PREDICTING SUCCESS IN TEACHER CERTIFICATION TESTING: THE ROLE OF ACADEMIC HELP-SEEKING

BY

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Abstract

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This study was designed to identify the help-seeking behaviors of preservice teachers who are at risk for failure of state certification examinations through use of a scale adapted to the arena of teacher education. In the past, self-report measures of help-seeking behavior patterns were not designed to be used in teacher education. The participants were 50 preservice teachers drawn from a small private college in lower Manhattan of New York City. The college maintains an open enrollment policy, giving students from minority populations an opportunity to enter higher education. Many of these students were underprepared for college level work and had to take remedial liberal arts courses before they could enroll in education courses. The student body is predominantly minority group members who have mainly attended New York City Public Schools. The students who participated in the study were second semester freshmen, and first and second semester sophomores.

The help-seeking scale (White,2007) in the present research was adapted to provide a reliable and valid measure of students' use of this important self-regulatory strategy. This Preservice Teacher Help-Seeking Scales (PTHSS) was administered to preservice teachers who were preparing for the first of three state certification exams. In addition to reliability assessments, the validity of the scales was measured using three other instruments: (1) Instructor Help-Seeking Scale (IHSS), an adapted version of the help-seeking scales that is completed by

participants' instructors (2) an observational measure of help-seeking behavior in teacher education classroom contexts (DOHS), and (3) scores on the New York State teacher certification exam entitled the Liberal Arts and Sciences Test (LAST). None of these indices of validity were included in prior research by Pajares and his colleagues.

These results indicated the student questionnaire (PTHSS) demonstrated high levels of reliability and concurrent validity with an Instructor (IHSS) and an in-class observational measure (DOHS) of help-seeking. It also provided significant predictive validity in terms of scores on the LAST. Finally, the PTHSS also displayed construct validity in conjunction with the Instructor (IHSS). These results provide support for use of the scales by teacher educators to evaluate aspiring teachers' potential to pass the teacher certification exams. Once students with low PTHSS scores are identified, and their PTHSS profiles can be used to guide specialized training in help-seeking (Young, 2004).

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Last, I acknowledge my parents, who instilled in me a faith in things hoped for and not yet seen. They encouraged me to honor the One who has ordered my steps, been a lamp to my feet and lightened my pathways. So in this moment, I thank Him.

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Introduction

The decision about whether or not to seek help in an academic situation is complex. Seeking help when solving a difficult task will depend in part on metacognitive processes that develop over time. Help-seeking also depends on many cultural and interpersonal influences, such as beliefs about breeching social boundaries with members of a different group (Karabenick, 1998). This construct has invited a great deal of attention over the last twenty years, and research in this area has increased dramatically. It is now considered a prominent part of a students' academic experience which transcends all levels of development and learning (Newman, 2008).

Since 1981, researchers have attempted to identify the type of person most likely to seek help and the goals associated with requests for help. More can be gleaned by knowledge of the type of help sought by an individual that which be gained from only knowing that certain individuals seek help under certain conditions. Educators who work with diverse populations can benefit from knowing which students underutilize or overutilize help (Oberman, 2002). In recent years, numerous studies have demonstrated that help-seeking can be an effective strategy that self-regulated learners use to succeed in diverse areas of functioning. Help-seeking, when appropriately utilized, can enable students to obtain needed assistance from parents, peers, teachers (Zimmerman & Martinez-Pons, 1990; Schunk & Zimmerman, 1994).

Unfortunately, students who are in most need of assistance are often the least likely to seek it for a variety of reasons. This is especially true of college students aspiring to be teachers (Tellez, 1991), who often wait until it is too late to use available resources (Karabenick, 2004) to

pass state certification exams. When confronted with the reality of high stakes testing, these students often give up their dream to become teachers rather than admit their need for social support (Orlich & Gifford, 2006). Unfortunately, this decision has a significant impact on the number of minority teachers who enter the classroom. The following research attempts to identify help-seeking behaviors of preservice teachers who are at risk for failure of state certification exams through the use of a scale adapted to the arena of teacher education.

Minority Teacher Candidates

There is an acute need for minority teachers in inner city schools of America. Urban districts lose nearly one half of their newly hired teachers within the first five years (Darling-Hammond, L. (2000a). The student population is increasingly diverse (AACTE, 1999) and the public school teacher hiring pool remains predominantly White, non-Hispanic (84%). Research provides evidence of a significantly higher dropout of students of color who enter the teacher education pipeline than their White counterparts. Often, students of color who enter college with the desire to become teachers do not remain in the program, and many do not graduate from college (Vegas, et al. 2001; Cochran-Smith & Zeichner, 2005). Often, these students enter college without having mastered the basic academic skills which are required to pass the first state certification exam (Mitchell. et al. 2001).

Historically, the attrition rate among aspiring minority teachers due to failure on teacher certification tests of basic skills, has been heavy (Cochran-Smith & Zeichner, 2005; Mitchell et al, 2001). Many minority preservice teachers have significant deficiencies in arts and science skills which can be attributed to being underprepared (Vegas, et al., 2001; McCabe, 2000). Deficiencies in these areas can be remediated with appropriate instruction (Tobolowsky, Mamrick, & Cox, 2005; Ley & Young, 1997). As states implement tests for teacher

certification with increasingly higher cut-off scores, there is concern that the number of minorities actually entering the classroom as teachers will decline significantly (Cochran-Smith & Zeichner, 2004).

Testing for teacher licensure has become the gatekeeper for entry into the teaching profession. Teacher unions and colleges of education support licensure requirements that extend beyond the passing of college courses to obtain a teaching license (Stotko, Ingram, & Beaty-O'Ferrall, 2007). Discussions regarding how much support an educational institution should provide individuals who seek to enter the teaching field are predominantly focused on maintaining a diverse population of teachers (Gollnick & Mitchell, 2003). Those who have sought to provide minority preservice teachers with extra training to pass these "gateway" exams have offered workshops as a source of exam preparation training. Attendance at these workshops has led to improved scores on teacher certification exams. However, significant numbers of minority preservice teachers have not yet profited from workshop or alternative training, and their deficiencies have placed their planned careers at risk (Cochran-Smith & Zeichner, 2004).

Help-Seeking in Teacher Education and State Certification

Most states require three certification exams to be passed in order to obtain a teaching license. The proposed research study focuses on the first of the three, a test of basic skills. As of 2001-2002 teaching candidates in 37 of the 50 states (74%) were required to pass a test of basic skills to gain admission to a teacher education program. Of the 37 states, more than half use a test developed by Educational Testing Service (PRAXIS I), National Education Testing Service (LAST) or their own in-house developed test.

If preservice teachers do not pass the first in a series of state certification exams, their professional career could end before it ever began. In New York State, the Liberal Arts and

Science Test is the exam preservice teachers must take and pass before being admitted to an accredited teacher education program. This is a test that measures basic skills, material that should have been mastered during high school. In New York State, and nationally, there is a major difference in test scores among groups. For many reasons, minority candidates pass the test at a lower rate than their white peers (Mitchell et al., 2001; Cochran-Smith & Zeichner, 2005).

Many students appear to have the potential to pass the exams, but they fail because of poor preparation (Burke, 2005). To increase students' success on certification exams, many collegiate education departments have raised academic admission requirements, but this conservative approach often excludes minority students who are interested in a career in teaching. A decision to raise standards also threatens to exacerbate the already growing shortage of certified teachers, especially in low performing urban schools. By contrast, colleges that maintain open enrollment policies and permit nontraditional students to enter the system confront the problem of finding a way to help these students to pass state certification exams (Byrd, MacDonald, & Ginger, 2005). A particular problem among minority students could be an inability or an unwillingness to seek help from available resources when it is needed.

What can be done to increase the impact of these workshops on minority preservice teacher's performance on certification exams? There is evidence that many college students (Cheong, Pajares, & Oberman, 2005; Wolters, Pintrich & Karabenick, 1993) fail to seek help from faculty and other students in their preparation for important exams. Instead they rely on a self-reliant approach to exam preparation, which can lead to unfortunate results, especially for minority preservice teachers (Tellez, 1992). The proposed study assesses the help-seeking

behaviors of preservice teachers during first semester test preparation workshops designed to prepare them to pass a gateway professional certification examination.

Help-Seeking Definitions and Distinctions

Searches of the research literature on "help-seeking" have revealed that this construct has been used in diverse disciplines, such as, psychology, sociology, medicine, and education. Help-seeking has not always been defined as a proactive, social behavior intended to gain assistance from a knowledgeable individual in order to perform more effectively (Newman, 2007; Santor, Poulin, LeBlanc, & Kusumakar, 2007). Unfortunately, seeking help in educational contexts has often been viewed as a sign of dependence or cheating, and as a result, many of those learners who have sought help have often been denigrated and stigmatized (Nelson- LeGall, 1987; Karabenick, 1998).

Metacognitive views of problem solving (Atkinson, 1964) have emphasized the role of personal strategies and have given limited consideration to the importance of the social processes. However, with the ascendance of Vygotskian and social cognitive perspectives, researchers have sought to demonstrate a close connection between a children's cognitive development and their exposure to important social influences, such as coaching and direct instruction from an adult or more able peer (Newman, 1994). This recognition of help-seeking as a strategic resource has laid the groundwork for much subsequent research.

Nelson-Le Gall (1985) is widely credited with changing educators' perspective on help-seeking from an act which reflected immaturity, passivity, and incompetence to one of maturity, proactivity, and competence. Building on foundational research by DePaulo, Nadler, and Fisher (Nadler, 1983), Nelson-Le Gall focused on the students' goals for seeking assistance, rather than the act itself. She (Nelson-Le Gall, 1985) defined help-seeking as a general problem solving

strategy that allows learners to cope with academic difficulties by gaining the assistance of others. She drew a distinction between two forms of help-seeking, instrumental and executive, based on a person's goals.

Instrumental help-seeking (also referred to as adaptive help-seeking) requires students' to seek only as much assistance as is necessary to learn to complete the task successfully. This form of help-seeking has the advantage of increasing a student's learning, which can produce important benefits. By contrast, executive help-seeking (also referred to as nonadaptive help-seeking) involves a request for someone else to perform the task. The latter form of help-seeking seeks to enhance students' immediate performance but not their long term learning. Research has shown that students' instrumental help-seeking (along with its perceived benefits) is positively related to their academic motivation and achievement (Zimmerman & Martinez-Pons, 1986; 1990), whereas students' executive help-seeking (along with its avoidance of needed assistance) is negatively related to their academic motivation and achievement (Karabenick, 1998; Newman, 1998; Newman & Goldin, 1990).

Help-Seeking and Academic Performance

Students vary markedly in their help-seeking skills. Those who do not know how and when to access social resources in their environment often have difficulty in adapting to school successfully (Schunk & Zimmerman, 1997). Students representing all age groups would rather avoid asking for help than being perceived as incompetent, overly dependent, immature, or "dumb" (Ryan & Pintrich, 1997). These concerns may in part be attributable to Western cultural values with their emphasis on the importance of individual. According to this perspective, students' help-seeking conflicts with core values, such as competitiveness, self reliance, and independence (Nelson-Le Gall, 1985). Thus, students are likely to weigh the benefits of

successful goal attainment against the costs, such as receiving less personal credit for a successful outcome. If a person is thought to be skilled at a given task, he or she might view help-seeking as threatening to his or her reputation.

Assessment of Help-Seeking

Since 1981, researchers have attempted to discover the type of person most likely to seek instrumental help, to seek executive help, or to avoid help. Attention has also been given to what students perceive to be the benefits of seeking help (Oberman, 2002). According to Pajares, Cheong and Oberman (2004), there has been much inconsistency and unreliability in scales designed to assess academic help-seeking. To avoid these problems, Oberman (2002) constructed new and more reliable help-seeking scales to measure instrumental and executive help-seeking. He adapted scales already in the literature to measure avoidance of help-seeking and perceived benefits of help-seeking. Psychometric properties of the new scales were evaluated by Pajares, Cheong, & Oberman (2004) in a specific academic setting, the computer classroom.

