PRE-SERVICE TEACHERS’ GOAL ORIENTATIONS ACROSS THE CONTEXTS OF TEACHING AND LEARNING

By

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This document is dedicated to Dr. Judith Vander Wilt, who introduced me to the field of Educational Psychology.
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Within the framework of achievement goal theory, students vary according to their reasons for engaging in academic tasks and behaviors. Consequently, they differ in terms of academic outcomes such as self-regulation, task selection, persistence, and affect. One factor that is associated with student goal adoption is perception of the classroom goal structure. Teachers’ goals, beliefs, and approaches to instruction are instrumental in creating the classroom goal structure. However, little research has explored factors that may predict these teacher variables. There is preliminary evidence to suggest that teachers’ goal-oriented approaches to instruction are associated with their perceptions of the wider school climate. In this study, the goals of pre-service teachers are examined across two contexts: as learners in their teacher certification programs and as teachers in their early elementary or elementary internship classrooms. Potential predictors of these goals across contexts were examined. Pre-service teachers’ perceptions of the goal structure of their respective teacher certification programs were significantly related to
the goals that they adopted as learners in their programs. Perceptions of program goals also moderated the relationship between their goals as learners and their goals as teachers in their internship classrooms. In addition, their perceptions of the goals of their mentor teachers were related to their goals as novice teachers.
CHAPTER 1
INTRODUCTION

Over the past few decades, achievement goal theory has emerged as a prevalent conceptualization of motivation in the academic setting. Researchers have found much evidence that students’ goals, or reasons for pursuing academic tasks, are associated with a variety of academic behaviors and outcomes (Ames, 1992). Researchers have identified distinctive goal orientations that differ from one another qualitatively (Ames & Archer, 1988; Elliot & Church, 1997), examined factors that predict goal adoption (Church, Elliot, & Gable, 2001), and explored outcomes related to holding certain goals as opposed to others (Ames & Archer, 1988; Ames, 1992; Archer, 1994). They have also sought to determine the stability of goal orientations over time and across contexts (e.g., Pintrich, 2000).

Since goal orientations refer directly to the reasons for which students pursue academic activities, and consequently the manner in which they pursue those activities (Ames, 1992), it is not surprising that much of this research has focused exclusively on students as the population of interest. Goal theory has been applied to understanding the motivation of students across the elementary, middle, high school, and college levels. In predicting the goals that students endorse in learning, researchers have focused on the classroom goal structure as a medium for communicating the reasons and definitions of classroom achievement (e.g., Church et al., 2001). The relative emphasis on mastery or performance goals in the classroom is primarily indicated through teachers’ instructional
practices (Ames, 1992) as well as wider school-level policies such as tracking, high-stakes testing, and honor roll assemblies.

Although teachers’ instructional practices have been categorized as mastery or performance oriented (Ames, 1992), few researchers have directly examined the goals that teachers endorse in the classroom. Preliminary research in this area has indicated that some teachers are more performance oriented whereas others are more mastery oriented (Midgley, Anderman, & Hicks, 1995). Paralleling the proposed relationship between student goals and students’ perceptions of their classroom goal structure, the school or work climate has been examined as a possible predictor of teacher goals (Roeser, Marachi, & Gehlbach, 2002).

The purpose of the present study was to further explore applications of goal theory to teachers as the primary focus. Research on teacher goals has been limited, and definitions of teacher goals vary. While some researchers defined teacher goals as the goals that teachers held for their students (Midgley et al., 1995), others focused on teachers’ goal-oriented approaches to instruction (Roeser et al., 2002). In the current study, teacher goals were defined in terms of teachers’ goals in teaching. This conception differs from previous ones in focusing on the teacher’s intentions and reasons in teaching. Achievement is defined in terms of the student (i.e., focusing upon improvement for mastery goals versus focusing on grades and test scores for performance goals); however, the underlying reasons for the focus are attributed to the teacher. In other words, a mastery oriented teacher’s main goal would be for students to develop skills and improve understanding, whereas a performance oriented teacher strives to demonstrate her competence through her students’ performance. Potential predictors of teacher goals were
investigated in this study. In particular, the population of interest was pre-service teachers, who represent a unique group of individuals who concurrently navigates the classroom context within two roles: as students in their teacher certification programs and as teachers in their internship classrooms. They are exposed to the motivational orientations of their certification programs as well as the mentor teachers in their internship classrooms. In addition, these pre-service teachers enter the teaching role with a history of their own goals as learners. Given these multiple sources of influence, it would be of value to understand the goals that novice teachers adopt in the classroom, particularly in terms of designing teacher certification programs or internship experiences that would encourage the endorsement of more adaptive goals in teaching. By tailoring instructional practices to reflect those goals, teachers may be better able to promote the optimal development and achievement of their students.

The research questions in the current study are: (a) Do pre-service teachers’ goals as students in their respective teacher certification programs reflect the goals that they perceive as emphasized by those programs?, (b) Are pre-service teachers’ goals as teachers in their internship classrooms predicted by their goals as students, their perceived program goals, and/or their perceived mentor teacher goals?, and (c) Does teaching efficacy remain stable throughout the teaching internship semester, and is it related to the goals that are adopted by pre-service teachers as teachers in their early elementary or elementary internship classrooms?
Motivation can be defined as, “the process whereby goal-directed activity is instigated and sustained” (Pintrich & Schunk, 2002, p. 5). This broad definition of motivation underlies more specific theories of motivation which are characterized by different assumptions regarding motivated behavior and related outcomes. Eccles and Wigfield (2002) described four major categories of motivation theories according to their focus, on: (a) beliefs about one’s ability to perform the task and how well one can expect to perform, (b) reasons, such as goals and values, for pursuing tasks, (c) a combination of beliefs and reasons, and (d) cognitive processes in relation to motivation. Falling within each of these categories are various well-known theories which have been extensively developed and applied to explaining achievement behavior in an educational setting. For example, self-efficacy theorists, who focus upon students’ beliefs about their abilities regarding specific academic tasks, posit that perceived self-efficacy influences task selection, effort expenditure, persistence, and affect related to the situation (Zimmerman, 2000). On the other hand, achievement goal theorists assert that the reasons for which students pursue academic activities play a large role in determining academic behaviors such as task selection, persistence, the amount of time spent on tasks, and self-regulation (Ames, 1992).

The theoretical framework utilized for the current investigation is achievement goal theory. Although the primary focus concerns students’ reasons or purposes for
engaging in academic tasks, researchers within this framework have also accounted for the role of beliefs in motivational orientations (see Elliot & Church, 1997).

Ames (1992) defined achievement goals as “an integrated pattern of beliefs, attributions, and affect that produces the intentions of behavior and that is represented by different ways of approaching, engaging in, and responding to achievement-type activities” (p. 261). Students with different goal orientations vary according to their reasons for engaging in academic activities and thus experience “different cognitive, affective, and behavioral consequences” (Elliot and Dweck, 1988, p. 11). Pintrich (2000) added that achievement goals include standards or criteria for judging one’s competence or performance in a task.

The two types of goal orientations that have been most often discussed are mastery and performance goals (Ames, 1992). Mastery and performance goals have been termed task involved and ego involved, respectively (Nicholls, 1984). Mastery goals have also been referred to as learning goals (Elliot & Dweck, 1988). Although different labels have been used, there is conceptual similarity between mastery, task involved, and learning goals, and between performance and ego involved goals.

**Mastery Goal Orientations**

Students who endorse mastery goals believe that achievement comes with effort as opposed to ability and find learning to be an end in itself (Ames & Archer, 1988). They focus upon improving their understanding, developing skills, and mastering the subject material (Ames, 1992). Because students with mastery goals tend to believe success is linked to effort, they spend more time on tasks and show greater persistence when challenged (Ames, 1992). At the same time, they are more likely to select challenging tasks to undertake since they actively engage in learning (Ames, 1992).
Mastery goals are also related to increased self-regulation through the use of more effective learning strategies (Ames & Archer, 1988; Ames, 1992) as well as overall positive attitudes in learning (Archer, 1994).

**Performance Goal Orientations**

Early researchers in achievement goal theory distinguished between mastery and performance goals as two major goal orientations. More recently, Elliot and Church (1997) proposed the separation of performance goals into two distinct types: performance-approach and performance-avoidance. Descriptions of performance goals prior to this distinction largely correspond to current conceptions of performance-approach goals.

In general, students with performance goals focus on demonstrating their ability to others by “being successful, by outperforming others, or by achieving success with little effort” (Ames & Archer, 1988, p. 260). In contrast to their mastery oriented counterparts, performance oriented students feel that academic achievement is determined through ability rather than effort, and rely on social comparison in order to gauge their relative ability. Due to the focus on ability, the individual’s self-worth is at stake and tied to the demonstration of competence (Ames, 1992). Because performance-oriented students are concerned with proving their ability, they avoid challenging tasks in order to prevent the possibility of failure. Encountering failure results in negative affect and self-judgments of lack of ability (Ames, 1992).

The focus on ability led researchers to propose that performance-oriented students who differed according to their perceived level of ability would display different academic behaviors and outcomes (Archer, 1994; Elliot & Dweck, 1988). Elliot and Dweck (1988) found that performance-oriented children who believed they had low
ability displayed learned helpless responses, negative affect, less persistence, and negative self-judgments in ability. In contrast, performance-oriented children who believed they had higher levels of ability were more persistent and experienced less negative affect. In this respect, they displayed a mastery-oriented response. However, unlike their mastery-oriented counterparts, these performance-oriented children indicated their sensitivity to failure through unwillingness to undertake challenging tasks that included the risk of making mistakes.

