiological indexes (Bandura, 1977; Pajares, 1996). Thus, in order to boost teachers’ self-efficacy, first of all, it is essential to have successful classroom management experiences. To achieve this, pre-service teacher education program and in-service professional development need to aim at equipping teachers to gain skills to handle students’ disruptive behaviors. In addition, vicarious experience and verbal persuasion can be considered useful strategies to enhance teachers’ self-efficacy within the teacher community. If a teacher observes that other teachers who have similar abilities succeed in obtaining a comfortable classroom environment and if a teacher gets verbal encouragement or feedback constantly from colleagues, then their self-efficacy in handling their classrooms and managing misbehaviors can be increased.

The importance of building such a supportive, encouraging, and collaborative teacher community in relation to the teacher retention issue has been continuously emphasized in teacher education literature. In particular, beginning teachers need opportunities to reflect on their practice by participating in earnest conversations with colleague teachers. In their recent study, Park, Oliver, Johnson, Graham, and Oppong (2007) also noted that communication among teachers is one of the most important ways to improve teachers’ professional development. The importance of collaboration within the community was also emphasized. In Johnson, Birkeland,
Kardos, Kauffman, Liu, & Peske’s (2001) study, they found that beginning teachers who felt supported by the community interacted with their colleagues more frequently, and were also more willing to share responsibility for the school. In the current study, several dropout teachers also mentioned the importance of teacher community and collaboration in their teaching profession. One of the dropout teachers, Rosa, stated, “The relationship with the teachers actually kept me there longer than I wanted to stay, but I think it did help me stay longer. I think it’s really important to have a good relationship with your co-teachers, especially those that have been there for a while, because they know the history of the school and of the students and they can give you some insight on what to expect.”

The relationship with colleagues is important, but it is also crucial to have a balanced and supportive relationship with school administrators. As non-dropout teachers in the current study expressed the benefit of supportive administration as a “safe environment” or “back up”, the administrators can play a role of protecting teachers from various threats (Weasmer & Woods, 2000), and thus help to create a comfortable school environment. Also, administrators’ constructive and meaningful feedback on teachers’ performance influence teachers’ perception of their ability to meet expectations and, thus, reduce unnecessary burden or stress (Eberhard, Reinhardt-Mondragon, & Stottlemyer, 2000).

However, in the current study, dropout teachers often felt that their school administration was not really effective or supportive, and they did not think they had enough power to influence the administration. According to Kelchtermans (1996), teachers’ emotions are shaped by experiences of power and powerlessness, and it is important to empower teachers so that they can take the leadership roles in their school. When teachers are given the opportunity to be
actively involved in decision making and problem solving in their school, they may feel less vulnerable and their professional identity may be less threatened.

Finally, it is also necessary to reconsider dropout teachers’ beliefs about teaching and learning. If the teachers’ beliefs guide their judgment and action in ways that burden them, then they may fail to extricate themselves from hopelessness or helplessness. Maree, one of the dropout teachers held the belief that teachers should take charge of students’ learning, which led her to say, “It’s hard - I don’t know how anyone fits the teaching profession right now. I look at other people and I don’t know how they do it. I feel like I know a lot of teachers who are not good teachers and maybe that’s why they stuck with it, because they don’t work that hard and they’re not stressed out because they’re not working that hard. So, good teachers I think burn out and leave, because in order to be a good teacher you have to work so hard.” For Maree, there was no way out to make the good teachers stay in the teaching profession, and so she also eventually dropped out.

Existing studies have pointed out the difficulty of changing one’s beliefs (Gregoir, 2003; Hoy, Davis & Pape, 2006), and teacher education researchers suggest focusing on changing pre-service teachers’ beliefs. (Brownlee, 2001; Brownlee, Purdie, & Boulton-Lewis, 2001). Teacher educators have begun to teach pre-service teachers in a way that challenges their pre-existing beliefs about teaching, learning, subject matter, and self as a teacher (Ashton & Gregoire, 2003; Borko & Putnam, 1996). This challenge will make pre-service teachers’ implicit beliefs explicit, thus increasing the opportunity to confront conflict and inadequacy of their beliefs. Such an attempt to change pre-service teachers’ beliefs should be extended for beginning teachers as well. The beliefs that beginning teachers have about teaching and being a teacher are the underpinning for their professional identity, and also the beliefs influence their judgment and
behavior in the classroom (Pajares, 1992; Walkington, 2005). Thus, beginning teachers’
professional development focusing on their belief changes should be continued for their ongoing
growth and development to keep them engaged long-term.