Their scales, The Computer Science Help-Seeking Scales, involved four subscales: (a) instrumental help-seeking; (b) executive help-seeking; (c) perceived benefits of help-seeking; and (d) avoidance of help-seeking. Pajares and his colleagues conducted a study which tested the psychometric properties of the scales (Pajares, Cheong & Oberman, 2004). They analyzed the data for each scale individually and found that the psychometric properties of the scales were better than earlier help-seeking scales. Cronbach's alpha coefficients were high for each scale. Recently, Pajares (2004) suggested that these help-seeking scales can be modified for use in other academic settings beside microcomputer contexts.

Students' help-seeking has received considerable study at elementary, middle, high school, and college levels (Karabenick, 1998). However, there has been little investigation of help-seeking among aspiring teachers (Bembenutty, 2006). However, I (2007) have recently developed an adaptation of Pajares and colleagues' (2004) help-seeking scales for use in test preparation workshops with aspiring teachers, and I found that the adapted subscales were reliable according to Cronbach's alpha test (White, 2007).

Research Study

The present research sought to replicate the reliability of White's Preservice Teacher Help-Seeking Scales (PTHSS) when administered to preservice teachers who were preparing for the first of three state certification exams. In addition to reliability assessments, the validity of the scales was measured using three other instruments: (1) Instructor Help-Seeking Scales, an adapted version of the help-seeking scales that is completed by participants' instructors (2) an observational measure of help-seeking behavior in teacher education classroom contexts, and (3) scores on the New York State teacher certification exam entitled the Liberal Arts and Sciences Test (LAST). None of these validity measures were included in prior research by Pajares and his colleagues.

The PTHSS was found to be valid and reliable. It is suggested that the scales can be used by teacher education programs to evaluate aspiring teachers' potential to pass the teacher certification exams. Students with low PTHSS scores can be identified, and their PTHSS profiles can be used to provide specialized training in help-seeking (Young and Ley, 2004). The outcomes would be of both immediate and delayed importance. In terms of immediate outcomes, the study confirmed that preservice teachers with high help-seeking skills were more likely to learn how to pass the certification exams than preservice teachers with low help-seeking skills.

In terms of delayed outcomes, the study provided evidence of minority teachers who acquired advantageous help-seeking skills and consequently as teachers, could become successful role models for minority students attending inner city schools.

Research Questions

From the preceding discussion, several basic questions can be raised regarding the Preservice Teachers Help-Seeking Scales:

1. Will each of the PTHSS four subscales demonstrate acceptable levels of reliability?
2. Will each of the IHSS (Instructor Help-Seeking Scales) four subscales demonstrate acceptable levels of reliability?
3. Will direct observation (DOHSB) of preservice teachers' help-seeking behavior during the workshop yield an acceptable level of inter rater agreement?
4. Will the four scales of the PTHSS self-report measure predict student's LAST performance?
5. Will the four scales of the PTHSS self-report measure predict observed help seeking behavior?
6. Will preservice teachers' PTHSS scores correlate significantly with their college faculty ratings (IHSS) of their help-seeking?
7. Can the construct validity of the PTHSS be demonstrated through the correlations of its scales with the IHSS?

Chapter 2

Review of the Literature

In this chapter, I review research on the role of help-seeking as a self-regulated method of learning that can be employed in teacher preparation programs. This literature review is divided into five sections. The first section entitled *Viewing Help-Seeking from a Self-Regulation Perspective,* summarizes research on help-seeking and closely related self regulated learning processes. Help-seeking in social contexts is examined with some focus on studies conducted in the college setting. The second section, *Research on Help-Seeking Behavior,* defines and categorizes various forms of help-seeking. Distinctions in research by Nelson-LeGall are reviewed along with the various overlapping terms that represent the types of help-seeking behavior observed in academic settings. Students' motivation to seek help and their actual help-seeking and help avoidance practices are examined. This section also includes the reluctance to seek help amongst underprepared college students. The third section, entitled *Preservice Teachers Help-Seeking Practices* notes the lack of research in the field of teacher education, especially amongst minority candidates. The research provides a framework for linking preservice teachers' help-seeking patterns and failure to pass state certification examinations. The focus is on minority students who enter the teacher education pipeline and exit due to a lack of self-regulated learning skills. Section four, entitled *Teacher Education Accreditation and High Stakes Testing* focuses on how teacher education programs seek to meet state certification requirements and the impact that failure to pass a state exam can have on the student. This section will link performance on state certification exams with the shortage of minority teachers in urban settings. It includes an overview of state licensing requirements. Most important, this

section emphasizes the plight of minority preservice teachers who enter college lacking the basic skills their white counterparts master in high school. The need for early identification of preservice teachers who will take advantage of opportunities to prepare for the first state certification examination is discussed. Section five, entitled *Measures of Help-Seeking*, focuses on the need for a reliable scale to measure the help-seeking behaviors of preservice teachers. The reliability of a well-known help-seeking scale constructed by Karabenick and Knapp (1991) is compared to an adapted version of help-seeking scales created by Pajares, Cheong, & Oberman (2004). The benefits of context-specific scales to measure help-seeking and the results of a pilot study that I conducted (White, 2007) support this Pajares et al. Section six, entitled, *Research Justification, Proposal and Hypothesis*, provides justification for the proposed investigation along with hypotheses.

Section One: Viewing Help-Seeking from a Self-Regulation Perspective

This section begins with a definition of help-seeking as a self-regulatory strategy. A review of the conceptual framework of self-regulation describes the social dimensions of self-regulation and help-seeking. There is evidence that students can be instructed to regulate their social environment. The following subsection places help-seeking in the performance phase of Zimmerman's model, clearly identifying the behavior as a learning strategy used by successful students. Finally, the connection is made to underprepared college students who evince poor self-regulation, specifically using social resources effectively.

Help-Seeking: The Social Dimension of Self-Regulation

Help-seeking is a key social dimension of self-regulation. The importance of help-seeking has been recognized by diverse theorists, such as Vygotksian, social cognitive (Schunk & Zimmerman, 1997), and constructivist (Paris & Byrnes, 1989; Paris, Byrnes, & Paris, 2001).

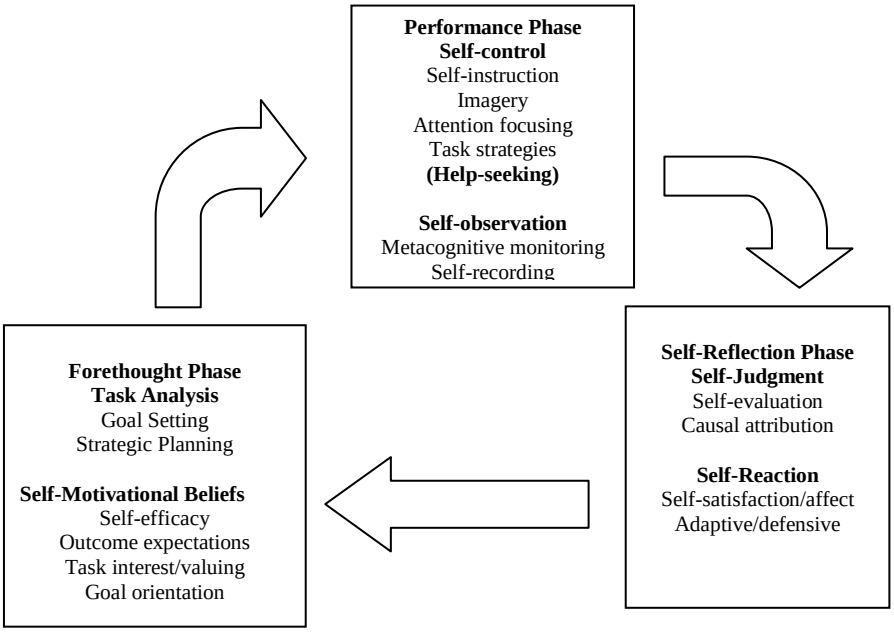
Although there are diverse theoretical perspectives regarding self-regulated learning (Zimmerman, & Schunk, 1989; 2001), most of them emphasize the use of a common set of processes to regulate their learning , such as goal setting, self-monitoring, and strategy use (Zimmerman, 1986). According to this process approach, self-regulation is neither a mental ability nor an academic performance skill, but rather, it refers to the self-directive process through which learners transform their mental abilities into task-related academic skills (Zimmerman, 2001). I now will address the question of how these common self-regulatory processes interact during actual performance, especially during help-seeking.

Historically, self regulation of academic learning and performance has been defined as self-generated thoughts, feelings, and actions that are oriented toward attaining educational goals (Zimmerman, 2000). This definition implies that self-regulation involves key metacognitive, motivational, and behavioral subprocesses, such as,; time management; attending to and concentrating on instruction; organizing, rehearsing, and coding information; establishing a productive work environment; and using social sources effectively (Zimmerman, 1989). Students' academic effectiveness depends on their use of these self regulatory processes and their motivational beliefs regarding the effectiveness of those processes.

Cyclical Phases of Self-Regulation and Help-Seeking

An essential feature of all self-regulatory approaches is a recursive feedback loop. This feedback loop provides the learner with information about his or her task performance that can be used to make adjustments (Schunk 2001; Zimmerman, 2000; Bandura, 1986). This cyclical process enables self-regulated students to metacognitively monitor the effectiveness of their learning strategies and make adaptive changes that lead to academic success (see Figure 1).

Figure 1: Zimmerman's Cyclical Model of Self-Regulation of Learning



Adapted to include help-seeking in the performance phase from "Phases and subprocesses of self-regulation. Motivating self-regulated problem solvers", by B. J. Zimmerman and M. Campillo, 2003, p. 239. In J. E. Davidson & R. J. Sternberg (Eds.), *The nature of problem solving*, New York: Cambridge University Press. Copyright by Cambridge University Press.

To better understand the interrelation of these self-regulatory processes, Zimmerman (2000, 2003) proposed a model involving three cyclical phases (see Figure 1), which includes help-seeking in the performance phase. Help-seeking was not viewed as a lack of self-regulation, but rather, as a social strategy for gaining needed assistance from an appropriate source (Newman, 2008; Zimmerman & Martinez Pons, 1986, 1988). According to Zimmerman (2001; 2008) self-regulated learning strategies are not limited to asocial forms of education, but can include social forms of learning, such as seeking guidance from peers, coaches, and teachers.

Dimensions of Self Regulation.

To understand the full scope of self-regulatory subprocesses and motivational beliefs Zimmerman (1994) has proposed a dimensional analysis based on key questions. As depicted in

Table 1, these questions are formulated to gain answers about *why, how, when, what, where,* and *with whom* to self-regulate. The conceptual framework serves three purposes: (1) it provides and analysis of research on academic self regulation identifying common terms and providing linkages to prior forms of learning; (2) it differentiates the task conditions necessary to regulate each component; and (3) it cross-relates and integrates academic findings developed from different theoretical models (Zimmerman, 1994).

Table 1

Dimensions of Academic Self-Regulation

Scientific Questions	Psychological Dimensions	Task Conditions	Self-Regulatory Attributes	Self-Regulatory Processes
1. Why	Motive	Choose to Participate	Self-motivated	Goal setting and self-efficacy
2. How	Method	Choose method	Planned or routinized	Task strategies, imagery, and self-instruction
3. When	Time	Choose time limits	Timely and efficiently	Time management
4. What	Behavior	Choose outcome behavior	Self-aware of performance	Self-monitoring, self-evaluation, self-consequences
5. Where	Physical Environment	Choose Setting	Environmentally sensitive and resourceful	Environmental structuring
6. With Whom	Social	Choose partner, model, or teacher	Socially sensitive and resourceful	Selective help-seeking

From "Dimensions of academic self-regulation: A conceptual framework for education" (p.8), by B.J. Zimmerman, in Self-Regulation of Learning and Performance: Issues and Educational Applications*, D. H. Schunk and B.J. Zimmerman (Eds.), 1994. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc. Copyright 1994 by Lawrence Erlbaum Associates, Inc. Adapted with permission.*

The *with whom* question concerns the social dimension of self-regulation. According the Newman (2008) the self decides when it is time for input from an outside source. This decision to act shows a willingness to depend on others. Socially self-regulated students find selective help-seeking to be a useful strategy when they encounter obstacles in their learning process (Zimmerman & Martinez-Pons, 1986). Students who are low in overall self-regulation are reluctant to ask for assistance. By contrast students who are high in self-regulation take the initiative to do school work without prompting and continue their efforts until a task is completed. When necessary, they will selectively and actively seek enough input to complete the task successfully. They show initiative and persistence on learning tasks, confidence and resourcefulness in overcoming problems, and, are self reactive to task performance outcomes (Zimmerman, 1994).