The differential findings regarding performance goals predated the partitioning of performance goals into performance-approach and performance-avoidance goals (Elliot & Church, 1997). Elliot and Church described performance-approach goals as concerning the “attainment of favorable judgments of competence” whereas performance-avoidance goals involve “avoiding unfavorable judgments of competence” (p. 218). The researchers accounted for ability by positing that competence expectancies influence the goals adopted by individuals. Students with high competence expectancies adopt mastery or performance-approach goals, while those with low competence expectancies adopt performance-avoidance goals. At the same time, the individual’s motive disposition, defined as achievement motivation or fear of failure, would also serve to orient the individual towards a particular goal. Here, the authors proposed that students with achievement motivation adopt mastery goals; performance-avoidance students, on the other hand, wish to avoid failure. Performance-approach students are more complex in their concurrent desire to obtain success and avoid failure. The academic behaviors of performance-approach students would be expected to vary according to particular situations: when faced with a task that involves a low possibility of failure and a high
chance of success, these students might closely resemble mastery oriented students. On the other hand, with tasks that carry a low possibility of success and a high chance of failure, these students might appear more similar to their performance-avoidance counterparts.

Elliot and Church (1997) applied this trichotomous goal orientation framework to college students and found that mastery oriented students had higher levels of intrinsic motivation than their performance oriented counterparts. Performance-approach oriented students had higher grades, and performance-avoidance oriented students reported both lower intrinsic motivation and lower grades. The relationships between mastery goals and interest, and performance-approach goals and grades have also been documented by other studies (e.g., Harackiewicz et al., 2000). These findings suggest that endorsing both mastery and performance-approach goals may result in adaptive outcomes for students at the college level.

Researchers have questioned the stability of goals in terms of whether goals are more accurately depicted as a “trait” or “state” construct. Pintrich (2000) proposed one resolution to the trait vs. state controversy. He suggested that individuals have access to different goal orientations, which are represented cognitively as “dynamic states” (p. 98). In a given situation, the activation of one goal as opposed to another is driven by cues in the context as well as the individual’s own tendencies. Moreover, both mastery and performance goals could be activated at the same time. The model accounts for the potential consistency of goal adoption over time and across contexts by allowing for “certain patterns of activation [to] become stronger over time and more readily evoked” (p. 98). In other words, a mastery goal structure would be more easily accessible and
activated for an individual who has a history of approaching academic tasks with a mastery goal orientation. Alternatively, an individual’s easily activated mastery orientation may have been cultivated through repeated exposures to mastery environments.

Many studies have indicated that mastery and performance goals are independent, rather than contrasting, constructs (see Hagen & Weinstein, 1995, for a review of studies). This evidence supports Pintrich’s model in assuming that individuals may have access to different goals and that more than one goal may be activated at one time.

**Goal Antecedents**

The majority of research on antecedents or predictors of student goals is compatible with this state-like conception of goals. Whereas some researchers have focused on more stable, personal factors such as motive dispositions and competence expectations (Elliot & Church, 1997), implicit theories of intelligence (Robins & Pals, 2002), age (Burly, Turner, & Vitulli, 1999), and parenting styles (Gonzalez, Greenwood, & WenHsu, 2001), the great majority of research on precursors to student goals has targeted the classroom context. Instructional approaches and aspects of the classroom climate can be categorized as mastery or performance oriented in terms of an overall classroom goal structure (e.g., Ames & Archer, 1988; Ames, 1992). The classroom goal structure is instrumental in communicating to students the relative importance of various reasons for engaging in academic activities.

Ames and Archer (1988) identified a number of aspects of classroom climate as reflecting either mastery or performance orientations. Their climate dimensions included how success is defined in the classroom, where value is placed, criteria for evaluation, and how mistakes are viewed. A mastery oriented classroom would define success in
terms of progress or improvement, place value on effort and learning, evaluate based on progress or in an absolute (as opposed to normative) manner, and view mistakes as a part of the learning process. In contrast, a classroom with performance goals would define success through high grades or high normative performance, place value on normatively high ability, evaluate in a normative fashion, and associate anxiety with making mistakes.

The teacher’s specific instructional approaches can also be categorized as mastery or performance oriented (Ames, 1992). Presenting tasks that are meaningful and personally relevant to the student encourages engagement in learning, and is thus conducive to mastery goals. Task structures that allow for self-directed learning and student autonomy may promote mastery as well. Evaluation practices also contribute to the classroom goal structure. For instance, teachers highlight performance goals when they implement practices such as publicly displaying grade distributions and draw attention to social comparison and relative standing in the classroom.

Students’ perceptions and interpretations of these instructional practices and aspects of classroom climate are thought to be related to the goals that they adopt as learners within those classrooms. Church et al. (2001) described the relationship between the classroom goal structure, student goals, and academic outcomes through a model in which classroom variables exert a direct effect on student goal orientations. Student goals are, in turn, directly related to academic outcomes such as intrinsic motivation and grades. Thus, classroom variables indirectly influence student academic outcomes. Other researchers have found evidence to support the proposed relationship between the classroom goal structure and student goal adoption (Urdan, Kneisel, & Mason, 1999).
However, classrooms are rarely oriented toward a single goal. Teachers are likely to exhibit both mastery and performance oriented practices in any given classroom. The relative levels of those goals may be instrumental in terms of student goal adoption. Ames and Archer (1988) found that students in high mastery classrooms reported a variety of positive outcomes such as the use of strategies and effort, liking the class, and embracing challenge. These outcomes did not differ according to the levels of performance goals in the same classroom. In other words, the presence of performance goals did not detract from the positive outcomes associated with mastery goals. However, classrooms that were rated low in mastery were not associated with these same adaptive student outcomes.

The relative degree of classroom goals may also influence the adoption of student goals. For instance, a particularly powerful contextual cue may prompt the activation of a goal representation that is not typical of the student’s history of goal orientation (Pintrich, 2000). Church et al. (2001) found evidence that college students adopted performance goals in general when they perceived their classrooms as emphasizing evaluation, or the importance of grades. However, the presence of harsh evaluation prompted these students to endorse performance-avoidance as opposed to performance-approach goals.

It is also possible that a student with an ingrained pattern of activation may be relatively impervious to contextual cues that would otherwise activate a certain goal. For instance, the presence of mastery oriented tasks and practices may fail to elicit a mastery response from a student who is highly anxious and fearful of failure (see Turner & Meyer, 1999).
Students’ experience of a given classroom would be expected to vary in that individuals may differ in finding certain cues more salient than others. At the same time, they may vary in their interpretations of instructional practices or aspects of classroom climate. Students’ competence expectancies may influence their perceptions and responses to certain classroom structures. There is evidence that students respond to performance oriented instructional practices differently on the basis of their perceived ability (Urdan et al., 1999). Students with high perceived ability may embrace a competitive task, while those with low perceived ability may feel anxiety regarding the same task. Mastery tasks, on the other hand, do not appear to direct students’ attention to their level of perceived ability (Jagacinski et al., 2001).

The relative influence of the classroom goal structure may also vary by age. Compared to younger students, middle school students appear to be more aware of the mastery or performance goals underlying various instructional approaches than younger students were (Urdan et al., 1999). Younger students also appear to be less affected by practices that might induce performance outlooks through social comparison (Urdan et al., 1999). At the same time, there is evidence that classrooms may systematically differ in terms of goals at different levels of schooling. For instance, a number of research studies have indicated that middle schools are significantly more performance oriented and less mastery oriented than elementary schools (see Midgley et al., 1995). On a final note, it is worth considering children may receive differential treatment from their teachers and actually experience different messages in the same classroom (Ames, 1992).

Research in classroom goal structure has largely operated under the assumption that various instructional approaches are either mastery or performance oriented in
nature. Investigations of classroom goals have relied almost exclusively on student perceptions as reported through a survey format. Although this methodology reflects the belief that the student’s interpretation of her experience is a key factor in her motivation, the approach is limited due to implicit assumptions regarding the mastery or performance nature of particular instructional approaches. There is evidence to suggest that the teacher’s intentions and reasons for engaging in specific practices may be the missing factor in much of this research. For example, the use of rewards is typically regarded to be a performance oriented practice. However, in an observational study of fifth-grade classrooms, Anderman et al. (2002) found that a specific instructional practice can be conducive to either mastery or performance goals depending on how it is undertaken. Teachers who reward students for receiving the highest score communicate the importance of normative achievement and performance, whereas teachers who reward all students for improvement communicate the importance of learning and mastery. This study provides compelling evidence that an understanding of the classroom goal structure must include the intentions and beliefs of the teacher, beyond the simple presence of particular instructional approaches.

**Teachers and Teaching Goals**

Within the framework of achievement goal theory, teacher variables have been considered primarily in terms of approaches to instruction, which have been classified as either mastery or performance oriented. A few researchers have considered other factors such as teachers’ goals, beliefs, and attitudes. Midgley et al. (1995) examined teachers’ goals, pedagogical beliefs, and instructional practices. They found differences between elementary and middle school teachers in that the latter endorsed performance goals more and mastery goals less than their elementary counterparts. In this study, teacher goals
were defined in terms of the goals of the teacher for the student. For example, a teaching mastery goal involved focus on student improvement, whereas a teaching performance goal involved test scores. Pedagogical beliefs, on the other hand, reflected the teachers’ own beliefs about learning. For instance, teachers with mastery beliefs might be inclined to grade for effort, whereas teachers with performance beliefs might believe that competition enhances learning. Although these conceptual distinctions were made in this study, the researchers did not examine relationships between pedagogical beliefs, goals, and approaches to instruction, beyond finding correlations between mastery goals and mastery approaches to instruction, and performance goals and performance approaches to instruction.

Anderman et al. (2002) examined the role of teachers’ beliefs and attitudes in contributing to mastery or performance classroom environments as perceived by students. For instance, teachers in classrooms that were rated low or high in mastery differed according to their beliefs about the nature of learning. Teachers in low-mastery classrooms appeared to view learning in terms of transmission and direct instruction, while teachers in high-mastery classrooms felt that students should be active participants in learning and constructing knowledge. In addition, mastery environments were associated with teachers who were warm and respected students intellectually.