Limitations and Future Study

Although I planned this study in a way to minimize drawbacks, certain limitations should
be acknowledged and addressed. The first sets of limitations are related to the participant’s
characteristics and sample size. I collected pre-service teachers’ data during three consecutive
semesters, thus what participants experienced and learned during each semester could be
different. Such differences may result in confounding factors, which can generate unintended
heterogeneity.

Next, all of the participants were recruited from those who are currently enrolled at the
University of Georgia, or who have gone through the teacher education program at the
University of Georgia. Consequently, the results cannot be easily generalized to a larger
population, as participants at this university may have distinct characteristics that are not shared
with similar individuals in other regions. Lastly, as I addressed in Chapter 4, sample size for the
quantitative survey was not large enough, especially for the non-dropout teachers (Group III-B).

The second set of limitations are related to the design of this study. This study recruited
dropout or non-dropout teachers who have teaching experience of less than five years, but did
not differentiate them based on the number of years they taught. First-year teachers may be
different from fourth-year teachers, or second-year teachers may have different characteristics
from fifth-year teachers. Thus, future study needs to examine teachers in their first, second, third,
fourth, and fifth years of teaching as distinctive patterns. In addition, it seems also important to
distinguish between dropout teachers who plan to return to the profession later and those who do not plan to come back again.

The current study showed that teachers who dropped out due to family issues and planned to return tended to have different patterns than those who left the profession because of other issues in the classroom and school, and thus never wanted to return to the profession. Additionally, non-dropout teachers also need to be further differentiated for future study. Non-dropout teachers who participated in this study may be managing their teaching life well, and confident enough to complete a voluntary survey and time-consuming individual interview. In some ways, thus, non-dropout teachers participated in this study could be self-selected.

Third, methodologically this study employed a cross-sectional design in order to capture a snapshot of people in different levels of the teaching profession. However, in order to obtain a comprehensive understanding of teacher retention, it is necessary to explore teachers’ professional identity development and career decision-making over time. For future study, it is suggested to incorporate a longitudinal dimension.

Fourth, the eventual purpose of this research is to improve the quality of teacher education. This study focuses on teachers’ attrition and the professional identity issue as a venue to achieve that purpose. However, this study did not really talk much about teacher quality. As one of the dropout teachers, Maree, mentioned, it may be that teachers who are staying are ineffective teachers and, thus, whose retention should not be welcomed. Or, it may be that teachers who left were ineffective educators, thus their dropout should not be a problematic issue. Future research needs to include teacher quality issues as a next step to consider teacher retention and their professional identity.
Retention of beginning teachers is imperative and, thus, this study tried to understand teacher retention issue using the lens of professional identity. The results of this study indicated different patterns of professional identity depending on the stage in the teaching trajectory, and emotional burnout was the most salient pattern for dropout teachers. Teacher retention and attrition is such a complicated educational phenomenon with so many factors intertwined, thus future research needs to be developed by including other contributing factors. Based on the findings of this study, suggestions for teacher education programs and implications for in-service teachers’ professional development were provided. This study, although exploratory in nature, added to the knowledge of teacher retention and professional identity, and also guided practical implications for teachers themselves, teacher educators, and school administrators.
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available at URL:


APPENDICES

Appendix A

Subjectivity Statement

It is important to understand researcher’s subjectivity, because researcher’s own interest, beliefs, value, and attitudes are permeated through all phases of the research. In particular, in social science, it is essential to understand researcher’s own beliefs on the nature of reality and knowledge. This is because the propositions about reality and knowledge explain what world is, and how it is perceived. These basic propositions represent specific ways of breaking down the complexity of the world (Patton, 2002), and guide us to ask the kind of problems that should be addressed.