Self-Regulatory Strategies

More recently, research in self-regulated learning has identified strategies learners use to regulate their personal functioning, academic behavioral performance, and learning environment. Seeking social assistance is an environmental learning strategy (Zimmerman, 1989), which has been studied in a variety of social contexts, but has received almost no attention in the very important arena of teacher education.

Help-seeking stands out from the other self-regulatory strategies because the learner involves another person in the learning process. Students who do not adopt this role to advance their learning (a) persist unsuccessfully on their own, (b) give up prematurely, or (c) sit passively waiting for the instructor to come to them (Newman, 1998). By definition, help-seeking is a classroom social-interactional process that must be initiated by the learner. The “ideal” self-

regulated learner might appear to be self-sufficient to the casual observer; however, they actually regulate their cognitive activity through self-initiated interactions with teachers and classmates.

Help-seeking in Social Contexts

Sociocultural influences and self-regulatory processes become increasingly interdependent during the course of student's academic development (Zimmerman, 2004). At first, students depend on teachers and parents to initiate and structure their learning. As they acquire skill, they become increasingly able to enlist the help of "sociocultural" agents for feedback or assistance when at an impasse (Zimmerman, 2004). Within the poorest inner-city schools, there are examples of successful academic growth, a core of minority students who succeed in spite of limited resources. Their reported success is due to persistence, resourcefulness, and self-reliance. Amongst their self-regulatory practices is their preference to seek help from a teacher rather than copy a classmate's work (Wibrowski, 1992)

Better learners seek help readily, whereas poorer learners are less likely to ask for help (Aleven, McLaren, Roll, & Koedinger, 2004; Ryan et al, 1998). These findings have led to many studies of students' academic help-seeking in the social context of a traditional classroom and other learning environments. Seeking help is a social-interactive process which can expose learners to public scrutiny (Newman, 2000). Learners become increasingly aware of the price they could pay for seeking help as they enter middle school, high school, and college.

Students who feel threatened by adverse consequences of help-seeking report across educational settings are classified as executive help-seekers (Karabenick, 2003). Karabenick (2003) compared college students' help-seeking behavior to that of younger students. He measured strategic and non-strategic help-seeking behaviors in large college classes where

support services are not easily accessed. The results of his study showed similarities in help-seeking behaviors of learners from K-12 when compared to college students (Karabenick, 2003).

There are fundamental differences in K-12 and post-secondary educational environments that affect help-seeking. In a college setting help is not readily available from instructors. Students must be more motivated than their K-12 counterparts to seek help when confronted with academic difficulties. Karabenick (2003) conducted his study with students taking college chemistry. He recommends future studies should focus on subject areas such as social sciences or humanities to obtain results from other learning environments. Research in this area could help identify students who fail to use self-regulatory strategies such as help-seeking, and who are at a disadvantage in the college setting where support systems are not readily available. It cannot be assumed that just because a student is attending college his/her help-seeking behavior is appropriate.

College Students Evince Poor Self-Regulation

Many college students have difficulty balancing the social versus educational demands of the higher education experience (Zimmerman, Greenberg, & Weinstein, 1994). There is much interest in programs that facilitate students' transition into college. Recent survey date indicate that approximately 70% of American colleges and universities offer some type of first year supportive courses (Tobolowsky, Mamrick, & Cox, 2005). Although there are several different types of first year courses, it is understood that without the support many college students would become discouraged with their progress and drop out.

From a social cognitive perspective, Zimmerman and Schunk (1997) recommend that social learning experiences can be planned and organized by teachers and parents to accelerate children's self-regulatory development. Social cognitive learning theory suggests that learning

occurs through reciprocal interactions between personal, behavioral, and environmental factors (Schunk, 2001). These domains are linked in human performance so that change to any of the domains will naturally impact the other.

The inclusion of "at risk" college students in recent studies has provided evidence that self-regulated learning processes are significantly related to academic success for this population (Ley & Young, 1998). A distinguishing characteristic between "at risk" and regular admission college students is the way they plan, organize, monitor, evaluate and think about the learning process (Carr, Borkowski, & Maxwell, 1991). Young and Ley (2005) conducted a study of the self-regulatory strategies used by at risk students admitted to college. One of the least reported strategies reported was seeking information and assistance from teachers and peers. College students did report asking someone else how to complete work but did not necessarily ask their instructors or someone else with expertise. This form of help-seeking is not self-regulatory because the student relies on non-expert advice. This type of input can impede the learning process and interfere with goal attainment. This type of failure can lead to low self-esteem, immature attributional beliefs, and poor metacognitive knowledge, which are known characteristics of at risk students (Ley & Young, 1998; Carr, Borkowski, & Maxwell, 1991). To some degree, academic failure for these students may be explained by poor self-regulation (Young & Ley, 2003).

When learners are instructed in ways to regulate their social environment by seeking high quality sources, it is more likely that their motivation and behavior will improve (Paris & Paris, 2001; Zimmerman, Bonner, & Kovach, 1996; Zimmerman & Martinez Pons, 1990).

The results of a study conducted in a college setting with learners who have difficulties with self-regulation support the hypothesis that instructional interventions may enhance or

supplant existing capacities and skills. (McCombs, 1989). Researchers Young & Ley (2004) introduced self-regulation instructional support systematically designed for an introductory education course. The intervention embedded self-regulatory strategies into existing instructional class materials. The study focused on four self-regulatory processes, prepare, organize, monitor and evaluate (POME). It was found that students in the course with embedded self-regulatory instructional support earned higher scores than those in group that did not receive self-regulatory assistance.

Section Two: Research on Help-seeking Behavior

As previously stated, researchers agree, that under certain conditions, help-seeking can be a valuable self-regulative learning strategy. This section reviews literature specific to the help-seeking constructs defined by Sharon Nelson-LeGall (1981). Requests for help are considered to be adaptive if they are necessary. In contrast, requests for help that are considered unnecessary are nonadaptive. By seeking information an individual can resolve the immediate problem and in the process learn strategies for resolving future problems independently (Newman, 2008).

Help-seeking in Academic Settings

In 1981, Sharon Nelson-LeGall examined the available literature and concluded that help-seeking was an understudied capability of students. This gap led her to conduct a series of studies, and the results prompted her to challenge the widespread assumption that help-seeking was a form of dependency. Her research methodology and results attracted much interest, especially regarding young students' help-seeking behavior in classroom settings (Karabenick, 1998). In subsequent years, researchers have recommended that help-seeking could function as an intentional strategy employed by self-regulated learners to achieve in school (Zimmerman & Martinez-Pons, 1986; 1988). When conceived as a systematic strategy, help-seeking allows

learners to modify its form to fit variations in context. This can involve assistance from a variety of social sources, such as parents, peers, and teachers. It could also emerge from secondary social sources, such as, books or the internet images and texts (Azevedo, 2005; Zimmerman & Martinez-Pons, 1990; Schunk & Zimmerman, 1994).

Nelson-LeGall studied various types of help that students seek when they study (Nelson-LeGall, 1981, 1985). She found that successful learners were not children who never asked for help; rather, they were children who sought help only when it was needed, such as during difficult tasks. She concluded that seeking help is not antithetical to achievement (Nelson-LeGall, 1981; Arbreton, 1993) but rather can be a strategic source of success in a classroom.

Types of help-seeking. Nelson-LeGall (1985) examined the type of help that students requested, and she classified them into two basic categories: necessary vs. unnecessary. She discovered that when free to request help without restrictions, students will ask for both necessary and unnecessary forms. A key issue that separates these two forms of help-seeking is one's goal. When a student's goal is to acquire skills or master a task, the help-seeking is classified as *instrumental* because it leads to learning (Nelson-LeGall, 1985). In contrast, when a student's goal is to obtain information or to avoid looking "dumb," Nelson-LeGall classified this type of help as *executive* because it seeks compliance instead of learning. Instrumental and executive help-seeking have become the identifiable labels of help-seeking behavior, *instrumental* being the *necessary* form of help-seeking, and *executive* being *unnecessary* form of help-seeking. Nelson Le-Gall (1987) conducted a number of studies of students' tendencies to engage in necessary versus unnecessary help-seeking. The necessity of help-seeking classification was based on the learner's capability for attaining a successful solution to a problem when working independently (Nelson-Gall, 1981, 85; Nelson Le-Gall et al., 1983).

Nelson-LeGall (1985) recognized that there are forms of help-seeking that require greater personal responsibility, such as hints versus complete explanations. Hints require students to personally provide the missing information to solve the problem. This led Nelson-LeGall (1981, 1985, 1987) to describe instrumental help-seeking as a problem solving strategy that allows learners to cope with academic difficulties. The ability to obtain help from adults and peers is one of the most important skills students can develop to cope with difficult learning situations and to master needed skills (Nelson-Le Gall, 1985; Anderson & Messick, 1974; Murphy, 1962). A student's motives determine to a significant degree whether the act of help-seeking is a self-regulatory strategy or an act of dependence. The student's goal might be merely to complete a particular task rather then to learn how to solve similar tasks on one's own (Nelson-LeGall, 1985). By definition, "executives" delegate responsibilities to others with no intentions of becoming an expert themselves.

Cheong, Pajares and Oberman (2004) investigated both gender and ethnic differences in academic help-seeking behavior with high school students taking a computer science class. Regarding gender differences, they found that girls were more likely to seek instrumental help and perceived greater benefits of help-seeking than did boys. Regarding ethnic differences, they found that African American students were more likely to seek help than were White students or Asian American students, however, this difference did not reach statistical significance.

Karabenick and Knapp (1991) extended the understanding of help-seeking in the college learning environment. They conducted a series of studies in the college setting to measure tendencies to engage in a variety of help-seeking behavior. They challenged the assumption that instrumental help-seeking, rather than executive, dominates the college learning environment (Ames, 1983; Nelson-LeGall, 1983; Karabenick and Knapp, 1991). The results, when taken

together, provide evidence that successful learners are more likely to seek help when needed. More importantly, evidence from all three studies was found to be consistent with viewing help-seeking in an academic context as an achievement-related rather than a dependent behavior (Karabenick & Knapp, 1991). The scale developed by Karabenick and Knapp (1991) to measure help-seeking tendencies will be discussed later on in this chapter, and again in chapter three.

In support of the four subscale model, researchers have shown that student scores on the instrumental help-seeking subscale and on the perceived benefits subscale correlated positively with measures of students' academic motivation and achievement. By contrast, students' scores on the executive help-seeking and avoidance of help-seeking subscales were negatively correlated with students' academic motivation and achievement (Karabenick, 1998; Newman, 1998; Newman & Goldin, 1990; Zimmerman & Martinez-Pons, 1990).

Reluctance to seek help. Help-seeking has been described as an uncomfortable and embarrassing act that requires a degree of courage (Flynn & Lake, 2008; Shapiro, 1983). Researchers agree that despite the instrumentality of help-seeking the costs cannot be minimized (Karabenick & Knapp, 1991; DePaulo & Fisher, 1980). There is a significant amount of research regarding why students are reluctant to seek help, even when they know it is needed, and readily available (Newman & Schwager, 1992). Ryan and Pintrich (1997) investigated the role of motivation and attitudes in adolescents' help-seeking in math class. They concluded that students who were unsure of themselves, cognitively or socially, were more likely to feel threatened when asking their peers for help. Ryan, Gheen, and Midgley (1998) assessed the context of the classroom to investigate individual and classroom influences on adolescents' reported avoidance of help-seeking. They found students were able to improve help-seeking behaviors when their teachers provided socio-emotional nurturing.