These preliminary findings indicate that teachers differ in terms of their beliefs, attitudes, and goals, and consequently the instructional practices that they adopt in the classroom. As of yet, little is known about the reasons or explanations for these teacher differences.
Roeser et al. (2002) examined elementary, middle, and high school teachers’ professional identities, which included their approaches to instruction, teaching efficacy, and beliefs about the roles of teachers in attending to students’ social and emotional needs. Approaches to instruction were seen as mastery or performance oriented in nature. Mastery goal approaches included practices such as making an effort to provide meaningful assignments and stressing the importance of understanding. Performance goal approaches involved practices such as encouraging competition and social comparison.

Roeser et al. (2002) proposed that teachers’ goal-oriented instructional practices were related to their perceptions of the wider school climate, which was subdivided into a learning climate for students and a working climate for teachers. In terms of learning climate, mastery school structures emphasized the fun of learning and how mistakes are a part of the learning process, whereas performance school structures stressed the importance of high test scores and being on the honor roll. For teachers, a mastery work climate would encourage teachers’ professional development through providing opportunities to participate in workshops, whereas a performance work climate would encourage competition between teachers and involve the differential treatment of teachers by the administration and administrative practices.

Much as the classroom goal structure is believed to direct students toward a certain goal, Roeser et al. (2002) proposed that teachers’ perceptions and interpretations of the school climate were related to their goal-oriented approaches to instruction. The authors found some evidence to support this relationship: teachers who viewed the school climate as mastery oriented reported using more mastery oriented approaches to instruction, whereas teachers who perceived a performance oriented school climate
reported the use of instructional strategies that were more performance oriented. Teachers also reported higher feelings of teaching efficacy when their work climates were more mastery oriented.

Roeser et al. (2002) also examined the potential relationship between teachers’ goal orientations and the goals adopted by their students. They did not find a relationship between students’ mastery goals and the teacher’s approach to instruction. However, there was some evidence to suggest that girls’ level of performance goals may be related to teacher approaches. Teachers who emphasized performance approaches had female students with high levels of performance goals, while those who emphasized mastery approaches had female students with low levels of performance goals.

The evidence from these studies suggests teachers’ beliefs, attitudes, goals, and approaches to instruction contribute to the overall classroom goal structure. Roeser et al. (2002) found a relationship between the perceived school climate and the teacher’s goal-oriented approaches to instruction. The current investigation examines other factors that may be associated with the goals that teachers endorse in their classrooms. In particular, this study focuses upon the novice teacher, who is simultaneously exposed to the goal structures of their teacher certification programs and the mentor teachers in their internship classrooms. Given these multiple sources of influence, a study of pre-service teachers may enhance the understanding of the early formations of teaching goals by beginning teachers.
CHAPTER 3
METHODS AND PROCEDURES

Participants

Participants in this study were drawn from students enrolled in two teacher certification programs at a large, public university in the southeastern United States. One teacher certification program is a traditional program that accepts students in their junior year of undergraduate study. During the first two years of study, students complete coursework and a pre-internship. In the final year, students complete an internship in either an elementary or early elementary classroom with a mentor teacher. Upon completion of the program, students are eligible for teacher certification as well as both a Bachelor and Master’s degree in education. In the current study, approximately 99 students from this program participated in the first data collection. The majority of participants ranged in age from 20-24; in addition, there was one individual each at 25, 26, 28, and 45 years of age. The mean age was 22.4 years. Participants were approximately 94% female, and 86% Caucasian, 8% African American, and 6% Hispanic. Forty-three of these participants also completed time 2 measures. They ranged in age from 20-24, with a mean age of 22.1 years. They were approximately 98% female, and 81% Caucasian, 12% African American, and 2% Hispanic.

The second teacher certification program, located at the same university, is an alternative program that accepts students who have already received a Bachelor degree in a field other than education. Students complete coursework over one year. Throughout that year, they are based in an elementary classroom with a mentor teacher and gradually
take on more teaching responsibilities over the course of the school year. Twenty-two students from this program completed the time 1 measures of the present study. These participants ranged in age from 22-43, with a mean age of 29.2 years. Participants were 82% female, and 95% White and 5% Hispanic. Eighteen of these participants also completed Time 2 measures. They ranged in age from 22-43, with a mean age of 28.9 years. They were 83% female, and 94% White and 6% Hispanic.

**Instruments**

Two surveys were used in this study. Each survey was based on items adapted from the Patterns of Adaptive Learning Scales (PALS; Midgley et al., 2000). The PALS was originally developed for use with elementary, middle, and high school students. Many items were modified in either wording or content, or both, in order to fit a college student population as well as the context of a teacher certification program. Each survey consisted of several sets of subscales. Each subscale consisted of 3-8 items. At time 1, the survey consisted of the following subscales: perceptions of program mastery goals, perceptions of program performance-approach goals, perceptions of program performance-avoidance goals, student mastery goals, student performance-approach goals, student performance-avoidance goals, and personal teaching efficacy. The first three subscales made up the “Perceptions of Program Goals” set of subscales, and the next three subscales made up the “Student Goals” set of subscales. The personal teaching efficacy items were considered to be a separate subscale. At time 2, the survey consisted of the following subscales: perceptions of mentor mastery goals, perceptions of mentor performance-approach goals, perceptions of mentor performance-avoidance goals, teaching mastery goals, teaching performance-approach goals, teaching performance-avoidance goals, and personal teaching efficacy. The first three subscales made up the
“Perceptions of Mentor Goals” set of subscales, and the next three subscales made up the “Teaching Goals” set of subscales. The personal teaching efficacy items were identical to the ones that appeared on the Time 1 survey.

Perceptions of Program Goals

These items asked participants to report on their perceptions of the goal structures of their respective teacher certification programs. Mastery items involved perceiving a program emphasis on improvement and understanding (e.g., *In my program, it’s important to understand the material, not just memorize it*). Performance-approach items involved perceiving a program focus on grades and test scores (e.g., *In my program, it’s important to get high scores on tests*). Performance-avoid items involved perceiving a program structure emphasizing the importance of avoiding demonstrations of inability (e.g., *In my program, it’s important that you don’t make mistakes in front of everyone in class*).

Student Goals

These items asked participants to report on their personal goals as students in their respective teacher certification programs. Mastery items emphasized improvement and developing skills (e.g. *One of my goals is to master a lot of new skills this year in my classes*). Performance-approach items focused upon the demonstration of competence and social comparison (e.g., *It’s important to me that other students in my classes think I am competent at my class work*). Performance-avoidance items focused on avoiding the demonstration of incompetence (e.g., *One of my goals in my classes is to avoid looking like I have difficulty doing the work*).
Perceptions of Mentor Goals

These items asked participants to report on their perceptions of the goals endorsed by the mentor teacher in their elementary classroom. In the PALS, these items were labeled as “Perception of Teacher’s Goals” and referred to student perception of the goal orientation of the classroom teacher. These items were re-worded to refer to the pre-service teacher’s perceptions of her mentor teacher’s goals. Mastery items involved perceiving the mentor teacher as emphasizing improvement and understanding (e.g., *My mentor teacher thinks that it’s okay for students to make mistakes as long as they are learning*). Performance-approach items involved perceiving the mentor teacher’s emphasis on social comparison and performance (e.g., *My mentor teacher points out those students who get good grades as an example*). Performance-avoidance items involved perceiving an emphasis on avoiding the demonstration of incompetence (e.g., *My mentor teacher tells students it’s important to answer questions in class, so it doesn’t look like they can’t do the work*).

Teaching Goals

These items assessed the goals of the participants as teachers in their early elementary or elementary internship classrooms. These items were similar to the ones that assessed participants’ goals as students in their programs, and were re-worded to fit the teaching context. Mastery items emphasized the importance of improvement and understanding by students (e.g., *One of my goals in teaching is for my elementary school students to learn as much as they can*). Performance-approach items involved the teacher’s goal of demonstrating her own competence through her students’ performance (e.g., *It’s important to me that other teachers think my students are good at their class work compared to other students in their grade*), whereas performance-avoidance items
involved the teacher’s goal of avoiding judgments of incompetence due to her students’ performance (e.g., *It’s important to me that my students don’t look like they’re below grade level*).

**Personal Teaching Efficacy**

These items asked participants to report on their beliefs regarding their teaching efficacy or ability in helping their students learn or make progress. Sample items included, *I believe that as a teacher, I will be able to deal with almost any learning problem,* and *I believe that as a teacher, I will be good at helping all the students in class make significant improvement.* Personal teaching efficacy was assessed at both times of data collection in order to examine whether intern teachers’ efficacy changes over the course of their internship.

**Procedures**

Participants were recruited from two teacher certification programs at the same university. All participants in the study were taking classes as students in their programs as well as teaching in an early elementary or elementary classroom as an intern teacher during the same semester. Participants were located in their classes during the first month of the semester for the first survey administration. Approximately 1 – 1.5 months later, participants were asked to complete the second survey. Because participants were dispersed between six classes or cohorts, it was difficult to survey everyone at the same time in the semester. An attempt was made to standardize the length of time between the first and second data collections for all participants.
CHAPTER 4
RESULTS

Time 1 Instrument Validity

The PALS was originally developed for use with elementary, middle, and high school students (Midgley et al., 2000). Researchers using the PALS have demonstrated through confirmatory factor analysis that mastery, performance-approach, and performance-avoidance goal orientations are three distinct constructs measured by their respective items in the instrument. In the current study, items were altered to fit the college population and the context of teaching. Because items were modified and the instrument was being applied to a different population than originally intended, exploratory factor analyses were conducted in order to provide evidence to support the validity of the instrument.

Using SAS, exploratory factor analyses (EFAs) were conducted for the three sets of subscales: “Perceptions of Program Goals” (mastery, performance-approach, and performance-avoidance), “Student Goals” (mastery, performance-approach, and performance-avoidance), and “Teaching Efficacy.” Maximum likelihood estimation was used.