My Beliefs on the Nature of Reality

The propositions that concern the nature of reality are ontological in that it asks what exists, in other words, what I, as a social science researcher, believe to exist, and what the nature of human experience is. I believe that there is external reality and human beings construct meanings through interactions with that reality (Schutz, Chambless, & DeCuir, 2004). This belief is in line with both realism and idealism, because it endorses both ideas that objective reality exists outside the mind, thus needs to be found (realism), and is also constructed by individual cognition and social transmission of their interactions (idealism) (Crotty, 1998). Such beliefs on the nature of reality assume that human beings actively shape and reshape existing social arrangements and cultural norms (Howe, 1988). This is possible because human consciousness has intentions (Crotty, 1998), and this intentionality enables consciousness that is directed towards the object and the object is shaped by consciousness. As such, the nature of a human being inevitably makes reality complex and multifaceted.
My Beliefs on the Nature of Knowledge

As Crotty pointed out, ontological issues emerge with epistemological issues, because “to talk of the construction of meaning is to talk of the construction of meaningful reality” (Crotty, 1998, p.11). Thus, my eclectic beliefs about the nature of reality lead me to have eclectic epistemology. I believe knowledge exists independently of consciousness, but it is not completely external to our consciousness or intention. Knowledge comes into existence through our interactions with realities, thus, knowledge is constructed by individuals and their interactions. This implies that knowledge is value-laden and idiographic. However, knowledge is not completely relative from one individual to another. I do not take the subjectivist position that no knowledge exists outside of the individual’s mentally organized state (Morris, 1999), or everyone’s subjective knowledge is equally valid without possible criticism. Instead, I expect the same dominant pattern to emerge under similar contexts, thus it is possible to carefully generalize an individuals’ meaning into socially constructed and shared meanings (Bergman, Magnusson, & El-Khoury, 2003). In other words, I believe there exist consistencies and regularities that can be identified as common features. However, such homogeneity cannot be an absolute or unchangeable law, but conjectural. Knowledge is constantly changing and can only be approximated. The idea that certain or complete knowledge cannot exist entails “usefulness” as an essential tenet of the nature of knowledge.

In paradigm discourse, my epistemological stance can be labeled as eclecticism, which is a combination of strong constructionism and weak objectivism (Burrell & Morgan, 1979). Constructionism is the view that “all knowledge and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context”
(Crotty, 1998, p.42). Although I agree with this idea, I also believe that there exists reality and knowledge independent of an individual’s consciousness. Typical patterns and their meanings emerging over and over again can be collectively shared and generalized. Such beliefs fall within an objectivism paradigm, which emphasizes objective meanings that can be discovered (Sarantakos, 1998).

My Role as a Researcher

As a social science researcher who holds eclectic beliefs on reality and knowledge, my role is also multi-faceted. First, it is important to be well informed about the core characteristics and boundaries of different beliefs and to have keen insights into the advantages and disadvantages of various approach regarding a given research question. When conducting interviews in order to look for meanings in participants’ experiences, I need to set aside my own preconceived notions to better understand the phenomena as experienced by the participants. In other words, I need to approach the phenomena in an open manner by “bracketing” my subjective preferences, inclinations, or expectations, and by stripping away all the known facts or theories about it (Creswell, 2003; Patton, 2002). By doing this, I will be able to view the data from various angles and perspectives to present a more holistic picture of the essence of the phenomenon (Moustakas, 1994).

On the other hand, in collecting and analyzing survey data, my role as a researcher is to manipulate and control the research process in order to measure target variables. The research reflects a prescriptive and linear process, and thus my objective portrayal of a researcher is important in maintaining impartiality and detachment from the data.
My Biases and Strengths

In order to conduct credible and confirmable research, researchers need to be sensitive to their own biases and strengths. One of my greatest strengths is that my own experience formed my drive to study this topic, thus I have not only epistemological interest, but also ontological passion and enthusiasm for teacher dropout and professional identity issue. I was a Korean language teacher who taught 10th grade reading and writing, but I left the teaching profession after finishing my first year. I had constantly asked myself if this is a career best suited to myself. It was not an easy decision for me to leave the teaching profession, and that decision threw me a lot of questions such as “Who am I as a teacher?”, “How do I know that teaching is a better career for me than other career options”, and “Where does the passion for teaching come from and how can I sustain it throughout my teaching life?” I am still trying to answer these questions through researching others’ experiences while reflecting my own as well.