Whether the "helper" is a computer, or a teacher, some students remain reluctant to seek necessary help. One of the greatest assets of computer-based interactive learning environments is the supply of help functions (Bartholome, Stahl, Pieschl, & Bromme, 2005). Instructional technology can be effective in supporting meta-cognitive skills by providing various forms of guidance, including specific hints, glossary functions, linked hypertext pages offering additional information, and feedback, (Aleven & Koedinger, 2002). Monitoring individual students' progress as they work through problems has revealed how this help is utilized. When used appropriately, cognitive tutors who provide hints have been effective in raising students' test scores (Aleven & Koedinger, 2000; Hammerton & Luckin, 2001; Newman, 1994; Salomon, Perkins & Globerson, 1992).

Poor help-seeking behavior in interactive learning environments has been shown to have a negative impact on students' achievement (Arroyo et al., 2004). Students often use help in ways that do not encourage learning. There is evidence of widespread help avoidance and help abuse (overuse of help) from students who need help the most (Aleven & Koedinger, 2000). Studies found 72% of the student actions represented unproductive help-seeking behavior, such as "hint abuse". This occurs when a student keeps asking for excessive hints to find the answers rather than using each hint to understand the problem and solve it independently (Aleven, McLaren, Roll, & Koedinger, 2004). Documenting students help use with cognitive tutors has contributed important information to the research on ineffective help-seeking (Aleven, McClaren & Koedinger, 2004). Identification of help-seeking patterns gives the instructor information that can be used to target a learner who needs to acquire adaptive help-seeking skills.

College Students: Help-seeking Practices and Motivation

College students weigh the benefits and costs of help-seeking based on past successes or failures. Reactions to requests for help determine whether or not students will seek help in the future (Karabenick, 2004). Experiences such as disappointment, poor performance, decreased self-esteem, and lower perceptions of competence (Oberman, 2002; Karabenick, 1991) can inhibit help-seeking. Early on college instructors can prompt help-seeking by establishing a facilitative climate in the classroom. On the other hand, teachers who are controlling and coercive can undermine students' efforts and motivation and diminish their sense of autonomy (Newman, 2008).

Dimensions of learning environments (task structure, authority, evaluation, and time) and teacher social support affect both student goals and help-seeking. Beliefs and interpretations of implicit classroom rules can affect individual achievement in many ways, such as their level of interest, persistence, task engagement, and task performance (Newman and Schwager, 1992). Learning environments which promote mastery goals and high self esteem are most likely to encourage adaptive help-seeking (Nadler, 1998). The nature of the learning environment, present and past, is a critical factor in forming individual help-seeking patterns that cannot be easily adapted.

Not all students arrive at college with the same prior experiences or knowledge. Learners with low prior knowledge, academic or strategic, are those who need help the most are the least effective in making use of it (Bartholome, Stahl, Pieschl, & Bromme, 2005). At times, even successful students require support to become masters of their own learning and self regulation (Lebow, 1993: Young & Ley, 2005). Evidence from a study with academically strong preservice teachers supports the benefits of instruction in self-regulated learning strategies such as cognitive skill instruction, effort reinforcement, and metacognitive skill use (Ley & Young, 1998; Schultz,

Lanehart, & White, 2000). There is little evidence revealing why certain students have not learned the skills required to be successful in college. The proposed research would measure the presence or lack of help-seeking as a strong contributor to academic failure in the college setting, specifically for preservice teachers.

Section Three: Preservice Teachers Help-seeking Practices

Help-seeking Among Teacher Candidates

Researchers have examined help-seeking behavior quite extensively among elementary, middle, and high school students. Although help-seeking has been studied to some extent among college students (Karabenick, 1998:2003), it has received relatively little investigation in the field of teacher education, especially as a self regulatory strategy to improve preservice teachers' academic functioning (Bembenutty, 2006). Because the literature in this area is sparse, further investigation of help-seeking as an adaptive strategy is needed, especially among at-risk populations of preservice teachers, such as minority group members. Research regarding the frequency of help-seeking by preservice teachers can uncover barriers to as well as benefits of help-seeking. Such information would be valuable for teacher education programs that seek to help students who may view help-seeking as a weakness. (Tellez, 1992). Preservice teachers are often faced with experiences in which proficiency in help-seeking could be valuable.

Tellez (1992) found that teachers' help-seeking is affected by a number of personal and situational variables, and as a result, their decision to seek help is not always an easy one. This research has relevance for teacher preparation programs. Preservice teachers must cope with stressful events, such a high stakes testing requirements (Caplan, 1974), and seeking help appropriately could mean the difference between success and failure. The failure of teacher candidates to pass state certification exams of basic skills is a neglected area of research. Special

consideration needs to be given to minority teacher candidates who enter the teacher education "pipeline" never to enter a classroom because they cannot pass state certification exams. Numerous programs to recruit teachers of color have emerged since the late 1980's, but, they often lack the quality and do not provide candidates with adequate preparation. Researchers who have studied ethnic and minority students' experiences confirm many of the have difficulty adjusting both academically and socially to predominantly White colleges and universities (Bennett, 2002; Bishop, Bauer & Becker, 1998). In an arena of high stakes testing, is it unlikely that a minority teacher candidate would expose his/her need for help for acquiring skills that should have been mastered at the high school level.

Preservice teachers often do not use effective learning strategies as students. This variance in self-regulatory strategy use distinguishes high from low performers (Randi, 2004). Not acquiring self-regulated learning skills could impact the way they as teachers will structure their future classrooms. (Randi, 2004; McClendon, 1996; White & Hargrove, 1996; Woolfolk Hoy, 1996). Research suggest that teacher education students might profit from explicit instruction in self-regulated learning strategies early, rather than later on in their teacher preparation program experience (Randi, 2004; Gordon, Dembo, & Hocevar, 2007). This would give them the opportunity to become self-regulated prior to entering the classroom as teachers. Although help-seeking is not specifically mentioned by the researchers, there is enough evidence that underutilization of this strategy will negatively impact performance.

Section Four: Teacher Education Accreditation and High Stakes Testing

Teacher preparation programs seek better ways to prepare preservice teachers to meet national academic standards (Ballou & Podgursky, 2000). In the early 1970's, a number of studies compared professional standards of teachers to those of other professions (Dreeben,

1970; Wall, 1972; Lortie, 1975). These studies found teaching to be less selective at entry, require less arduous coursework, and less lengthy preparation than other fields. The situation led some researchers to conclude that teaching needs to develop higher standards for acquiring and measuring expertise. As a result, teacher education programs have now come under increasing pressure to stay abreast of changing licensing requirements (Wise, 2005). Entrance to professions, such as teaching, is also affected by state licensure. Students must pass exams whose content is determined by state and national professional-standards boards.

In an attempt to establish a unified system of teacher education accreditation and to promote teaching as a profession, the U.S. Congress passed the law entitled the No Child Left Behind Act of 2001 (NCLB). The law is a blend of new requirements, incentives, and resources which poses enormous challenges to states and accrediting institutions. For example, in the area of teacher education, the law makes specific provisions pertaining to preparation, recruitment and retention of teachers. In most states, new public elementary school teachers have only one option for demonstrating their professional competence: a written examination (Coble & Azordegan, 2004).

High Stakes Testing in Teacher Education Program

Because of concerns about the quality of teaching (Darling-Hammond & Baratz-Snowden, 2007), there is a growing support to require preservice teachers to take and pass state level examinations in order to advance as a teacher candidate. As a result, high stakes testing has secured its place as a critical gate to teacher preparation. Wenglinsky (2000) found that preservice teachers who were trained in university teacher education programs outperformed preservice teachers who pursued alternative paths to certification. It is not the purpose of the

present research to challenge the need for high stakes testing but rather to consider ways to better prepare black and Latino preservice teachers to succeed on these teacher certification exams.

Teacher licensure is under the authority of individual states in America. States impose numerous and varied requirements on candidates for licensure that include; meeting education and teaching standards, passing required tests, and providing evidence of good character (Mitchell, Robinson, Plake, & Knowles (2001). There are states that control for the quality of teacher education candidates by specifying standards for admission to teacher education programs. New York State is among the thirty-five states that restrict entrance to advanced courses in accredited teacher education programs based on test results.

There is a significant relationship between federal funding and state certification of teachers. Under Title II, Section 207 of the Higher Education Act, each state is required to oversee teacher education programs which graduate certified teachers. The premier national accrediting body for all teacher education programs in the United States is a private institution, the National Council for Accreditation of Teacher Education (NCATE) (Ballou & Podgursky, 2000). In keeping with Title II standards, NCATE mandated that accredited institutions would produce teacher candidates who can pass the state certification exams at a minimum passing rate of 80%. This stringent standard has had an adverse impact on minority students becoming teachers.

Alternative path teacher education programs have sought to train minority students to pass the LAST as well as subsequent exams (Gollnick & Mitchell, 2003; Watras, 2006). Many colleges, including the City University of New York, have raised admissions requirements to ensure accreditation of their teacher candidates (Chiacchere, 2003) but these tests have led to the exclusion of minority group preservice teachers. Institutions that continue to admit vulnerable

students have sought new ways to maintain a diverse student body by helping students prepare to pass the required exams.

Important differences among racial and ethnic groups in the rates of success at each step along the path to teaching help explain why minority students are often unsuccessful on state certification exams of basic skills. Native American, Black, and Hispanic high school sophomores are less likely to obtain high school diplomas than are White or Asian American sophomores (Vegas, Murnane, & Willett, 2001). They are more likely to grow up in low-income families and attend low-quality schools than White youth. College entry rates for minorities are lower than Whites and Asian Americans. African Americans have a higher estimated probability of entering college than Hispanics or Native Americans.

A study was designed to find out why the number of minorities who state their intention to enter teacher education programs dissipates by 50% throughout the four to five year stint. Minority teacher candidates were asked to identify program features that have a positive effect on recruitment, retention, and graduation of minority students into the teaching profession (Gonzalez, 1997). Programs at six campuses were reviewed for commonalities. One of the most significant components was an extension of a support system to attenuate the culture shock experienced by many first generation college attendees. Gonzalez (1997) concluded a new type of project design is emerging from the standard structured remedial interventions usually offered to underprepared minority students. A more holistic view of minority students is needed to provide them with appropriate support. According to the sample of teacher candidates, an environment rich in nurturing and encouragement will attract and retain more minority students than one that only provides academic and financial support. This, of course, increases the cost of preparing teacher candidates. Early identification of those students who will take advantage of

the services offered, the instrumental help-seekers, could help relieve some of the financial burden.

As early as the sophomore year, an aspiring teacher can be denied access to a teacher education program based on whether he/she has failed the LAST, the first of the three state certification exams in New York State. This study focuses on a test of liberal arts and science skills (LAST), which must to be taken and passed prior to being admitted to advanced courses in a teacher education program. New York state regulations determine at what point students must pass various exams if they are to become state certified teachers. It is recommended that the LAST be taken and passed during the sophomore year. Two additional certification tests must be taken and passed prior to student teaching and graduation: The Elementary and Secondary Assessment of Teaching Skills–Written (ATS-W) and the Content Specialty Test (CST).