One-, two-, and three-factor models were estimated for the “Perceptions of Program Goals” set of subscales. Goodness of fit model comparisons indicated that either a two or three factor model could adequately fit the data. Goodness of fit indices for the three-factor model indicated sufficient fit ($SRMR = .036$, $CFI = 1.00$). For the two-factor model, one index was adequate whereas the other was marginally sufficient ($SRMR =$
.055, $CFI = .94$). Since either model could have been arguably adequate, further analyses were performed with both models. Each was estimated with an oblique rotation.

The two-factor model was marginally acceptable, $\chi^2 = 83.85$, $p = .049$. Each of the mastery items loaded significantly onto one factor while each of the performance-approach and performance-avoidance items loaded significantly onto a second factor. The correlation between the factors was estimated to be .075, which was non-significant ($t = 1.02$, $p < .05$). Acceptance of the two-factor model would have indicated a lack of support for the existence of performance-approach and performance-avoidance goals as separate constructs. The three-factor model was then examined in order to further investigate any potential distinctions between the items. This model was acceptable, $\chi^2 = 41.36$, $p = .854$. Each of the mastery items loaded onto a single factor, while the performance-approach and performance-avoidance items loaded onto two other factors. The items were dispersed between the factors in a manner that did not support the separation of approach and avoidance goals as distinct constructs. These two factors had a significant correlation of .42 ($t = 5.55$, $p < .05$). Examination of the items loading onto the factors yielded the interpretation that one factor referred to the general demonstration of capability while the other factor referred to demonstrating competence through specific evidence, as through high test scores.

The results of the three-factor EFA were utilized in selecting a set of items to calculate composite scores for the “Perceptions of Program Goals” subscales. Of the six original mastery items, five were retained and averaged to calculate a score for perceptions of program mastery goals. Given the lack of evidence supporting the existence of performance-approach and performance-avoidance goals as distinct
constructs, a single performance composite was calculated for perceptions of program performance goals. The six items that loaded onto the factor concerning the specific demonstration of capability were retained to calculate the composite. The rationale for selecting these items was that individuals with performance goal orientations seek to specifically demonstrate their ability in order to prove their competence.

One-, two-, and three-factor models were estimated for the “Student Goals” set of subscales. Goodness of fit model comparisons between the models indicated that a three factor model was sufficient for the data ($SRMR = .038$, $CFI = .970$). The three-factor model was then estimated using an oblique rotation. The model was of sufficient fit, $\chi^2 = 68.32, p = .064$. Each of the mastery items loaded significantly onto a single factor. The performance-approach and performance-avoidance items loaded variously onto the two other factors. Examination of the items yielded the interpretation that one of the factors referred to appearing intelligent or competent while the other referred to being intelligent or competent. As the approach and avoidance items loaded onto both of these factors, the existence of a single performance goal orientation was supported, as opposed to the existence of separate constructs for performance-approach and performance-avoidance goals. At the same time, mastery goals were clearly distinct from performance goals as a construct.

Composites on student mastery goals and student performance goals were calculated by averaging the items retained for each of those subscales. All five of the mastery items were retained for student mastery goals. For student performance goals, the five items that loaded onto the factor concerning the appearance of intelligence were selected. The rationale for this decision was that actual intelligence is not addressed by
the construct of performance goals; instead, focus lies with the appearance or demonstration of competence.

In summary, items in the subscales were averaged in order to create measures of *perceptions of program mastery goals* ($\alpha = .72$), *perceptions of program performance goals* ($\alpha = .77$), *student mastery goals* ($\alpha = .78$), and *student performance goals* ($\alpha = .88$). Item discriminations were performed for each subscale, yielding corrected item-total correlations that ranged from .40 to .61 for *perceptions of program mastery goals*, .48 to .58 for *perceptions of program performance goals*, .43 to .64 for *student mastery goals*, and .68 to .81 for *student performance goals*. The means and standard deviations for each subscale were calculated separately for each group of participants, and are presented in Table 4-1.

In general, the mean of pre-service teachers’ mastery goals as students was greater than that of their performance goals as students. They were also more likely to rate their programs as endorsing higher levels of mastery goals than performance goals. There were no significant differences between the groups for ratings of program mastery, program performance, or student performance goals. However, the groups differed on student mastery goals; the pre-service teachers enrolled in the alternative program had higher levels of mastery goals than their counterparts who were enrolled in the traditional program.
Table 4-1 Means and Standard Deviations for Time 1 Subscale Composites

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traditional Teacher Certification Program</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Mastery$^a$</td>
<td>4.46</td>
<td>.47</td>
</tr>
<tr>
<td>Program Performance$^a$</td>
<td>2.92</td>
<td>.67</td>
</tr>
<tr>
<td>Student Mastery</td>
<td>4.34</td>
<td>.55</td>
</tr>
<tr>
<td>Student Performance</td>
<td>2.68</td>
<td>.82</td>
</tr>
<tr>
<td><strong>Alternative Teacher Certification Program</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Mastery$^a$</td>
<td>4.40</td>
<td>.60</td>
</tr>
<tr>
<td>Program Performance$^a$</td>
<td>2.90</td>
<td>.74</td>
</tr>
<tr>
<td>Student Mastery</td>
<td>4.50</td>
<td>.58</td>
</tr>
<tr>
<td>Student Performance</td>
<td>2.66</td>
<td>1.00</td>
</tr>
</tbody>
</table>

$^a$Program mastery and program performance goals are participants’ perceptions of the goals in their respective teacher certification programs.

Note. n = 98 for traditional program, n = 21 for alternative program.

Predictors of Student Goals

Within the framework of achievement goal theory, student endorsement of goals is thought to be related to their perceptions of the classroom goal structure (Church et al., 2001). In the present study, participants’ perceptions of their program goal structure were examined for prediction of their goals as students. Standard multiple regression analyses were performed between each dependent variable (student mastery goals, student performance goals) and the independent variables (perceptions of program mastery goals, perceptions of program performance goals). Analysis was performed using SAS REGRESSION. Participants were coded by group (traditional program = 1, alternative program = 0).

Levene’s test of equality of error variances was conducted for student mastery, $F(1, 114) = 1.96, p = .164$ and student performance, $F(1, 113) = .016, p = .899$. As neither test was significant, it was concluded that the error variance of the dependent variable was equal across groups.
There were no significant differences between the groups on either independent variable. Group x covariate interactions were examined by estimating two models for each dependent variable. A full model included terms for the independent variables, the group, and two group x covariate interactions (group x program performance goals, group x program mastery goals). A reduced model omitted the two interaction terms. Model comparisons between the full and reduced models indicated the absence of group x covariate interactions on both of the dependent variables, $F (5, 110) = .211, p < .05$ for student mastery, and $F (5, 109) = 1.88, p < .05$ for student performance. Group x covariate interactions were then omitted from the models.

In addition, there were no significant interaction effects between the independent variables for either student mastery goals ($t = -1.14, p = .25$) or student performance goals ($t = -.75, p = .46$).

Regression analysis revealed that the model significantly predicted student mastery goals, $F (3, 112) = 32.11, p < .0001$. $R^2$ for the model was .46, and adjusted $R^2$ was .45. Table 4-2 displays the unstandardized regression coefficients (B), standardized regression coefficients ($\beta$), $t$ statistic, $p$ value, and squared semi-partial correlation coefficient ($sr$) for each variable.

In terms of individual relationships between the independent variables and student mastery goals, perceptions of program mastery goals ($t = 9.51, p = .0001$) significantly predicted student mastery. In addition, there were significant differences between the groups in student mastery ($t = -2.12, p = .0365$). Perceptions of program performance goals did not significantly predict student mastery goals ($t = 1.29, p = .200$). Calculation of the squared semi-partial correlation between program mastery goals and student
mastery goals indicated that perceptions of program mastery goals accounted for 43% of the variance in student mastery goals when perceptions of program performance goals and the groups were controlled.

Table 4-2 Summary of Regression Analysis for Variables Predicting Student Mastery Goals

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>sr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>-.215</td>
<td>-.147</td>
<td>-2.12</td>
<td>.0365*</td>
<td>.02</td>
</tr>
<tr>
<td>Program Masterya</td>
<td>.737</td>
<td>.662</td>
<td>9.51</td>
<td>&lt;.0001*</td>
<td>.43</td>
</tr>
<tr>
<td>Program Performancea</td>
<td>.072</td>
<td>.090</td>
<td>1.29</td>
<td>.1999</td>
<td>.01</td>
</tr>
</tbody>
</table>

*Program mastery and program performance goals are participants’ perceptions of the goals in their respective teacher certification programs.

Note. n = 115. $R^2 = .45$. *p < .05.

Regression analysis revealed that the model significantly predicted student performance goals, $F(3, 111) = 35.40, p < .0001$. $R^2$ for the model was .49, and adjusted $R^2$ was .48. Table 4-3 displays the unstandardized regression coefficients (B), standardized regression coefficients ($\beta$), t statistic, p value, and squared semi-partial correlation coefficient ($sr$) for each variable. Perceptions of program performance goals significantly predicted student performance goals ($t = 10.30, p < .0001$), accounting for 49% of the variance in student performance goals when the other variables were controlled. The groups did not differ significantly in terms of student performance goals ($t = 0.13, p = .897$). In addition, perceptions of program mastery goals did not significantly predict student performance goals ($t = -0.51, p = .614$).

Table 4-3 Summary of Regression Analysis for Variables Predicting Student Performance Goals

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>sr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
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<td>.009</td>
<td>0.13</td>
<td>.8972</td>
<td>.00</td>
</tr>
<tr>
<td>Program Masterya</td>
<td>-.060</td>
<td>-.034</td>
<td>-0.51</td>
<td>.6136</td>
<td>.00</td>
</tr>
<tr>
<td>Program Performancea</td>
<td>.864</td>
<td>.700</td>
<td>10.30</td>
<td>&lt;.0001*</td>
<td>.49</td>
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</tbody>
</table>

*Program mastery and program performance goals are participants’ perceptions of the goals in their respective teacher certification programs.