I also have biases that are related to the I am a Korean who was born, raised, and worked as a teacher within the Korean culture. In addition, I am conducting research in the United States with participants who have been exposed to American culture most, if not all, of their lives. This cultural difference inevitably generates insider-outsider problem (Ryne, 2002). In other words, I am an outsider who has a different ethnicity and culture, but also an insider who knows about and researches the phenomena that participants are experiencing. The boundaries of insider and outsider are often fuzzy and slippery in reality.

My status as a Korean may cause limitations in perceiving, understanding, and building rapport with participants from the American culture. In particular, when conducting interviews, it is important to establish a good rapport with participants, because they are more likely to provide more detailed information to the interviewer, if they trust the interviewer. My status as an
“outsider” may hinder the establishment of a good rapport with interviewees. However, my different and unique perspective can help me to notice patterns others might miss. Also, I – the interviewer – and interviewee can actively collaborate in producing meaning within the interview context (Gubrium & Holstein, 2002; Holstein & Gubrium, 1995; Ryne, 2002). This means that interviewer’s role is more than to simply bring out culturally stored information of interviewees; rather, it is a process of co-constructing meaning through ongoing interaction. I believe that increasing awareness of my own biases and strengths helps me to determine effective ways of improving the quality of my research.
Appendix B
Different Routes of Becoming a Science Teacher

Those who are in BSED (Bachelor’s in Science Education) Program

Those who have a degree in science

Those who are in M.ED Program

Required courses includes a large number of science courses

Block I (ESCI 3450; ESCI 4450/6450; ESCI 4460/6460)

Block II - Student teaching (ESCI 5460/7460; ESCI 5470/7470; ESCI 5480/7480)

Secondary Science Teacher Certification

Participants Group I

Participants Group II

Participants Group III-A

Participants Group III-B

Certification related courses (i.e., EPSY 2020/EPSY6010; SPED 2000/ESCI 6030; ESCI 4480/EDIT 2020)

Participants
Dropout Teachers

Non-Dropout Beginning Teachers
## Appendix C
### Core Interview Questions

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Data Collection Method</th>
<th>Major Interview Questions/Survey Items</th>
</tr>
</thead>
</table>
| How do people in different levels of the teaching profession (i.e., before student-teaching, after student-teaching, and 5 years of teaching or less) perceive themselves as a teacher? | Semi-structured interview | - How do you see yourself as a teacher?  
- What do you think the most important characteristics of teachers are?  
- How do you think yourself fit to the career?  
- How do you describe teaching career?  
- How important is it for you to be a teacher/to be a good teacher? (Value)  
- How confident are you in working as a teacher/an effective teacher? (Efficacy)  
- How much are you committed your decision to become a teacher? / How much are you committed in working as a teacher? (Commitment)  
- How do you feel about working in a school? (Emotion)  
- How do you learn the ways you interact with students? (Knowledge/Beliefs)  
- How much control do you think you are having/you will have in working as a teacher? (Micropolitics)  

<table>
<thead>
<tr>
<th>Pre-service teachers in Block I</th>
<th>Pre-service teachers in Block II</th>
<th>Beginning Teachers (Dropout or Non-dropout)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey</td>
<td>Value Scale (Wigfield &amp; Eccles, 2000; Husman et al., 2000)</td>
<td>Teacher Efficacy Scale (Tschannen-Moran &amp; Woolfolk Hoy, year)</td>
</tr>
<tr>
<td>Commitment to Career Choice Scale (Blustein, Ellis, and Devenis, 1989)</td>
<td>Work Commitment Scale (Blau, Paul, and John, 1993)</td>
<td>Maslach Burnout Inventory (Maslach and Jackson, year)</td>
</tr>
<tr>
<td>School Participant Empowerment Scale (SPES): (Short &amp; Rinehart, 1992)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Research Question

*How are the beginning teachers’ perceptions on their professional identity related to their decision to dropout?*

- How do the beginning teachers perceive the way that their value, efficacy, commitment, emotion, knowledge/beliefs, and micropolitics form and influence their decision to leave the career?