Impact of state exams on minority teacher shortage. In an unpublished 1990 report, *The Effects of Competency Testing on the Supply of Minority Teachers,* Farrell estimated that 38,000 minority candidates had been lost from the teaching profession annually because of their failure to pass state-mandated competency tests. Across the United States of America, researchers have reported lower scores for minority teacher candidates than for non-minority candidates (Epstein, 2005; Zirkel, 2000; Flippo and Riccards, 2000). The insufficient numbers of certified minority teachers pose a great threat to many areas of education, such as inner city schools. African-American, Hispanic, and Native American teachers are more likely to work in schools with minority populations and low-income families than their White counterparts. Consequently, a decrease in the numbers of teachers from these groups is likely to mean fewer strong role models for students living in low-income, low-performing schools (Bennett, 2002; Keller, 2007). In 2001 (U.S. Department of Education), thirteen percent of the teaching force was minority, while

minority children made up thirty-six percent of the population. Future projections are of a decreasing minority teaching force and an increasing student population.

A key problem facing the teacher workforce across America is how to attract, prepare, and retain teachers in high poverty urban schools (Boyd, Grossman, Lankford, Loeb, Michelli & Wyckoff, 2006). A primary place to seek minority teaching candidates is among those who already reside in a particular urban area and will effectively teach urban children (Haberman, 2000). However, in order to tap this pool of potential minority teachers, educators must take into account the learning experiences of these teacher candidates prior to college. These students require programs that address their personal as well as their academic needs. Many African American and Latino students are either first-generation college attendees or older students whose families have little or no prior experience with the demands of college. They are striving to be the first college graduates in their families (Gonzalez, 1997). Caldwell and Siwatu (2003) identify important areas of weakness that limit their success in college. Specifically, students who lack effective *help-seeking strategies* enter college with a disadvantage. Caldwell and Siwatu (2003) surveyed pre-college initiative programs that were successful in transitioning under prepared high school students to college. Along with their development of cognitive learning skills (Gordon, 1999), minority students need training in social learning skills to succeed in college environments.

Adaptive help-seeking is a proactive social learning process that could enable many minority students to succeed in teacher education programs. Karabenick and Knapp (1991) found that many students could indicate times when they needed assistance with college courses, but did not seek help that probably would have helped them overcome their difficulties. They would often use ineffective strategies such as giving up prematurely, waiting passively for someone to

offer an explanation, or persisting unsuccessfully on their own (Taplin, Yum, Jegede, Fan, & Chan, 2001). In order to encourage the development of effective help-seeking in preservice teachers, it is important to evaluate their help-seeking behavior early on in the program.

It is estimated that one third of the students who enter college and universities will be underprepared or lack the skills they need to be successful (Burd, 1996; Morrissey, 1994). In 1995, three fourths of the postsecondary institutions reported that incoming freshmen required at least one remedial or developmental reading, writing, or mathematics course. The issue is no longer whether or not to accept underprepared college applicants, but how to identify and assist them. Arguments which support "open admission" include maximizing educational opportunity to give students a chance to show what they can do (Gleazer, 1968). The various methods used to classify the incoming conditional students are not useful when addressing the problem of underpreparedness (Ley & Young, 1998). In the arena of teacher education assessing help-seeking behavior would be one way to identify students who are not likely to advantage of opportunities which would increase their likelihood of success.

Section Five: Measures of Help-seeking

Help-seeking Construct

The literature is dominated by four types of help-seeking constructs which have been represented in scales. They are instrumental help-seeking, executive help-seeking, and avoidance of help-seeking and perceived benefits of help-seeking. As previously noted, Nelson-LeGall's work identified necessary help-seeking as instrumental, and unnecessary help-seeking as executive. Since those distinctions were made, researchers have sought to determine the type of person most likely to seek instrumental or executive help, to avoid help, or be aware of the benefits of help. In addition to identifying the type of help sought, researchers have tried to

determine the source of help, peers or adults. These prior studies on academic help-seeking have had inconsistent results, one reason being that the scales used are problematic (Oberman, 2002; Cheong, Pajares & Oberman, 2004; Pajares, Cheong, & Oberman, 2004). Problems related to poor reliabilities are likely to prevent researchers from providing clear, consistent and valid findings (Pajares et al., 2004).

Problematic Scales.

There is a need for help-seeking scales with a stronger reliability and construct validity than those that have been used in the past (Oberman, 2002). In general, present scales evidence weak reliability indexes. Abreton (1993) reported an alpha coefficient of .69 for her instrumental help-seeking scale and .53 for executive help-seeking. Alpha coefficients ranging from .60 to .80 have been reported by researchers for avoidance of help-seeking scales and from .65 to .79 for perceived benefits of help-seeking scales (Karabenick & Knapp, 1991; Abreton, 1993; Ryan et al., 1997; Ryan et al, 1998; Ryan & Pintrich, 1997). The most widely used help-seeking scale with college students was developed by Karabenick (2003: 2004). Karabenick (2003) reported an alpha coefficient of .62 for his instrumental help-seeking scale, .78 for his executive help-seeking scale, and .77 for his help-seeking avoidance.

Pajares, Cheong, and Oberman (2004) identified several areas of weakness in present help-seeking scales. Prior scales that assessed academic help-seeking had led to inconsistent results. They considered one possible source of these problems was the low number of items, and another was the format of the items. Items that measure instrumental and executive help-seeking evidenced some conceptual weaknesses. Often, the items did not correspond with generally accepted definitions of the constructs calling into question construct validity (Pajares et al., 2004). For example, “Getting help would be one of the first things I would do if I were

having trouble in this class" is an item which purports to measure instrumental help-seeking. However, according to Pajares and colleagues, it is a better measurement of avoidance of help-seeking (reverse scored) than it is of instrumental help-seeking. Some items include suppositional phrases and require the student to respond to an "If" situation. Other items begin with "I would", and still others, "In this class". Only one item addresses instrumental help-seeking, and two items address executive help-seeking. Help-avoidance is assessed using three items. The scale has a total of twelve items; it is a short and more effective measurement of help-seeking behaviors than some others.

Fewer problems were found with items used to measure avoidance of help-seeking and perceived benefits of help-seeking. Low to moderate reliabilities (.60 to .80) suggested that restructuring of the wording and the addition of more items would help to eliminate some of the confounds.

To overcome these problems, Pajares, et al. constructed a self-report questionnaire having a larger number of items and a clearer format for responding to the items. This questionnaire, focused on the four forms of help-seeking identified by Nelson-Le Gall: instrumental help-seeking, executive help-seeking, perceived benefits of help-seeking, and avoidance of help-seeking. Pajares et al. assessed each of these constructs using a separate subscale. The researchers created items to assess instrumental help-seeking and executive help-seeking. Five questions assessed help-seeking directed towards a teacher and five items assessed help-seeking directed towards a peer. Some items were loosely adapted from scales already in use created by Abreton (1993) and Ryan and Pintrich (1997).

To create the scales to assess Avoidance of Help-Seeking Scales and Perceived Benefits of Help-Seeking, the researchers used/altered items from existing scales (Abreton, 1993;

Karabenick, 2001; Newman, 1990; Newman & Goldin, 1990; Newman & Schwager, 1993; Ryan & Pintrich, 1997). They created additional items which were not tapped by the existing scales (Pajares et al., 2004). This questionnaire was developed for use in computer learning contexts.

As seen in Table 2, each question is carefully phrased to clearly identify the type of help-seeking by using words and phrases which define the term itself. Also, the scales developed by Pajares, Cheong, and Oberman are not suppositional but draw the response from a real time event of help-seeking. The format of the questions makes a distinction between instrumental and executive help-seeking and does not confound it with the decision to seek help. When completing the scale, the student is focused on his/her help-seeking behavior rather than any conflicts that arise prior to making the decision to seek help. Sample items from both scales (Karabenick, 2003; Pajares et al., 2004) show the differences in question formatting and number of items for each construct being assessed.

Table 2

Comparison: Sample Help-Seeking Scale Items
Pajares, Cheong and Oberman (2004) and Karabenick (2001)

	Karabenick	Pajares
Scale Type		
# Items	2	10
Instrumental	If I were having trouble understanding the material in this class I would ask someone who could help me understand the general ideas.	When I ask my computer science teacher for help in this class, I prefer to be given hints or clues rather than the answer.
# Items	2	10
Executive	The purpose of asking somebody for help in this class would be to succeed without having to work as hard.	When I ask my computer science teacher for help in this class, I prefer the teacher do the work for me rather than explain to me how to do it.
# Items	3	9
Avoidance	If I didn't understand something in this class I would guess rather than ask someone for assistance.	I don't ask for help in this class even when the work is too hard to solve on my own.
# Items	0	7
Perceived Benefits		I like to ask questions in this class.

Pajares et al. (2004) developed scales with strong reliability. The psychometric properties of each scale were examined by factor and reliability analyses. Cronbach's alpha coefficients were strong for each scale (see Table 3). Pajares and colleagues noted that these

alpha coefficients were considerable stronger than those obtained during previous efforts to assess instrumental and executive help-seeking by Karabenick (2003) and others.

Table 3

Reliability of Adapted Help-seeking Subscales as compared to scales by Karabenick and Pajares (Cronbach's Alpha)

	Cronbach's alpha			
	Karabenick Scales Self-Report	Pajares Scales Self-Report	Adapted Scales: Self Report	Adapted Scales: Instructor Rating
Instrumental Help-seeking	.62	.89	.96	.99
Executive Help-seeking	.78	.92	.94	.98
Avoidance	.77	.86	.87	.98
Benefits	NA	.91	.93	.98

The help-seeking scale created by Karabenick (1991) has been used in many studies to assess the help-seeking behavior of college students, and specifically, preservice teachers (Bembenutty, 2006). Pajares et al. suggested the scales they developed could be adapted to other learning environments. An adaptation of these scales to the arena of teacher education could provide teacher educators with more reliable results when measuring the help-seeking behaviors of their struggling students.

Adaptation of Pajares et al. Help-seeking Scales

In an unpublished preliminary study, White (2007) adapted the help-seeking subscales developed by Pajares, Cheong, and Oberman (2004) for use during test preparation by preservice teachers in a college setting. These scales included: instrumental help-seeking, executive help-seeking, perceived benefits of help-seeking, and avoidance of help-seeking by preservice teachers. The reliability of the adapted scales was assessed using Cronbach's alpha. A comparison of the reliability coefficients of White's scales with those of Pajares et al. scales in Table 5 reveals a high degree of comparability.

Measuring Help-seeking by Direct Observation

Pajares and colleagues established the predictive validity of their scales in terms of students' scores on exams in a computer course (Cheong, Pajares, & Oberman, 2004). But, these researchers also recognized the need to compare the validity of their scales against direct observation of students' help-seeking (Oberman, 2002). The importance of direct observation has been emphasized by Zimmerman (2008) in a recent article. Observational measures of help-seeking behavior in real time and in authentic contexts will provide additional conclusions about validity of the subscales to be drawn.

When measuring help-seeking behavior in natural settings, Nelson-LeGall recommends using a variety of research methodologies. These would include (1) the collection of naturalistic observational data on the frequency, form, and function of help-seeking activity; (2) the collection of open-ended and semi-structured interview data of children regarding their knowledge of what is involved in seeking help and their perception of the opportunities for help-seeking in specific situations; and (3) the use of structured interviews and experimental

procedures to highlight the role of development in the various help-seeking skills (Nelson Le-Gall, 1983).

Nelson-Le Gall (1985) conducted a study of help-seeking behavior in an elementary classroom. She used naturalistic observations to answer basic questions about children's help-seeking behavior in the classroom, such as what the type of help is being sought (Nelson-LeGall & Glor-Scheib, 1985). She also coded students' help-seeking requests to differentiate requests for information according to their purpose: instrumental versus executive categories (i.e., for solving the problem versus explaining of "mechanical" necessities, such as how the paper should be folded).

Self-report Measures and Instructor Assessment

Self-report measures have their limitations even when students are assured that their responses will be confidential. Pajares et al. (2004) suggested it would be instructive to measure teacher ratings of students' help-seeking. These reports would either confirm students' reported perceptions or suggest a gap between students' beliefs and actions reported by teachers. If students are not accurately self-reporting their help-seeking preferences, teachers' ratings could help provide a better profile of an adaptive or nonadaptive help seeker.

For the proposed study data will be collected from three sources: a self-report measure, an instructor rating, and direct observation of each student within the context of the classroom.