Note. n = 114. $R^2 = .48$. *p < .05.
Teaching Efficacy

Teaching efficacy was assessed at both times of measurement. At time 1, an exploratory factor analysis was conducted in order to determine the factor structure of the teaching efficacy subscale. One- and two-factor models were estimated. A goodness of fit model comparison test indicated that a two-factor model was sufficient for the data ($SRMR = .03$, $CFI = 1.00$). The two-factor model was then estimated using an oblique rotation. This model was acceptable, $\chi^2 = 10.77$, $p = .630$. The eight efficacy items loaded variously onto the two factors. Examination of the items yielded the interpretation that one factor referred to *general beliefs regarding the capabilities of teachers* while the second factor referred to *beliefs about one’s own abilities as a teacher*. Since the operational definition of efficacy refers to beliefs about one’s own abilities, the five items that loaded onto the factor referring to beliefs about one’s own abilities were retained for the subscale. The items were averaged to form a composite for *teaching efficacy*. Cronbach’s alpha was .77. Corrected item-total correlations ranged from .37 to .62. The same items were averaged to form a composite for teaching efficacy at time 2.

The means and standard deviations of teaching efficacy by group are presented in Table 4-4 for each time of measurement. An independent groups $t$ test revealed that the groups did not significantly differ on teaching efficacy at either time 1 ($t = -.742$, $p = .462$) or time 2 ($t = -1.559$, $p = .125$).

In general, there was a slight decrease in mean teaching efficacy from time 1 to time 2. A $t$ test was used to examine whether the means at the two times of measurement were significantly different from one another and revealed no significant differences ($t = -.964$, $p = .340$). A simple linear regression was performed to determine whether time 1
teaching efficacy predicted time 2 efficacy. Regression analysis revealed that time 1 efficacy did predict time 2 efficacy, \( \beta = .50, t = 4.10, p < .001 \). \( R^2 \) for the model was .26, and adjusted \( R^2 \) was .24. Teaching efficacy at time 1 accounted for 24% of the variance in efficacy at time 2.

Table 4-4 Mean Teaching efficacy at Time 1 and Time 2

<table>
<thead>
<tr>
<th>Program</th>
<th>Time 1 Mean</th>
<th>SD</th>
<th>Time 2 Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Program</td>
<td>4.14</td>
<td>.58</td>
<td>4.07</td>
<td>.70</td>
</tr>
<tr>
<td>Alternative Program</td>
<td>4.04</td>
<td>.50</td>
<td>3.79</td>
<td>.60</td>
</tr>
</tbody>
</table>

Note: n = 96 for traditional program, n = 21 for alternative program at time 1. n = 42 for traditional program, n = 17 for alternative program at time 2.

**Time 2 Instrument Validity**

Due to sample size constraints, EFAs were conducted for individual subscales and pairs of subscales when appropriate. Two EFAs were conducted on the “Perceptions of Mentor Goals” subscales, one for the mentor mastery items and another for the mentor performance-approach and mentor performance-avoidance items. The rationale for combining the approach and avoidance items was to examine potential relationships between those items. Prior analyses provided evidence for a clear distinction between mastery goals and performance goals in general.

One- and two-factor models were estimated for the mentor mastery items. Goodness of fit model comparison tests yielded support for the one-factor model (\( SRMR = 0.044, CFI = 1.00 \)). The one-factor model was adequate, \( \chi^2 = 3.50, p = .624 \). Each of the five original mastery items was retained to calculate a composite for perceptions of mentor mastery goals.

One- and two-factor models were estimated for the mentor performance-approach and mentor performance-avoidance items. A goodness of fit model comparison test
revealed support for a two-factor model as being adequate for the data (SRMR = .04, CFI = .97). The two-factor model was then estimated with an oblique rotation. This model was adequate, \( \chi^2 = 10.57, p = .227 \). The performance-approach items loaded onto one factor whereas the performance-avoidance items loaded onto the second factor. This was interpreted as support for the existence of separate constructs for performance-approach and performance-avoidance goals. Separate composites were calculated for each goal instead of creating a general performance orientation. Each of the three performance-approach items was retained and averaged for perceptions of mentor performance-approach goals. Three of the four performance-avoidance items were retained and averaged for perceptions of mentor performance-avoidance goals.

Two EFAs were conducted for “Teaching Goals”: one for the set of teaching mastery items, and another for the teaching performance-approach and teaching performance-avoidance sets of items. One- and two-factor models were estimated for teaching mastery. Goodness of fit model comparisons yielded support for the one-factor model (SRMR = .057, CFI = .98). The model was adequate, \( \chi^2 = 6.06, p = .300 \). Four of the five original items were retained and averaged for teaching mastery goals.

One- and two-factor models were estimated for the teaching performance-approach and teaching performance-avoidance items. A goodness of fit model comparison test indicated support for the two-factor model (SRMR = .05, CFI =1.00). The two-factor model was then estimated with an oblique rotation, \( \chi^2 = 16.72, p = .607 \). The items did not load onto the factors in a manner that supported the existence of separate constructs for performance-approach and performance-avoidance goals. Instead, the items loaded variously onto the two factors. The correlation between these factors
was .56; this correlation was significant \( t = 6.75, p < .05 \). Examination of the items yielded the interpretation that one factor referred to the *specific demonstration of competence* (e.g., doing well on tests and in class work), while the other factor referred to *appearing competent in general* (e.g., being competent, not being unprepared or looking slow). The items that loaded onto the factor concerning the specific demonstration of competence were selected to calculate a composite for *teaching performance goals*. The rationale for this decision mirrored the reasoning behind selecting a similar factor for calculating a composite for *perceptions of program performance goals*.

In summary, selected items in the subscales were averaged in order to create measures of *perceptions of mentor mastery goals* \( (\alpha = .77) \), *perceptions of mentor performance-approach goals* \( (\alpha = .74) \), *perceptions of mentor performance-avoidance goals* \( (\alpha = .78) \), *teaching mastery goals* \( (\alpha = .75) \), and *teaching performance goals* \( (\alpha = .76) \). Corrected item-total correlations ranged from .48 to .67 for *perceptions of mentor mastery goals*, .51 to .66 for *perceptions of mentor performance-approach goals*, .51 to .71 for *perceptions of mentor performance-avoidance goals*, .41 to .67 for *teaching mastery goals*, and .42 to .64 for *teaching performance goals*.

The means and standard deviations for the subscale composites by group are presented in Table 4-5. In general, both groups perceived their mentor teachers as endorsing higher levels of mastery goals than either performance-approach or performance-avoidance goals. In addition, mentor teachers were perceived to endorse performance-approach goals over performance-avoidance goals. Pre-service teachers also displayed higher mean scores on teaching mastery goals than teaching performance goals. The groups did not significantly differ from one another on any of these variables.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
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<tr>
<td><strong>Traditional Teacher Certification Program</strong></td>
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<td></td>
</tr>
<tr>
<td>Mentor Mastery&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>.514</td>
</tr>
<tr>
<td>Mentor Approach&lt;sup&gt;a&lt;/sup&gt;</td>
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<tr>
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<td>.823</td>
</tr>
<tr>
<td>Teaching Mastery</td>
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<td>.544</td>
</tr>
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<td>Teaching Performance</td>
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<tr>
<td><strong>Alternative Teacher Certification Program</strong></td>
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<td></td>
</tr>
<tr>
<td>Mentor Mastery&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.22</td>
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</tr>
<tr>
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<td>.952</td>
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<tr>
<td>Teaching Mastery</td>
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</tr>
<tr>
<td>Teaching Performance</td>
<td>3.00</td>
<td>.664</td>
</tr>
</tbody>
</table>

<sup>a</sup>Mentor mastery, approach, and avoidance goals are participants’ perceptions of their mentor teachers’ goals.

*Note.* n = 35 for traditional program, n = 16 for alternative program.

**Predictors of Teaching Goals**

To date, few researchers have investigated teaching goals or predictors of teaching goals. Roeser et al. (2002) found that teachers’ perceptions of the school climate might be related to the goals endorsed by teachers as shown through their approaches to instruction. In the present study, participants’ goals as students in their programs, perceptions of the goals endorsed by their programs, perceptions of the goals endorsed by their mentor teachers, and teaching efficacy were examined for prediction of their goals as beginning teachers. A standard multiple regression analysis was performed between each dependent variable (teaching mastery goals, teaching performance goals) and the independent variables (student mastery goals, student performance goals, perceptions of program mastery goals, perceptions of program performance goals, perceptions of mentor mastery goals, perceptions of mentor approach goals, perceptions of mentor avoidance goals, and teaching efficacy at time 2). Analysis was performed with SAS REGRESSION. Participants were coded according to teacher certification program.
Levene’s tests of equality of error variances indicated that the error variance of the dependent variables were equal across groups, teaching mastery, $F(1, 49) = .517, p = .476$ and teaching performance, $F(1, 49) = .681, p = .413$.

**Teaching Mastery Goals**

The groups were examined for significant differences on the independent variables; none were found. Potential interaction effects between the independent variables were also investigated. Of all of the potential interaction effects between the independent variables, two were significant: perceptions of mentor mastery goals x student mastery goals ($t = -3.39, p = .002$) and perceptions of mentor mastery goals x perceptions of program mastery goals ($t = -2.56, p = .014$). Two other interaction terms were marginally significant: student mastery x student performance goals ($t = 1.72, p = .094$), and student performance x perceptions of program performance goals ($t = -1.80, p = .080$). Multiple regression models were then estimated with combinations of these interaction terms.

In a model that included both perceptions of mentor mastery x student mastery and perceptions of mentor mastery x perceptions of program mastery interaction terms, the latter term was no longer significant. This was interpreted that when the interaction between mentor and student mastery goals was controlled, including an interaction between mentor and program mastery goals did not add to the model. Therefore, this latter term was omitted from the final model. A similar finding emerged with the two marginally significant interaction terms. The interaction between student mastery and student performance goals was no longer significant when the interaction between student mastery and perceptions of program performance goals was in the model.
Therefore, the former term was omitted from the final model. The final model, then, contained all of the independent variables plus two interaction terms: perceptions of mentor mastery x student mastery goals and student performance x perceptions of program performance goals. $R^2$ for this model was .57, with an adjusted $R^2$ value of .45. The overall model was significant, $F(11, 39) = 4.68, p = .0002$. Table 4-6 displays the unstandardized regression coefficients (B), standardized regression coefficients ($\beta$), t statistic, p value, and squared semi-partial correlation coefficient ($sr$) for each variable.