<table>
<thead>
<tr>
<th>Data Collection Method</th>
<th>Major Interview Questions/Survey Items</th>
</tr>
</thead>
</table>
| Semi-structured interview | - What sort of things do you think influence your decision to dropout? Were there particular incidents?
| | - What do you think the benefits of leaving this teaching profession will be?
| | - In what way do you think yourself is not fitting to this career?
| | - How long have you considered your decision to dropout?
| | - Do you think the degree you put importance on your career has been changed since you enter this profession? If it has been changed, can you tell me in what way it has been changed? How do you think this change is related to your consideration to dropout the career?
| | - Do you think the degree you hold confidence working as a teacher has been changed since you enter this profession? If it has been changed, can you tell me in what way it has been changed? How do you think this change is related to your consideration to dropout the career?
| | - Do you think the level of commitment to this career has been changed since you enter this profession? If it has been changed, can you tell me in what way it has been changed? How do you think this change is related to your consideration to dropout the career?
| | - Do you think your emotions towards this career have been changed since you enter this profession? If it has been changed, can you tell me in what way it has been changed? How do you think this change is related to your consideration to dropout the career?
| | - Do you think your knowledge and beliefs about pedagogy have been changed since you enter this profession? If it has been changed, can you tell me in what way it has been changed? How do you think this change is related to your consideration to dropout the career?
| | - Do you think the level of control and power you have in this career have been changed since you enter this profession? If it has been changed, can you tell me in what way it has been changed? How do you think this change is related to your consideration to dropout the career?
Appendix D

Value Scale: Modified version of Perceived Task Value Scale (Wigfield & Eccles, 2000) and Instrumentality Scale (Husman, McCann, and Crowson, 2000)

This questionnaire is designed to help us gain a better understanding of teachers’ value in relation to the teaching career. Please indicate your opinion about each of the statement below (7-point Likert type scale).

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Pre-service teachers</th>
<th>In-service teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intrinsic Interest Value</strong></td>
<td>In general, I find working as a teacher (very boring… very interesting)</td>
<td>In general, I find working as a teacher (very boring… very interesting)</td>
</tr>
<tr>
<td></td>
<td>How much do you like being a science teacher? (not very much… very much)</td>
<td>How much do you like being a science teacher? (not very much… very much)</td>
</tr>
<tr>
<td><strong>Attainment Value/Importance</strong></td>
<td>Is the amount of effort it will take to be a science teacher worthwhile to you? (not very worthwhile… very worthwhile)</td>
<td>Is the amount of effort it will take to be a good science teacher worthwhile to you? (not very worthwhile… very worthwhile)</td>
</tr>
<tr>
<td></td>
<td>I feel that, to me, being good at teaching science is (not at all important…. very important)</td>
<td>I feel that, to me, being good at teaching science is (not at all important…. very important)</td>
</tr>
<tr>
<td><strong>Extrinsic Utility Value</strong></td>
<td>Becoming a teacher will be important for being who I wan to be in the future.</td>
<td>Becoming a good teacher will be important for being who I wan to be in the future.</td>
</tr>
<tr>
<td></td>
<td>My ability to become the person I most want to be will be affected by career choice as a teacher.</td>
<td>My ability to become the person I most want to be will be affected by career work as a teacher.</td>
</tr>
<tr>
<td></td>
<td>I must be successful in my career in order to be the person that I most want to be.</td>
<td>I must be successful in my career in order to be the person that I most want to be.</td>
</tr>
</tbody>
</table>
Appendix E

Teacher Efficacy Scale – Short Form (Tschannen-Moran & Woolfolk Hoy, 2001)

This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below based on the actual classroom situation that you have experienced. (1=Nothing, 6= A Great Deal).