Section Six: Research Justification, Design, and Hypotheses

Research Justification

It is not that students of color do not aspire to become teachers; it is that they are less likely to graduate from college than their White counterparts (Vegas et al., 2001). Teacher educators assume that students who are admitted to college should be able to pass an exam which

assesses basic language arts, math and science skills. This practice has led to a decline in the number of minority teacher candidates who actually graduate from certification programs and become teachers. Monitoring the progress of minority students who are encouraged to enter the teacher education "pipeline" would help detect the problems that cause them to drop out (Cochran-Smith & Zeichner, 2005)

Many minority students do well in their education courses. However, they lack the skills required to pass a state certification exam of basic academic skills. Failure to pass the exams can be attributed to poor academic preparedness in prior educational settings. Seeking help from appropriate sources is one way these students could improve their performance.

Teacher educators must find a way to predict which students will take advantage of opportunities to prepare for these exams. Studies of help-seeking behavior patterns have shown learners who seek as much help as is necessary to complete a task are successful, while, learners who simply want the answer are not. An accurate measure would provide information about help-seeking behavior patterns in preservice teachers.

Design

To date, one set of scales (Karabenick, 2003; Karabenick & Knapp, 1991) has dominated the literature to measure help-seeking behavior in the college setting. A more reliable measurement that has been pilot tested and yielded significant results, warrants further investigation. The research study presented in this paper used Preservice Teacher Help-Seeking Scales (White, 2007) to test the role of academic help-seeking during one semester of teacher training workshops for the state certification exams. In addition to the reliability assessments, the validity of White's (2007) scale was evaluated in predicting three alternative measures:

(1) observational measure of help-seeking behavior in teacher education classroom contexts, (2) adapted version of the help-seeking scale completed by participants' instructors, and (3) scores on the LAST. In addition, the construct validity of the Preservice Teachers Help-Seeking Scales (PTHSS) was demonstrated through correlations of its scales with the subscales of the Instructor Help-seeking Scales (IHSS). None of these measures was included in prior research by Pajares and his colleagues.

The observational measure of help-seeking behaviors provided real time evidence about whether the adapted help-seeking scale could accurately measure the help-seeking behaviors of preservice teachers. Reliability of the observational measures was ascertained using an index agreement between two or more observers as they code the actions of the same student. The instructor scales were designed to correspond to items in the self-report academic help-seeking scale that are observable to the students' instructor. The student's LAST scores were obtained from their collegiate records.

Hypotheses

Hypothesis 1: PTHSS will have acceptable internal consistency reliability ratings for each subscale.

Hypothesis 2: IHSS will have acceptable internal consistency reliability ratings for each subscale.

Hypothesis 3: DOHSB (Direct Observation of Help Seeking Behavior) will have an acceptable level of inter rater agreement.

Hypothesis 4: The four scales of the PTHSS self-report measure will predict significantly students' LAST performance.

Hypothesis 5: The four subscales of the PTHSS will predict significantly observed help seeking behavior.

. Hypothesis 6: The subscales of the PTHSS will correlate significantly with the identical subscales for the IHSS.

Hypothesis 7: The construct validity of the four subscales of the PTHSS will be demonstrated through correlations of its scales with the subscales of the IHSS.

Educational Implications

If the PTHSS is found to be valid and reliable teacher education programs can use students' academic help-seeking scores to evaluate their potential to pass the LAST. The study would confirm that preservice teachers with high help-seeking skills would be more likely to learn how to pass the certification exams than preservice teachers with low help-seeking skills. Students with low PTHSS scores can be identified, and their PTHSS profiles can be used to provide specialized training in help-seeking (Young, 2004).

The outcomes would be of both theoretical and applied importance. From a theoretical perspective, the study would demonstrate the importance of help-seeking to students' success in higher education. From an applied perspective, it is beneficial to the next generation of minority students to have access to teachers who could serve as professional role models.

Chapter 3

Methodology

Overview of the Study

The purpose of the study was to identify help-seeking behaviors of preservice teachers, who are at risk for failure of state certification examinations, through use of a scale adapted to the arena of teacher education. In the past, assessment of help-seeking behavior patterns has been problematic due to scales with low reliability (Pajares, Cheong, & Oberman, 2004). Students vary markedly in their help-seeking skills. The new scale (White, 2007) could provide investigators with a more reliable assessment of this important self-regulatory strategy in preservice teachers preparing to pass state certification exams.

Participants

A sample of 50 preservice teachers was studied. For the study this sample size was sufficient to detect a medium effect size with an alpha of .05 (Gall, Gall, & Borg, 2003). The participants were drawn from a small private college in lower Manhattan of New York City. The college maintains an open enrollment policy, giving students from minority populations an opportunity to enter higher education. Many of these students are underprepared for college level work and must take remedial courses before they can enroll in education courses. The student body is predominantly minority group members who mainly attended New York City Public Schools. The students who participated in the study were second semester freshmen, and first and second semester sophomores. Confidentiality was provided by giving each student an identification number.

The private college that the participants attend is an open enrollment institution, which uses three criteria: SAT (920 or greater), High School GPA (2.0 or greater), and school rank (top 50%) to evaluate each student for admission. For transfer students, full disclosure of performance in other postsecondary institutions is also required. Placement exams are required of students who do not meet the requirements. Their admission to the college is conditional upon participation in remedial courses. The demographics collected on the participants' reflect the diversity of the population. The demographic characteristics are gender, ethnicity, age, conditional status, transfer or traditional are depicted in Table 4 and coded in terms of percentages and frequencies.

Even though the participants are admitted to the college and have claimed an intention to major in education, they are not considered for admission to the education program until they have taken three general education courses, passed the first of three state exams (LAST) and maintained a cumulative GPA of 2.75. Admission to the college does not mean admission to the school of education.

Admission records revealed low levels in academic achievement. Thirty percent of the participants were admitted as conditional students and were enrolled in remedial math, reading, and/or writing courses (Table 4). Thirty-eight percent of the participants transferred from other institutions with an average transfer GPA of 2.7. Those who entered as traditional students had an average high school GPA of 2.4, and an average SAT score of 815.

Participants' ages ranged from 19 to 53. Forty-six per cent of the participants were between the ages of 19 and 21. Another thirty percent fell within the 22 – 27 age range, with the remaining twenty-four percent scattered between ages 28 to 53. Twenty-four percent of the group was male, and seventy-six percent was female.

In terms of their ethnic background, participants were classified into four groups: White Non-Hispanic, Black or African American, Hispanic or Latino, and Asian or Pacific Islander. The White Non-Hispanic group was the smallest group, at 4 %, followed by the Asian or Pacific Islander group at 6 %. The two largest groups of students, the Hispanic or Latino group (52%) and the Black or African American group (38%) accounted for 90% of the sample population. The data was analyzed and kept in a safe and secure location in my home office.

Table 4

Demographic Characteristics of the Participants

Demographics	*N*	%
Ethnicity		
African American	19	38
Hispanic	26	52
Asian	3	6
White	2	4
Age		
19-21	23	46
22-27	15	30
28-53	12	24
Gender		
Male	12	24
Female	38	76
Conditional	15	30
Transfer	18	38
Traditional	32	62

Teacher Certification Requirements.

Participants in the study were preservice teacher candidates who aspire to enroll in a New York State approved teacher education program regulated by the Commissioner of Education for the state of New York (Mitchell, et al., 2001). The participants were highly motivated to pass the LAST because if they do not pass the state exam they are excluded from the teacher education program and must choose a different major by the end of the sophomore year in college. At the time of the study the participants were enrolled in one of several required preparatory courses in education, such as educational psychology and social foundations of education.

Initial certification for teacher education is granted in significant part on the basis of passing scores on a minimum of three certification examinations. The first exam assesses basic skills, the Liberal Arts and Science Test (LAST). The teacher candidates must take the LAST by the end of the sophomore year and pass it. If they fail they cannot move on to the next level of preparation, methods courses. It is department policy to strongly encourage students to take and pass the New York State Liberal Arts and Sciences Test (LAST). There are many opportunities to prepare for the state certification exams. All education courses involve test preparation for the state exams, including in-class practice and feedback. Workshops are offered along with the established curriculum. They are scheduled three times per semester and are three hours in duration.

Instruments

Help-seeking was assessed by using four self-report scales, direct observation, and instructor evaluation. The Preservice Teachers Help-Seeking Scales (PTHSS) individually measured the four help-seeking behavior constructs identified by Nelson-LeGall (see Appendix

A). The scales are a series of self-report items that separately assess four help-seeking processes. The Direct Observation of Help-Seeking Behavior (DOHSB) measured targeted and identified real time help-seeking behavior according to the same constructs. An instructor rated the students' help-seeking behavior using an instructor version of the self-report scales (Instructor Help-Seeking Scales) completed by the students.

Preservice Teachers Help-Seeking Behaviors

Instrumental help-seeking. A ten item scale was used to measure instances in which the help requested is limited to only the amount and type that is needed to allow the student to solve the problem or attain the goal independently (Nelson-LeGall, 1981). Five items assessed help-seeking from an instructor and five items assessed help-seeking from a peer. (Sample instrumental instructor item: "When I ask instructors for help with something I don't understand (relating to my LAST preparation), I ask to have it explained to me rather than just give me the answer."; Sample instrumental peer item: "When I ask a peer for help understanding the material on the LAST, I prefer that my peer help me understand the general ideas rather than simply tell me the answer.").

Executive help-seeking. A ten item scale was used to measure instances in which the help requested is for an answer or have someone else solve the problem (Nelson-LeGall, 1981). Five items assessed executive help-seeking from an instructor and five items assess executive help-seeking from a peer. (Sample executive instructor item: "When I ask the instructor for help preparing for the LAST, I prefer the instructor do the work for me rather than explain to me how to do it."; Sample executive peer item: "When I ask a peer for help on something I don't understand, I prefer that student to just give me the answer rather than to explain it.").

Help-avoidance. Nine items were used to measure the individual's reluctance to seek help when needed (sample tem: "I don't ask for help in preparing for the LAST, even when the material is too hard to complete on my own.").

Perceived benefits of help-seeking. Seven items were used to measure whether or not the student has benefited from receiving help in the past. (Sample item: "I like to ask questions about my test preparation for the LAST.").

For all four scales, individual items are measured with an 8 point Likert Scale with 1 being the least like the student and 8 being the most like the student. A score is calculated for each scale's assessment of a type of help-seeking behavior. The properties of each scale are broken down in Table 5.

Table 5

Breakdown of Help-Seeking Scales in Constructs, Items and Possible Scores

Scale	HS Behavior	Number of Items	Possible Total Score	Lowest Score Possible
1	Instrumental	10 (5/Peer,5/Instructor)	80	8
2	Executive	10 (5/Peer, 5/Instructor)	80	8
3	Avoidance	9	72	9
4	Perceived benefits	7	56	7

When the scales are taken together they make-up *The Preservice Teachers Help- Seeking Scales, PTHSS (*see Appendix A*).* This measure was adapted by White (2007) from scales (Computer Science Help-Seeking Scales) developed by Pajares, Cheong, and Oberman (2004)

for use with students in computer learning contexts. These measures of help-seeking have been appropriately extended by keeping the language of each question intact with one exception, the substitution of “state certification exam” or “LAST preparation” for “computer class”.

Unique to the Pajares, et al. (2004) scale is the wording of each question. In order to insure that the decision to ask for help is required, each item is prefaced with the statement “When I am having difficulty . . .” or “When I ask a peer . . .” or “When I ask an instructor . . .” The psychometric properties of each original scale were examined by conducting factor and reliability analyses. Pajares and colleagues’ factor analyses revealed four latent structures underlying each of the four subscales. Furthermore, Cronbach’s alpha coefficients were strong for the scores of each scale. Instrumental Help-Seeking .89; Executive Help-Seeking .92; Avoidance of Help-Seeking .86; Benefits of Help-Seeking .91.

Direct Observation of Help-Seeking Behavior.