In terms of how the independent variables predicted the dependent variable, the interaction between student mastery and perceptions of mentor mastery goals ($\beta = -5.17, t = -4.15, p < .001$), and the interaction between student performance and perceptions of program performance goals ($\beta = -2.15, t = -2.87, p = .007$), as well as the main effect of perceptions of program mastery goals ($\beta = -.652, t = -3.67, p = .001$) significantly predicted mastery goals in teaching.

The interaction between student mastery and perceptions of mentor mastery goals was interpreted to mean that the relationship between perceptions of mentor mastery goals and teaching mastery goals was weaker for participants with higher levels of student mastery goals. In other words, when pre-service teachers had higher levels of mastery goals as students, perceiving their mentor teachers as endorsing mastery goals did not strongly predict their own mastery goals in teaching. However, when pre-service teachers had lower levels of student mastery goals, there was a stronger relationship between perceiving their mentors as mastery oriented and endorsing mastery goals in teaching. This interaction between student mastery goals and perceptions of mentor
mastery goals accounted for 19% of the variance in teaching mastery when the other variables were controlled.

The interaction between student performance and perceptions of program performance goals was interpreted as follows: participants who perceived their programs as endorsing lower levels of program performance goals demonstrated a positive relationship between student performance goals and teaching mastery goals, while participants who perceived their programs as endorsing high levels of performance goals demonstrated a negative relationship between student performance goals and teaching mastery goals. In other words, when pre-service teachers did not perceive their programs as emphasizing performance goals, they endorsed mastery goals in teaching even when they personally adopted high levels of performance goals as students. However, when they perceived their programs as emphasizing performance goals, then pre-service teachers who were performance-oriented as students were less likely to adopt mastery goals in teaching.

The main effect of perceptions of program mastery goals was puzzling. This negative main effect suggested that perceiving an increase in the level of mastery goals emphasized by a program resulted in a decrease in the pre-service teachers’ mastery goals as teachers. A comparison of standardized regression coefficients indicated that the interaction of perceptions of mentor mastery and student mastery goals, as well as the interaction between student performance and perceptions of program performance goals, were stronger predictors of teaching mastery than were perceptions of program mastery goals.
Table 4-6 Summary of Regression Analysis for Variables Predicting Teaching Mastery Goals

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>sr</th>
</tr>
</thead>
<tbody>
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<td>Group</td>
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<td>.900</td>
<td>.00</td>
</tr>
<tr>
<td>Program Mastery(^a)</td>
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<tr>
<td>Program Performance(^a)</td>
<td>.852</td>
<td>1.11</td>
<td>3.18</td>
<td>.003*</td>
<td>.11</td>
</tr>
<tr>
<td>Student Mastery</td>
<td>3.51</td>
<td>3.67</td>
<td>4.64</td>
<td>&lt;.001*</td>
<td>.24</td>
</tr>
<tr>
<td>Student Performance</td>
<td>.842</td>
<td>1.43</td>
<td>2.80</td>
<td>.008*</td>
<td>.08</td>
</tr>
<tr>
<td>Mentor Mastery(^a)</td>
<td>3.15</td>
<td>3.76</td>
<td>4.43</td>
<td>&lt;.001*</td>
<td>.22</td>
</tr>
<tr>
<td>Mentor Approach(^a)</td>
<td>-.035</td>
<td>-.074</td>
<td>-0.64</td>
<td>.529</td>
<td>.00</td>
</tr>
<tr>
<td>Mentor Avoidance(^a)</td>
<td>.060</td>
<td>.100</td>
<td>0.80</td>
<td>.428</td>
<td>.01</td>
</tr>
<tr>
<td>Efficacy (Time 2)</td>
<td>.120</td>
<td>.146</td>
<td>1.12</td>
<td>.268</td>
<td>.01</td>
</tr>
<tr>
<td>Mentor Mastery(^a) x Student Mastery</td>
<td>-.700</td>
<td>-5.17</td>
<td>-4.15</td>
<td>&lt;.001*</td>
<td>.19</td>
</tr>
<tr>
<td>Student Performance x Program Performance(^a)</td>
<td>-.273</td>
<td>-2.15</td>
<td>-2.87</td>
<td>.007*</td>
<td>.09</td>
</tr>
</tbody>
</table>

\(^a\)Program and mentor goals are participants’ perceptions of the goals endorsed by their teacher certification programs and mentor teachers, respectively.

Note. n = 51. \(R^2 = .45\). *p < .05.

Teaching Performance Goals

The groups were examined for significant differences on the independent variables. None of the potential group x covariate interactions was significant. One interaction (group x perceptions of program mastery goals) was marginally significant (t = -1.96, p = .057). Potential interactions between the independent variables were also examined. There was one significant interaction, student mastery x perceptions of program performance goals (t = 2.09, p = .043), and one marginally significant interaction, student mastery x student performance goals (t = 1.79, p = .081).

A multiple regression model was then estimated with two interaction terms: group x perceptions of program mastery goals and student mastery x perceptions of program performance goals. Regression analysis revealed that the model significantly predicted teaching performance goals, \(F (11, 39) = 2.21, p = .034\). Table 4-7 displays the unstandardized regression coefficients (B), standardized regression coefficients (β), t
statistic, $p$ value, and squared semi-partial correlation coefficient ($sr$) for each variable.

None of the independent variables or interactions significantly predicted teaching performance goals at the $p < .05$ level.

Table 4-7 Summary of Regression Analysis for Variables Predicting Teaching Performance Goals: Model One

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$</th>
<th>$sr$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>2.76</td>
<td>1.92</td>
<td>1.77</td>
<td>.085</td>
<td>.05</td>
</tr>
<tr>
<td>Group x Program Mastery $^a$</td>
<td>-.614</td>
<td>-1.94</td>
<td>-1.70</td>
<td>.097</td>
<td>.04</td>
</tr>
<tr>
<td>Program Mastery $^a$</td>
<td>-.265</td>
<td>-2.20</td>
<td>-0.75</td>
<td>.455</td>
<td>.01</td>
</tr>
<tr>
<td>Program Performance $^a$</td>
<td>-2.20</td>
<td>-2.24</td>
<td>-1.94</td>
<td>.060</td>
<td>.06</td>
</tr>
<tr>
<td>Student Mastery</td>
<td>-1.06</td>
<td>-.860</td>
<td>-1.41</td>
<td>.165</td>
<td>.03</td>
</tr>
<tr>
<td>Student Performance</td>
<td>.202</td>
<td>.266</td>
<td>1.27</td>
<td>.213</td>
<td>.02</td>
</tr>
<tr>
<td>Mentor Mastery $^a$</td>
<td>.265</td>
<td>.247</td>
<td>1.64</td>
<td>.110</td>
<td>.04</td>
</tr>
<tr>
<td>Mentor Approach $^a$</td>
<td>-.050</td>
<td>-.082</td>
<td>-0.59</td>
<td>.555</td>
<td>.01</td>
</tr>
<tr>
<td>Mentor Avoidance $^a$</td>
<td>.143</td>
<td>.182</td>
<td>1.19</td>
<td>.243</td>
<td>.02</td>
</tr>
<tr>
<td>Efficacy (Time 2)</td>
<td>.272</td>
<td>.258</td>
<td>1.51</td>
<td>.138</td>
<td>.04</td>
</tr>
<tr>
<td>Student Mastery x Program Performance $^a$</td>
<td>.474</td>
<td>2.32</td>
<td>1.84</td>
<td>.074</td>
<td>.05</td>
</tr>
</tbody>
</table>

$^a$Program and mentor goals are participants’ perceptions of the goals endorsed by their teacher certification programs and mentor teachers, respectively.

$Note.$ $n = 51.$ $R^2 = .21.$ $^*p < .05.$

Including the group x program mastery term in the model improved predictive accuracy by 4.6%. To test whether this was a significant addition, a reduced model that was identical to the former model without the group x covariate term was estimated. A model comparison indicated that the group x covariate interaction was not necessary for the model, $F (1, 39) = 2.88$, $F-critical = 4.08$, and the term was removed from the model.

The final model included all of the independent variables as well as one interaction term: student mastery x perceptions of program performance goals. Regression analysis revealed that the model predicted teaching performance goals marginally well, $F (10, 40) = 2.05$, $p = .053$. $R^2$ for the model was .34, and adjusted $R^2$ was .17. In addition, including the marginally significant interaction between student mastery and student performance goals did not improve the predictive accuracy of the
model. Table 4-8 displays the unstandardized regression coefficients (B), standardized regression coefficients ($\beta$), $t$ statistic, $p$ value, and squared semi-partial correlation coefficient ($sr$) for each variable.

In terms of relationships between the independent variables and the dependent variable, perceptions of program mastery goals ($t = -2.72, p = .010$) and an interaction between student mastery and perceptions of program performance goals ($t = 2.09, p = .043$) significantly predicted teaching performance goals. The other variables did not significantly predict teaching performance goals at the $p < .05$ level.

There was a negative relationship between perceptions of program mastery goals and teaching performance goals. In other words, as perceptions of program mastery goals increased, teaching performance goals decreased. Perceptions of program mastery goals accounted for 12% of the variance in teaching performance goals, when the other variables were controlled.