<table>
<thead>
<tr>
<th>Subscales</th>
<th>For both pre-service and in-service teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Efficacy in Student Engagement</strong></td>
<td></td>
</tr>
<tr>
<td>How much can you do to motivate students who show low interest in school work?</td>
<td></td>
</tr>
<tr>
<td>How much can you do to get students to believe they can do well in their school work?</td>
<td></td>
</tr>
<tr>
<td>How much can you do to help your students value learning?</td>
<td></td>
</tr>
<tr>
<td>How much can you assist families in helping their children do well in school?</td>
<td></td>
</tr>
<tr>
<td><strong>Efficacy in Instructional Strategies</strong></td>
<td></td>
</tr>
<tr>
<td>How much can you do to adjust your lessons to the proper level for individual students?</td>
<td></td>
</tr>
<tr>
<td>How well can you use a variety of assessment strategies?</td>
<td></td>
</tr>
<tr>
<td>To what extent can you provide an alternative explanation or example when students are confused?</td>
<td></td>
</tr>
<tr>
<td>How well can you implement alternative strategies in your classroom?</td>
<td></td>
</tr>
<tr>
<td><strong>Efficacy in Classroom Management</strong></td>
<td></td>
</tr>
<tr>
<td>How much can you do to control disruptive behavior in the classroom?</td>
<td></td>
</tr>
<tr>
<td>How much can you do to get children to follow classroom rules?</td>
<td></td>
</tr>
<tr>
<td>How much can you do to calm a student who is disruptive or noisy?</td>
<td></td>
</tr>
<tr>
<td>How well can you establish a classroom management system with each group of students?</td>
<td></td>
</tr>
</tbody>
</table>
Appendix F

Commitment Scale: Modified version of Commitment to Career Choice Scale (Blustein, Ellis, and Devenis, 1989) and Work Commitment Index (Blau, Paul, and John, 1993)

<table>
<thead>
<tr>
<th>Commitment to Career Choice Scale (for Pre-service Teachers) – Vocational Exploration and Commitment Subscale</th>
<th>Work Commitment Index (for In-service Teachers) – Occupational Commitment Subscale</th>
</tr>
</thead>
<tbody>
<tr>
<td>This questionnaire is designed to help us gain a better understanding of pre-service teachers’ commitment to the career choice. Please indicate your opinion about each of the statement below (1= never true about me, and 7 = always true about me).</td>
<td>This questionnaire is designed to help us gain a better understanding of in-service teachers’ commitment to the career. Please indicate your opinion about each of the statement below (1= Strongly Disagree, and 7 = Strongly Agree).</td>
</tr>
<tr>
<td>It is hard to decide to become a teacher because of too many possibilities.</td>
<td>If could, I would go into a different career.</td>
</tr>
<tr>
<td>I am uneasy committing to teaching career, because unaware of related options.</td>
<td>I can see my authentic self in this teaching career from beginning till now.</td>
</tr>
<tr>
<td>I do not know enough about myself to commit this teaching career.</td>
<td>Choosing to become a teacher was a good decision.</td>
</tr>
<tr>
<td>I am uncommitted, because I am unsure about the future.</td>
<td>If I could, I would not choose this career.</td>
</tr>
<tr>
<td>I can commit myself firmly to a teaching career.</td>
<td>Sometimes I am dissatisfied with teaching career.</td>
</tr>
<tr>
<td>I am not very certain about the kind of work I want to do.</td>
<td>I like this career too well to give up.</td>
</tr>
<tr>
<td>I lack of information about teaching field.</td>
<td>Teaching is an ideal career for my life work.</td>
</tr>
<tr>
<td>I am uneasy in committing to a career plan of becoming a teacher.</td>
<td>I’m disappointed to enter this teaching career.</td>
</tr>
</tbody>
</table>
This questionnaire is designed to help us gain a better understanding of teachers’ emotions. Please indicate your opinion about each of the statements below (1 = a few time a year or less, and 6 = every day).

<table>
<thead>
<tr>
<th>Subscales</th>
<th>For both pre-service and in-service teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Exhaustion</td>
<td>I feel emotionally drained from my work.</td>
</tr>
<tr>
<td></td>
<td>I feel used up at the end of the workday.</td>
</tr>
<tr>
<td></td>
<td>I feel fatigued when I get up in the morning and have to face another day on the job.</td>
</tr>
<tr>
<td></td>
<td>Working with people all day is really a strain for me.</td>
</tr>
<tr>
<td></td>
<td>I feel burned out from my work.</td>
</tr>
<tr>
<td></td>
<td>I feel frustrated by my job.</td>
</tr>
<tr>
<td></td>
<td>I feel I’m working too hard on my job.</td>
</tr>
<tr>
<td></td>
<td>Working with people directly puts too much stress on me.</td>
</tr>
<tr>
<td></td>
<td>I feel like I’m at the end of my rope.</td>
</tr>
<tr>
<td>Depersonalization</td>
<td>I feel I treat some students as if they were impersonal objects.</td>
</tr>
<tr>
<td></td>
<td>I’ve become more callous toward students since I took this job.</td>
</tr>
<tr>
<td></td>
<td>I worry that this job is hardening me emotionally.</td>
</tr>
<tr>
<td></td>
<td>I don’t really care what happens to some students.</td>
</tr>
<tr>
<td></td>
<td>I feel students blame me for some of their problems.</td>
</tr>
</tbody>
</table>
Appendix H