The observational measure of help-seeking behaviors (DOHSB) was used to provide real time evidence of actual help-seeking by preservice teachers. This instrument took into consideration the limitations of the human observer who can attend to only a small number of behaviors simultaneously (O’Malley, Moran, Haidet, Seidel, Schneider, Morgan, Kelly, & Richards, 2003). In order to reduce the complexity of the activity *systematic direct observation* was used to measure specific help-seeking behaviors (Hintze and Matthews, 2004). This method allowed for reliable and accurate measurements of specified behavior because the observer collected information as the behavior actually occurred. For this study, the advantages outweighed the disadvantages of collecting data in a classroom setting. The value of the data collected justified the time consumption that was necessary. Also, the presence of faculty and graduate assistants in the classroom has been a normal occurrence in this setting. A series of

questions framed the coding, scoring, and sequence of the observational measure which helped to insure accuracy amongst the observers. As anticipated, each question addressed a sequential step in the instrumental help-seeking process. The questions that guided the observers are listed below with objectives for each phase of the observation.

Question 1: Is help-seeking phrased in the form of a question?

Objective: In order for the observation to begin the participant must frame his/her request for help in the form of a question. Help-seeking research has focused on several types of informational questions: requests for explanations, hints, confirmations, and final answers noting some more appropriate than others (Good, Slavings, Harel, & Emerson, 1987). A student's request in the form of a question was noted as the beginning of the help-seeking process.

Question 2: Is the question relevant to the task at hand?

Objective: Relevance is task-specific. Nelson-LeGall's model includes in its definition of help-seeking both procedural and academic assistance. To be identified as relevant the help-seeking request had to be procedural (Are we required to do all the examples?) or academic (Does the Pythagorean Theorem apply to number five?). Any question about the task at hand was identified as relevant or not relevant. If the question was not relevant observation of the interaction was terminated.

Question 3: Does the help-seeker request an explanation of process (how to obtain a solution) from the helper and not an answer?

Objective: Once relevancy was established, the observer identified the goal of the help-seeking behavior, instrumental or executive. The question was evaluated based on Nelson-LeGall's definition of help-seeking which leads to independent problem solving (instrumental) or help-seeking which demands an answer without any explanation of the process (executive).

Question 4: Was the response acted upon an adaptive response?

Objective: The observer determined if the participant was able to recognize an adaptive response that could lead to the solving of the problem. At this point the participant would have enough information to proceed with the task.

Question 5: Adaptive follow-up – was the problem solved independently?

Objective: The observer determined if the participant was able to solve the problem independently using the information gained from asking for assistance.

Observers. Three raters (the researcher and two colleagues) who had been previously trained with systematic direct observation served as independent observers. Their training to participate in the pilot study (White, 2007) lasted for 1 hour and consisted of a review and practice with the study protocols. Inter rater agreement during the pilot study was found to be 100%. Analogue scenarios describing a variety of help-seeking behaviors were reviewed prior to the observation date of the current study. All three observers received IRB approval.

Randomized Observation. Prior to the date of observation, the participants were assigned randomly to the observers. A nonalphabetized class list was used to classify each participant as "1", "2", or "3". The rater was given the order of observations that matched his/her classification. The rater was able to identify each participant by seat number. There was joint coding of some participants in order to check for interobserver reliability. Interobserver reliability was assessed using Pearson product-moment correlations to assess interobserver consistency of data collected during direct observation sessions. Data collected on students common to each observer's list was compared to determine the degree of agreement.

Each participant was observed individually. Observers followed the guidelines for coding and scoring, which appear in Table 6. All three observers rated the behaviors of participants

while they were engaged in the LAST test preparation task. Participants were given a choice to work independently or seek help from any other members of the class.

Data collection. Data were collected when a targeted participant initiated a question. Once the question was identified as *instrumental help-seeking* the full turn of the interaction was scored. If the question was scored as *executive help-seeking*, the observer stopped recording and waited for the next interaction. Each observer was instructed to record as much of the dialogue as possible.

Table 6 provides the sequence, guidelines and keywords for a full turn of an observation. It was noted during the pilot study that each observer was able to collect data on each participant for a minimum of three full turns. We averaged the scores of three full turns of data collection to obtain a direct observation score.

Table 6

Direct Observation Help-Seeking Behavior: Observational Guidelines and Codes

1	**Question?** Code Q = question NQ = not a question O = Other	Is help-seeking phrased in the form of a question?
2	**Relevant?** 1=No 2=Yes	Is the question relevant to the task at hand?
3	**Instrumental (adaptive question)?** 1=No 2=Yes O = Other	Help-seeker requests an explanation of process (how to obtain a solution) from the helper, not an answer. The answer sought is substantitive or curricular in nature. Keywords – clue, hint, understand, demonstrate, and explain, process. As opposed to the non adaptive help seeker requesting an answer to a question or problem, without an accompanying explanation and the information sought in curricular in nature. Keyword – answer
4	**Instrumental Answer?** 1=No 2=Yes O = Other	An adaptive answer is a response to the question that provides information on how to solve the problem; it does not give the answer.
5	**Instrumental Follow-up?** 1=No 2=Yes O = Other	Adaptive follow-up – was the problem solved independently?

Note: Maximum possible score 8 = instrumental help-seeking
Lowest possible score 0 – executive help-seeking

Coding. Observers followed the coding and sequence listed in Table 5 which is detailed further in Appendix C. Once a statement was identified as a question, the observer determined whether or not the question was relevant to the task. The question was recorded on the DOHSB recording form (Appendix C). If the question was coded as relevant the observer awarded 2 points. If the response was not relevant, one point was awarded. Only when the question was relevant did the observer continue coding the observation.

After determining the relevance, the observer identified the help-seeking as instrumental (2 points) or executive (1 Point) or neither (0 points). The response was also coded as instrumental (2 points); executive (1 point) or neither (o points). The entire process was awarded more points for adaptive help-seeking than for nonadaptive help seeking. Students looking for a quick answer were given fewer points than students looking for hints which lead towards completing the problem independently.

The final step in the sequence coded what the student actually does with the "hint". If the assistance provides the student with enough information to complete the problem independently, 2 points were awarded. If the assistance was an answer, 1 point was awarded. If the observer was unsure, 0 points were be awarded. Total scores for the instrumental help-seeker should be higher than for the executive help-seeker. The observer kept a running record of each part of the sequence which was following the direct observation.

Task items for systematic direct observation. Ten LAST items were selected from test preparation materials published by National Evaluation Systems, Inc. (NES) the developers of the LAST and Cracking the NYSTCE published by the Princeton Review (Appendix E). These items have an average degree of difficulty, and, they demand prior knowledge of high school mathematics as well as problem solving skills. Math tasks were chosen because most students express significant concerns about the math portion of the LAST over the other sections. A survey conducted early in the semester revealed most of the students preferred training in math than any other subject matter area tested on the LAST.

Direct observation data was collected during one workshop which was three hours in duration. Prior research (White, 2007) conducted over an entire semester in several education classes provided similar results to the results collected in one day.

Instructor Help-Seeking Scales (IHSS) (see Appendix B). Cheong, Pajares and Oberman (2004) recommended the development of scales that could be completed by the students' academic instructor, who is in a favorable position to observe the occurrence of a student's help-seeking behavior. Following this recommendation, four scales were designed to correspond to items in the PTHSS. Adjustments were made to the IHSS during a pilot study (White, 2007) which was conducted by the present researcher. As a result of instructor feedback, items from the Pajares (2004) scales which were not directly observable by an instructor were eliminated (see Appendix B). These items were directly related to help-seeking behavior with peers and self-observations. The rating scales were adjusted so the items on the instructor scale would correspond better with items on the students' scale. Some of the self-report items on the student questionnaire were modified to correspond with behaviors actually observed within the interactive context of the instructor/student.

Instrumental help-seeking. The scale measuring instrumental (strategic help-seeking) has five items which measure help-seeking from an instructor only. The researcher adapted only the "instructor" related items and eliminated the items which measured help-seeking from peers. Correlations can be made by comparing scores of the items referring to seeking help from instructors with corresponding items from the PSHSS. (Sample instrumental help-seeking item: "When the student is struggling with LAST-related material he/she prefers to be given hints or clues rather than an answer from the instructor.").

Executive help-seeking. The scale measuring executive (non-strategic help-seeking) has five items which measure help-seeking from an instructor only. The researcher adapted only the "instructor" related items and eliminated the items which involved help-seeking from peers. Correlations can be made between the items referring to seeking help from instructors with

corresponding items from the PSHSS. (Sample executive help-seeking item: "When this student requests help regarding LAST material, he/she prefers that the instructor does the work rather than explain how to do it.").

Help avoidance. The scale measuring help avoidance has nine items adapted from the Pajares' scale. (Sample item: "He/She does not ask for help even when the work is too hard to solve independently.").

Perceived benefits of help-seeking. The perceived benefit of help-seeking scale has seven items. The adapted version made changes in the original phrasing so an instructor could rate the student appropriately. (Sample item: "This student benefits from seeking help with the difficult material covered from the LAST by showing improvement in performance.").

The adapted scale was administered to students as a self-report measure in the form of a questionnaire during a pilot study by the present researcher (White, 2007. The alpha reliability of the scales which make up the PTHSS and IHSS are presented in Table 7 along with Pajares et al. rating, and they are uniformly high

Table 7

Cronbach's Reliability for Pajares' Scales for Computer Science and Adapted Help-Seeking Scales for Preservice Teachers (PTHSS and IHSS)

Scales	Cronbach's alpha		
	Pajares: Help-Seeking Scales	White: Adapted Help-Seeking Scales	
	Computer Science	PTHSS	IHHS
	Self-Report	Self Report	Instructor Rating
Instrumental	.89	.96	.99
Executive	.92	.94	.98
Avoidance	.86	.87	.98
Benefits	.91	.93	.98

During the pilot study it was discovered that a more accurate rating could be given by an instructor who had actually been instructing the student in a course. With this in mind, instructors were selected who were familiar with a student's help-seeking behaviors. This was accomplished by making sure the instructor had the student in a class for at least half a term before filling out the questionnaire.

Liberal-Arts and Science Test scores. Practice tests published by The Princeton Review and Petersons were used since the students are less familiar with these test guides.

Exit Questionnaire. A questionnaire was developed to ascertain each participant's experience and attitudes towards help-seeking following participation in the workshop. The questions reported in Table 8 were posed to each participant individually by the researcher in a one-to-one setting. Responses to each question were categorized following the interviews.

Table 8

Exit Interview

#	Questions
1	Do you seek assistance independently when you are having difficulty with LAST related tasks?
2	Did you actually ask for help with the task?
3	Did the help give you a better understanding of the task?
4	Was asking for help a positive experience?

Note: Responses coded: 1 Yes, 2 No

Procedures

Phase 1: Direct observation. Early in the semester, data was collected by two faculty members and one doctoral student during an LAST test preparation session. They observed and coded individual students' help-seeking behaviors in accordance with the instrument provided (see Table 3). LAST practice tasks (mathematics) were selected from published test preparation guides (Appendix E). The tasks were presented by the class instructor in the following sequence:

1. Presentation of Task – Selected items from LAST Practice Test
2. Task instructions (specific to LAST practice)
3. Each student was informed that he/she was responsible for his/her task results and was required to turn in his/her work.
4. The students were informed they could choose to seek help from a partner or other class member during the task.

Phase 2: Student self-report help-seeking behavior. The PTHSS self-report measure was administered mid-semester two weeks after the direct observation. The questionnaire was

distributed and completed during a general education class. In the questionnaire, the student was required to rate their help-seeking behaviors. It took approximately thirty minutes to complete.

Phase 3: Instructor evaluation of help-seeking behavior. The instructor rating was distributed mid-semester to make sure each instructor had ample time to become familiar with the students help-seeking behavior.