The interaction effect indicated that participants who perceived their programs as low in performance goals demonstrated a negative relationship between student mastery and teaching performance. In other words, the higher their mastery goals as students, the lower their performance goals in teaching. However, for those participants who perceived their programs as moderate to high in performance goals, there was a positive relationship between student mastery goals and teaching performance goals. In other words, in spite of high levels of student mastery goals, the pre-service teachers endorsed high levels of performance goals as teachers. The interaction between student mastery and perceptions of program performance goals accounted for 7% of the variance in teaching performance goals, when the other variables were controlled.
Table 4-8 Summary of Regression Analysis for Variables Predicting Teaching Performance Goals: Revised Model

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>sr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>.129</td>
<td>.090</td>
<td>0.63</td>
<td>.531</td>
<td>.01</td>
</tr>
<tr>
<td>Program Mastery</td>
<td>-.687</td>
<td>-.570</td>
<td>-2.72</td>
<td>.010*</td>
<td>.12</td>
</tr>
<tr>
<td>Program Performance</td>
<td>-2.60</td>
<td>-2.64</td>
<td>-2.28</td>
<td>.028*</td>
<td>.08</td>
</tr>
<tr>
<td>Student Mastery</td>
<td>-1.15</td>
<td>-1.934</td>
<td>-1.50</td>
<td>.140</td>
<td>.04</td>
</tr>
<tr>
<td>Student Performance</td>
<td>.267</td>
<td>.353</td>
<td>1.69</td>
<td>.098</td>
<td>.05</td>
</tr>
<tr>
<td>Mentor Mastery</td>
<td>.295</td>
<td>.274</td>
<td>1.79</td>
<td>.081</td>
<td>.05</td>
</tr>
<tr>
<td>Mentor Approach</td>
<td>-.043</td>
<td>-.071</td>
<td>-0.50</td>
<td>.619</td>
<td>.00</td>
</tr>
<tr>
<td>Mentor Avoidance</td>
<td>.202</td>
<td>.257</td>
<td>1.71</td>
<td>.096</td>
<td>.05</td>
</tr>
<tr>
<td>Efficacy (Time 2)</td>
<td>.145</td>
<td>.138</td>
<td>0.87</td>
<td>.391</td>
<td>.01</td>
</tr>
<tr>
<td>Student Mastery x Program Performance</td>
<td>.544</td>
<td>2.66</td>
<td>2.09</td>
<td>.043*</td>
<td>.07</td>
</tr>
</tbody>
</table>

*aProgram and mentor goals are participants’ perceptions of the goals endorsed by their teacher certification programs and mentor teachers, respectively.

*Note. n = 51. R² = .17. *p < .05.
The purpose of this study was to examine the goal orientations endorsed by pre-service teachers in their early elementary or elementary internship classrooms, particularly in terms of relationships between those goals and perceptions of the goal structure of their teacher certification programs, the goals they adopted as learners in their programs, and the perceived goal orientations of their mentor teachers. The research questions addressed in this study were: (a) Do pre-service teachers’ goals as students in their respective teacher certification programs reflect the goals that they perceive as emphasized by those programs?, (b) Are pre-service teachers’ goals as teachers in their internship classrooms predicted by their goals as students, their perceived program goals, and/or their perceived mentor teacher goals?, and (c) Does teaching efficacy remain stable throughout the teaching internship semester, and is it related to the goals that are adopted by pre-service teachers as teachers in their early elementary or elementary internship classrooms?

Research Question 1

Research Question 1 concerns the relationship between the goals that pre-service teachers perceive as endorsed by their respective teacher certification programs and the goals that they endorse as students in those programs. In this study, participants reported higher levels of mastery goals than performance goals in their programs. In other words, they perceived their programs as emphasizing the importance of improving skills and
Consistent with previous research in the field, participants in this study who perceived their programs to emphasize the importance of mastery endorsed higher levels of mastery goals in learning. At the same time, they reported performance goals in learning when they felt that their programs emphasized the importance of performance. Levels of perceived mastery goals in the program were unrelated to the levels of performance goals endorsed by the learner, and levels of perceived program performance goals were unrelated to the learner’s adoption of mastery goals. These findings suggest that mastery or performance oriented cues in the program goal structure are specifically associated with students’ endorsement of either mastery or performance goals. Perceiving mastery goals will predict student mastery goals, even if performance goals are perceived in the goal structure as well. At the same time, the same interpretation must be considered for performance goals. Perceiving the presence of performance goals predicts student performance goals, even if mastery goals are perceived in the classroom as well. The absence of an interaction between perceptions of program mastery and perceptions of performance goals further supports this conclusion. The relationship between perceptions of program mastery goals and student mastery goals does not vary for different levels of perceptions of program performance goals; nor does the relationship between perceptions of program performance goals and student performance goals vary at different levels of perceptions of program mastery goals.

In the current study, participants reported endorsing higher levels of mastery goals than performance goals in learning. Although the aim of this study was not to compare
the two teacher certification programs (one traditional, one alternative), an interesting point of difference emerged regarding these programs. The pre-service teachers in these programs did not differ in terms of the levels of mastery or performance goals that they perceived as endorsed by their programs. In other words, they reported similar levels of both types of goals across the programs. However, the two groups significantly differed in terms of their levels of mastery goals as students. Those in the alternative program were more mastery oriented than their counterparts in the traditional program. The difference in levels of mastery goals between the two groups, though significant, was not large in terms of mean scores. The participants in the traditional group had a mean of 4.34 in student mastery, while their alternative counterparts had a mean of 4.50 in student mastery. In either case, the means were close to the upper limit of the scale, 5.0. At the same time, there were no differences between the groups in terms of levels of performance goals endorsed as students in their programs.

The difference in mastery orientation between the groups may be attributed to several factors. First, the pre-service teachers in the alternative program were on average older than those enrolled in the traditional program. There has been some evidence that individuals become more mastery oriented with age, particularly at the college level (Burley et al., 1999). In addition, it is worth noting that the alternative group was composed of individuals who had decided to become teachers after pursuing studies and careers in other areas. In comparison, the traditional group was largely composed of younger students who had decided to become teachers before their junior year of college. It is possible that those enrolled in the alternative program may be more certain of their career choice and thus more intent on mastering skills and material.
Although the two groups differed in terms of the levels of mastery goals they reported endorsing, they did not vary in terms of their perceptions of program goal structures. This suggests that while program goal structures are associated with student goals, other factors may be involved as well. It is highly likely that there are personal variables, such as an individual tendency to endorse a certain goal over another, among these other factors. Pintrich (2000) proposed that individuals have access to different goal orientations that may be activated by environmental cues; at the same time, the individual’s prior history of activations may result in the one goal representation being more easily accessible and activated than another.

Although in the current study perceptions of the program goal structure is assumed to predict student goal orientation, and thus precede student goals in time, it must be considered that the goals learners perceive may vary as a function of learners themselves. In other words, the relationship between perceptions of the program goals and the learner’s goals can be explained by the possibility that students will perceive goals in their classrooms or programs as a function of the goals they already hold as individuals. A mastery oriented student would be more likely to attend to mastery cues in the classroom, whereas a performance oriented student would find the performance messages more salient. This would suggest that students’ goals and their perceptions of their classroom or program goal structures may not be entirely independent. At the same time, this alternative explanation implies that student goals are more stable and less influenced by context. At the college level, it is likely that students may possess relatively stable goals. Students’ goals and their perceptions of their classroom or program goal structures may not be entirely independent.
Studies of the relationship between classroom goal structure and student goals must consider the possibility that learners may attend differentially to classroom cues and messages. Students may be able to identify mastery and performance oriented practices within a classroom, yet vary in terms of how they respond to them. At the same time, students’ goals may in effect prime them to identify and attend to certain cues as opposed to others in the classroom setting.

**Research Question 2**

The primary questions of interest in this study concern pre-service teachers’ goals as novice teachers. Pre-service teachers are exposed to the goals of their respective teacher certification programs as well as their mentor teachers. In addition, they have endorsed goals as learners in their programs, and carry beliefs about their teaching efficacy. Research in achievement goals with a focus on teachers has explored perceptions of the school climate in relation to goal-oriented approaches to instruction (Roeser et al., 2002). In this study, it was hypothesized that the aforementioned factors may be associated with the goals endorsed by pre-service teachers who are simultaneously exposed to various sources of influence.

The results of this study indicated that pre-service teachers are more mastery than performance oriented in their teaching. In other words, they are more concerned with student comprehension and understanding than with test performance and comparison with others.

A number of interesting findings emerged in terms of how perceptions of program goal structures predict teaching goals. The degree to which perceived program performance goals are emphasized appears instrumental. Instead of finding a direct relationship between participants’ student goals and teaching goals, the level of perceived
program performance goals moderates this relationship. Pre-service teachers adopt higher levels of performance goals in teaching their elementary students when they perceive their programs as endorsing moderate to high levels of performance goals. This occurs even when the pre-service teacher is mastery oriented as a student. On the other hand, when programs are perceived to emphasize low levels of performance goals, mastery oriented pre-service teachers do not endorse high levels of performance goals for their students.

Perceptions of program performance goals are also associated with teaching mastery goals. Pre-service teachers who are performance oriented as students will endorse teaching mastery goals when they do not perceive their programs as emphasizing performance goals. However, when they do perceive their programs to emphasize performance goals, performance oriented pre-service teachers endorse lower levels of mastery goals in teaching.

The benefit of perceptions of program mastery goals in teacher certification programs would seem difficult to dispute. However, the results of the current study are puzzling regarding this issue. Participants’ perceptions of program mastery goals were negatively related to teaching performance goals. In other words, pre-service teachers are less performance oriented in teaching when they believe their programs are higher in mastery. This finding is consistent with the expectation that mastery goal structures are associated with mastery goal orientations. However, a negative relationship was also found between perceptions of program mastery goals and teaching mastery goals. In other words, pre-service teachers are less likely to hold mastery goals for their students when they feel that their programs are high in mastery goals. This finding is highly
inconsistent with earlier research, and might be explained in a number of ways. First, it is possible that participants’ conceptions of mastery for themselves and their elementary-aged students are not the same. For example, college students who are mastery oriented may look very different from elementary school students who are mastery oriented. The construct of mastery may be understood differently for the two populations. Although college students may thoroughly understand material yet not perform as well as their peers, teachers may feel that young students demonstrate their understanding and ability through performance indicators. At the same time, teachers may need to rely on norms and relative comparisons in order to gauge whether a child is on target for reaching milestones and demonstrating readiness to move on to other material. Another potential explanation for these findings lies with difficulties in assessing goals and the constructs of mastery and performance goal orientations. In general, the average scores on mastery orientations were close to the upper limit of the scale. The lack of variation in responding to the mastery items may indicate problems with using the scales to assess goals.