Empower Scale: Modified version of School Participant Empowerment Scale (SPES) (Short and Rinehart, 1992)

This questionnaire is designed to help us gain a better understanding of teachers’ empowerment. Please indicate your opinion about each of the statements below (1 = strongly disagree, and 5 = strongly agree).

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Pre-service teachers</th>
<th>In-service teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Decision Making</strong></td>
<td>I will be given the responsibility to monitor programs.</td>
<td>I am given the responsibility to monitor programs.</td>
</tr>
<tr>
<td></td>
<td>I will be able to make decisions about the implementation of new programs in the school.</td>
<td>I make decisions about the implementation of new programs in the school.</td>
</tr>
<tr>
<td></td>
<td>I will be able to make decisions about the selection of other teachers for my school.</td>
<td>I make decisions about the selection of other teachers for my school.</td>
</tr>
<tr>
<td></td>
<td>I will be involved in school budget decisions.</td>
<td>I am involved in school budget decisions.</td>
</tr>
<tr>
<td></td>
<td>I will be given the opportunity to teach other teachers.</td>
<td>I am given the opportunity to teach other teachers.</td>
</tr>
<tr>
<td></td>
<td>I will be able to determine my own schedule.</td>
<td>I can determine my own schedule.</td>
</tr>
<tr>
<td></td>
<td>Principals, other teachers, and school personnel will solicit my advice.</td>
<td>Principals, other teachers, and school personnel solicit my advice.</td>
</tr>
<tr>
<td></td>
<td>I will be able to plan my own schedule.</td>
<td>I can plan my own schedule.</td>
</tr>
<tr>
<td></td>
<td>My advice will be solicited by others.</td>
<td>My advice is solicited by others.</td>
</tr>
<tr>
<td></td>
<td>I will have an opportunity to teach other teachers about innovative ideas.</td>
<td>I have an opportunity to teach other teachers about innovative ideas.</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>I believe that I will have earned respect.</td>
<td>I believe that I have earned respect.</td>
</tr>
<tr>
<td></td>
<td>I believe that I will be very effective.</td>
<td>I believe that I am very effective.</td>
</tr>
<tr>
<td></td>
<td>I will have the respect of my colleagues.</td>
<td>I have the respect of my colleagues.</td>
</tr>
<tr>
<td></td>
<td>I will have the support and respect of my colleagues.</td>
<td>I have the support and respect of my colleagues.</td>
</tr>
<tr>
<td></td>
<td>I will have a strong knowledge base in the areas in which I teach.</td>
<td>I have a strong knowledge base in the areas in which I teach.</td>
</tr>
<tr>
<td></td>
<td>I believe that I will be good at what I do.</td>
<td>I believe that I am good at what I do.</td>
</tr>
</tbody>
</table>
Appendix I

Background Questions for Pre-service Teachers

What is your gender? Male Female

What is your age? _________

What is your year in school? 1) Freshman; 2) Sophomore; 3) Junior; 4) Senior; 5) Graduate level

What grade level do you plan to teach? _____________________

What subject(s) would you like to teach? __________________________

As a teacher, are you interested in helping with student extracurricular activities?
Yes No

Background Questions for Beginning Teachers

What is your gender? Male Female

What is your age? _________

How many years have you taught? _________

What grade level do you teach? _____________________

What subject(s) do you teach? __________________________

What student extracurricular activities do you help with? __________________________

Have you ever considered to dropout this teaching career? Yes No

If you circled “Yes” to above question, have you ever actually investigated other career opportunities? Yes No