In this study, it was believed that perceptions of mentor teacher goals would be related to the goals endorsed by pre-service teachers in their internship classrooms. Findings indicated that the relationship between perceptions of mentor teacher goals and teaching goals is moderated by participants’ goals as students in their programs. Pre-service teachers who are less mastery oriented as students will endorse mastery goals in teaching when they perceive their mentor teachers as mastery oriented. When pre-service teachers are mastery oriented as students, they endorse mastery goals in teaching regardless of their perceptions of their mentor’s level of mastery orientation. However,
perceptions of mentor teachers’ performance goals were not associated with the endorsement of either mastery or performance goals in teaching for pre-service teachers.

**Research Question 3**

Research Question 3 concerned pre-service teachers’ teaching efficacy and the relationship between teaching efficacy and goal adoption in teaching. In general, teaching efficacy remained fairly stable throughout their internship semester. There was a small, though non-significant, decline in teaching efficacy over the course of the semester. This slight decrease in efficacy may be attributed to a calibration effect: novice teachers may be overly optimistic prior to entering the classroom and then feel less confident upon encountering the everyday challenges that naturally occur in teaching. However, the non-significant decrease suggests that, in spite of these challenges, teaching efficacy does remain fairly stable. At both times of measurement, mean teaching efficacy was moderately high.

Efforts to assess teaching efficacy should include the consideration that teaching efficacy survey items are compelling; respondents may be inclined to report high efficacy because they have been taught the importance of teaching efficacy. At the same time, there may be social desirability issues in that they may be unwilling to report low feelings of efficacy. Novice teachers may also vary according to their feelings of efficacy on a daily basis; on one day a particularly challenging class session may prompt lower feelings of efficacy whereas on another day a positive encounter with a student may raise efficacy.

Keeping in mind the potential difficulties with assessing teaching efficacy, the results from this study indicated that personal teaching efficacy is unrelated to the adoption of either teaching mastery or teaching performance goals. These findings are
consistent with other research indicating that teaching efficacy is not consistently associated with either mastery or performance goals in teaching (see Roeser et al., 2002).

The Performance Goal Orientation

On a final note, an interesting finding emerged in this study regarding performance goal orientations. For the population of interest in this study, there was a lack of support for the existence of approach and avoidance goals as distinct constructs. In other words, pre-service teachers do not appear to distinguish between performance-approach and performance-avoidance goals, either in their perceptions of the goals endorsed by their respective programs, the goals that they themselves endorsed as learners, or the goals that they adopted as teachers. However, they did show a distinction between the approach and avoidance constructs in terms of the goals they perceived as emphasized by their mentor teachers.

A possible explanation for this finding is that students may feel that distinguishing between approach and avoidance is irrelevant at the college level. Since approach goals involve demonstrating competence, whereas avoidance goals involve not demonstrating incompetence, college students may feel that the two amount to the same conclusion. If one is competent and able, then one should clearly show that is the case. Through demonstrating ability, one effectively avoids the appearance of inability. Failing to demonstrate competence might well entail actual incompetence. It is also possible that few students who are enrolled in master’s programs (as in the alternative teacher certification program) or in a program with a dual degree (as with the traditional program) would hold a performance-avoidance orientation. Individuals who are highly concerned with appearing incompetent and who believe they lack ability may elect not to enroll in such programs. At the same time, this study was conducted in the final year of
study for pre-service teachers enrolled in the traditional certification program. As noted by the program director, a number of individuals do not return for their final year of study; it is possible that individuals who elected not to complete the final year differed from those who did return in their concerns about appearing competent or incompetent.

Another possible explanation for the lack of distinction in these constructs may be due to respondents’ interpretation of the survey items. The instrument utilized primarily distinguished between the two constructs in wording: with approach goals, one strives to look capable, and with avoidance goals, one strives to not look incapable. Participants may have reacted to the “double negative” in the avoid items by omitting both of the negative terms; this would have led to a mental re-wording of the item that would have resulted in a meaning identical to an approach item.

What remains to be explained is why pre-service teachers would fail to distinguish between approach and avoidance goals in reference to themselves yet perceive a difference between the two in the goals emphasized by their mentor teachers. One purely speculative idea is that the emphasis on accountability in the state of Florida may lead to concern about performing less well than others. The drive for students to perform above their counterparts would conceptually differ from a concern with students performing worse than their agemates.

**Limitations of the Study**

Several factors may have limited this study. First, the sample size was small, and the study was conducted over the course of a single semester. Although 120 participants completed time 1 measures, only 61 completed time 2 measures. The possibility exists that the pre-service teachers who did not complete time 2 measures could have differed from those who did—for instance, individuals who were less satisfied with their overall
internship experience might have elected not to fill out the survey. In addition, during their first internship semester, participants’ teaching goals may still be forming and unrelated to their eventual endorsement of goals in teaching. Although much may be gained from understanding these beginning goals in teaching, longitudinal research would contribute to understanding how these early goals may continue to form and stabilize.

Second, there are limitations to the survey format. Although respondents’ perceptions are key to understanding their unique experiences, survey items may prompt responding due to social desirability. In general, mastery items may be more appealing than performance items, and participants may have been more inclined to agree with mastery items because of that item appeal. On average, participants’ mean scores of perceptions of program mastery goals, student mastery goals, and teaching mastery goals were high and close to the upper limits of the scale. Another limitation to surveys is that assumptions are made regarding the practices and intentions that are associated with particular goal orientations.

Third, respondent perceptions of these constructs may have been inconsistent with how they are defined in the achievement goal literature. For instance, respondents may perceive certain instructional practices to be mastery oriented when they are actually performance oriented. To provide a concrete example, a mentor teacher who directs her students in filling out a worksheet accurately and precisely may appear to be concerned with the mastery of skills; however, it is possible that the children could be completing the task without truly understanding the underlying concepts. The novice teacher might interpret this practice as conducive to mastery when in actuality it promotes performance.
Further research in this area would benefit from the addition of observational data that may provide another view of the goal structure of the classroom.

Finally, it is necessary to consider the potential inconsistency between goals in teaching or beliefs about learning, and actual instructional practices. Although this study did not include an assessment of the instructional approaches of the pre-service teachers, it is likely that the classroom goal structure is shaped by both teacher goals and instructional practices. Research on teacher variables would need to address both factors. For instance, a teacher may believe that mastery lies at the heart of learning yet find herself within a school climate inundated with the pressures of high-stakes testing. Consequently, this teacher’s instructional approaches may be inconsistent with her beliefs and goals in teaching.

**Directions for Future Research**

Achievement goal research has focused primarily on student goals. In this study, the focus was shifted to teacher goals, and in particular the goals of novice teachers. A handful of studies have addressed teacher goals and defined them variously. Future research on teacher goals would benefit from a clarification of conceptualizing teacher goals, as several different perspectives may be taken. Previous research has examined teacher goals in terms of the goals endorsed for one’s students (Midgley et al., 1995) and as evidenced through approaches to instruction (Roeser et al., 2002). In this study, teacher goals were examined with achievement defined at the student level but with reasons attributed to the teacher. In this framework, mastery oriented teachers focus primarily on student understanding, whereas performance oriented teachers attend to their own students’ performance relative to that of other students.
It would also be possible to examine teacher goals with achievement defined at the teacher level. Here, a teacher with mastery goals would strive to master many different instructional approaches and improve her skills. She may focus on improving her lessons and lectures each semester or year. A teacher with performance goals may focus on her ability to teach relative to her colleagues. She may feel that her ability to teach is demonstrated through the success of her students. It would be worthwhile to explore teacher goals from these different perspectives and to examine potential relationships between these goals, instructional practices, and student perceptions of the classroom goal structure.

As previously mentioned, exploring the relationship between teacher goals and instructional approaches may be particularly helpful in researching the classroom goal structure and how students perceive and respond to classroom cues and climate. Qualitative and observational studies would contribute to understanding this relationship, as well as the factors that are associated with the teaching goals adopted by pre-service teachers or by experienced teachers in their schools. These studies would lend a greater depth in analysis in exploring the messages that are more salient than others, and how teachers respond to those messages. Longitudinal studies would also shed light on the relative stability of teacher goals.

Finally, applying goal theory to shaping and designing teacher certification programs may prove worthwhile. In general, mastery approaches to instruction encourage students to engage in learning and demonstrate mastery orientations in learning. Further research could contribute to designing teacher certification programs to encourage pre-
service teachers to utilize mastery oriented instructional practices and endorse mastery goals in teaching.

The past few decades of research in achievement goal theory has yielded a wealth of findings regarding the motivational orientations of students and how aspects of the classroom may be related to student motivation and academic behaviors and achievement. Teachers are an integral part of the classroom, and it is highly likely that their beliefs, attitudes, goals, and instructional practices greatly influence the classroom climate and goal structure. Further research on teachers would contribute to not only understanding how student outcomes are associated with teacher goals and practices, but also how to potentially promote the most adaptive outcomes through interventions that target teachers’ goals and instructional practices.
LIST OF REFERENCES


BIOGRAPHICAL SKETCH

Evelyn Chiang was born in Bloomington, Indiana, and raised in Florida. She graduated from Stanton College Preparatory School in Jacksonville, Florida, in 1995. Evelyn attended New College in Sarasota, Florida, where she completed her Bachelor of Arts in general studies in 1999. In 2001, she was accepted into the educational psychology program in the Department of Educational Psychology at the University of Florida.