Phase 4: LAST performance. Scores from initial LAST practice exams will be obtained from student records. As a matter of policy, students are asked to take a LAST practice test when they show interest in the teacher education program. Scores from the practice test provided evidence of how the student would perform on the actual state exam. It is this score that guides the amount of preparation the student will require in order to pass the LAST. The scores on each section of the LAST indicate areas of strengths and weakness. Records have been collected for the past two years for accreditation purposes. The score for final LAST practice exam is used to determine if the student is ready to officially sit for the LAST.

Phase 5: Exit Interview. An exit interview was conducted after the participants had been debriefed. Participants were asked to respond to questions regarding their attitudes and experiences with help-seeking as a self-regulatory strategy.

Statistical Analysis

Descriptive statistics were collected on all measures. The reliability of two measures of help-seeking (PTHSS and IHSS) was assessed using Cronbach's alpha for each subscale of the PTHSS and the IHSS. These analyses determined the acceptance of hypotheses 1 and 2. The reliability of the DOHSB was assessed using Pearson's correlation between three coders scoring of a protocol. This determined the acceptance of hypothesis 3.

The validity of the PTHSS was determined using multiple regression analyses. The first multiple regression analysis determined the predictive value of the four subscales of the PTHSS on predicting the students' LAST outcomes. A measure of each subscale determined how the four subscales work together or individually to predict performance on the LAST. This analysis determined the decision regarding hypothesis 4.

A second multiple regression analysis determined the predictive value of the four subscales of the PTHSS on the instructor's observations (DOHS) of preservice teachers' help-seeking behaviors. A measure of each subscale determined how the four subscales work together or individually to predict the type of help-seeking behavior observed by the instructor. This analysis determined the acceptance of hypothesis 5.

The content validity of four subscales which make up the PTHSS was indicated by their correlation with the corresponding items on the IHSS. Intercorrelations between the IHSS and the PTHSS at each level yielded significant correlations for the scales which assessed Instrumental, Executive and Help Avoidance. However, the self-reported Benefits subscale of the students' PTHSS did not correlate significantly with the instructor rating scale of the same construct. These analyses determined the acceptance of hypothesis 6.

The construct validity of four subscales which make up the PTHSS was indicated by their correlation with the corresponding items on the IHSS. Canonical correlations between the IHSS and the PTHSS at each level provided evidence of two significant canonical functions. These analyses determined the acceptance of hypothesis 7.

Chapter Four

Results

The results of the study are reported here for each of the hypotheses.

Hypothesis 1

This hypothesis stated that each subscale of the PTHSS would have acceptable internal consistency reliability ratings. The internal consistency reliability for each of the four subscales of the self-report measure of preservice teacher help seeking (PTHSS) was acceptable. As is evident in Table 9, Cronbach's alpha for the instrumental help-seeking scale was $\alpha = .88$, for the executive help-seeking scale was $\alpha = .81$, for the help avoidance and benefits of help-seeking scales were both $\alpha = .96$. Based on these data, hypothesis 1 was confirmed.

Table 9

Cronbach's Alpha Reliability Measures for the PTHSS: Self-Report Measure of Help-Seeking

Preservice Teachers Help-Seeking Scales	Individual Scales	Combined Scales (Total)
Instrumental Total		.88
Instrumental Instructor	.89	
Instrumental Peer	.87	
Executive Total		.81
Executive Instructor	.74	
Executive Peer	.88	
Help Avoidance-		.96
Benefits of HS		.96

Hypothesis 2

This hypothesis stated that each subscale of the Instructor Help Seeking Scale (IHSS) would have acceptable internal consistency reliability ratings. The internal consistency reliability for each of the four subscales of the Instructor Help Seeking Scale (IHSS) measure of preservice teacher help seeking (PTHSS) demonstrated high levels of reliability. Table 10 presents Cronbach's alpha coefficients for each subscale. The reliability coefficients for the instructor's rating of student's instrumental and executive help seeking were both $\alpha = .98$, indicating a high level of reliability. Help avoidance and benefits of help seeking reliability coefficients were respectively $\alpha = .99$ and $\alpha = .99$. Overall, the Cronbach's alpha for the IHSS was uniformly high, indicating that all four subscales were sufficiently reliable. Therefore, hypothesis 2 was confirmed.

Table 10

Reliability Measures for Instructor Help-Seeking Scale (IHSS)

Instructor Help-Seeking Scales (IHSS)	Cronbach's alpha
Instrumental Instructor	.98
Executive Instructor	.98
Help-Avoidance Instructor	.99
Benefits of Help-Seeking Instructor	.98

Hypothesis 3

This hypothesis stated the Direct Observation of Help-Seeking Behavior (DOHSB) scale would have an acceptable level of inter-rater agreement. Reliability of the observational measures among the three raters was calculated using Cohen's Kappa. Homogeneity was

established by measuring consensus as the number of agreements divided by the total number of observations. The raters were blinded regarding the expected outcomes and the group assignments of the participants. The index agreement between the three observers was calculated by comparing rater 1 to rater 2, then rater 2 to rater 3, and then rater 1 to 3. A Kappa of .70 or greater is considered acceptable inter-rater reliability in the context of the research being conducted. No discrepancy was found in the ratings of the three observers. Table 11 indicates a Kappa agreement of 1.00 ($p < .03$) for each of five cases. These results confirm hypothesis 3.

Table 11

Measure of Agreement for Direct Observation of Help-Seeking Behavior Measure using Cohen's Kappa.

Raters	Cases	Kappa Value	Significance
Judge 1*Judge 2	5	1.00*	.03
Judge 2*Judge 3	5	1.00*	.03
Judge 1*Judge 3	5	1.00*	.03

*$p < .05$ level

Hypothesis 4

This hypothesis stated the four scales of the PTHSS self-report measure would predict students' LAST performance significantly. Data was collected on forty-nine of the fifty participants. A regression analysis was performed to determine the combined predictive power of the four scales of the Preservice Teacher Help-Seeking Scales. The multiple regression model involving these four predictors was significant, $F (4, 48) = 3.73$, $p < .01$. The multiple correlation coefficient $R = .50$ indicated the four subscales of the PTHSS accounted for 19%

(adjusted R^2) of the variance in the LAST. These results confirmed hypothesis 4 that the combination of the students PTHSS subscales significantly predicted individual performance on the LAST.

To explore the relative predictive power of the four scales of help-seeking behavior further, I examined weights of the beta coefficient, which are presented in Table 12. The beta weight, or "standardized regressions coefficient" assesses slope, value and dispersion of variables or a "standardized" slope. The size and significance of the beta weights indicated which subscales were most important in the regression operation. The scale which measured Instrumental help-seeking of the PTHSS was the sole significant predictor of the LAST performance.

Table 12

Beta Coefficients of PTHSS for Predicting LAST Performance

PTHSS Variables	Beta Coefficients	Significance
Instrumental Help Seeking	.72**	.01
Executive Help Seeking	.20	.35
Help Avoidance	.16	.44
Benefits of Help Seeking	-.08	.65

**$p < .01$ level

Hypothesis 5

This hypothesis stated the four subscales of the PTHSS self-report measure would predict observed help-seeking behavior significantly. A regression analysis was performed to determine the combined predictive power of the four scales of the Preservice Teacher Help-Seeking Scales.

The multiple regression model involving these four predictors was significant, $F(4, 49) = 7.06$, $p < .00$. The multiple correlation coefficient $R = .62$ indicated the four subscales of the PTHSS accounted for 37% (adjusted R^2) of the variance in the DOHSB. These results confirmed hypothesis 5 that the combination of the students PTHSS subscales significantly predicted the observed help-seeking behavior.

To explore the relative predictive power of the four scales of help-seeking behavior further, I examined weights of the beta coefficient, which are presented in Table 13. The beta weight, or "standardized regressions coefficient" assesses slope, value and dispersion of variables or a "standardized" slope. The size and significance of the beta weights indicated which subscales were most important in the regression equation. The scale which measured Instrumental help-seeking of the PTHSS was the sole significant predictor of performance on the LAST. Clearly, the instrumental subscale was the most important predictor of overt help seeking behavior.

Table 13

Beta Coefficients of PTHSS for Predicting Direct Observation of Help-Seeking Behavior Measure

PTHSS Variables	Beta Coefficients	Significance
Instrumental Help Seeking	.47*	.02
Executive Help Seeking	.01	.94
Help Avoidance	-.05	.77
Benefits of Help Seeking	.21	.21

*$p < .01$ level

Hypothesis 6

This hypothesis stated the subscales of the PTHSS would correlate significantly with the identical subscales of the IHSS. To determine the strength of association between the PTHSS and the IHSS, simple, multiple, and canonical correlation analyses were performed.

Investigation of the contribution of each PTHSS subscale to each IHSS subscale was initially calculated using a zero-order correlation analysis among the four subscales. Intercorrelations between the IHSS and the PTHSS yielded significant correlations for three of the four scales. The correlation coefficients between the two scales are reported in Table 14. There were significant correlations between the scales that measured Instrumental help-seeking for the self-report measure (PTHSS) and instructor measure (IHSS) ($r = .47$, $p < .01$); Executive help-seeking for the self-report (PTHSS) and instructor measure (IHSS) ($r = .50$, $p < .01$); and, help Avoidance for the self-report measure (PTHSS) and instructor measure (IHSS) ($r = .41$, $p = .01$).

Table 14

Correlation Matrix of the Two Sets of Variables PTHSS (Self-Report) and IHSS (Instructor Rating)

	Instructor Instrumental	Instructor Executive	Instructor Avoidance	Instructor Benefits
Self-report Instrumental	.47**			
Self-report Executive		.50**		
Self-report Help-Avoidance			.41**	
Self-report Benefits Help				.05

**correlation is significant at p<0.01 level (2-tailed)

However, the self-reported Benefits subscale of the students' PTHSS did not correlate significantly with the instructor rating scale of the same construct. These results could have been due to differences in perceptions regarding the benefits of help-seeking between the instructors and the students and the targeted population. The original scale might be more appropriately worded for younger age groups and could be made suitable for an older population of learners. Further investigation of the content of the questions is warranted. In addition to analyzing each subscale as separate entities, another approach is to focus on the subscales of each help seeking scale (i.e., PTHSS and IHSS) as a group of measures.

Canonical Analysis

A canonical correlation analysis was used to identify any latent relations between groups of variables rather than the individual variables themselves, such as between the students' self-reported subscales (PTHSS) and the instructors' rating subscales (IHSS). The PTHSS ratings (Instrumental, Executive, Help Avoidance, Benefits) were designated as the *student set* of help seeking variables. The IHSS ratings (Instrumental, Executive, Help Avoidance, Benefits) were specified as the *instructor set* of help seeking variables. As a preliminary analysis, the student and instructor help seeking variables were examined to see if they met the basic distributional assumptions underlying multivariate analysis. Both scales produced data that passed the requisite statistical tests (Hair, Anderson, Tatum & Black, 1998).

The first part of a canonical correlation analysis involved a multivariate test for one or more latent roots. The overall significance of the multivariate canonical correlations can be measured using the F-statistic for the Wilk's Lambda, Pillai's trace and Hotelling's trace, as shown in table 15. All three tests point out that the overall canonical correlations are statistically significant, as is indicated by the F-statistics and their probabilities.

Table 15

Multivariate Canonical Tests of Significance: PTHSS and IHSS

Tests	Values	F-statistic	Probability
Wilk's lambda	.82	2.9**	0.01
Pillai's trace	1.3	3.3**	0.01
Hotelling's trace	.36	3.2**	0.01

p<.01

This means that there is at least one significant canonical correlation that exists between the instructor variables set and the student variables set. In order to determine how many significant canonical correlations there are between the instructor and student sets I examined the eigenvalues and the canonical correlations values. The results of the eigenvalues and the canonical correlations between the variates of the *instructor set* and the *student set* indicated the presence of two significant canonical roots. In a canonical correlation, an eigenvalue of .40 is considered excellent, .30 is considered good, those approaching zero are considered worthless (Hedderson & Fisher, 1993). Data pertaining to the eigenvalues and canonical correlations for four latent roots are presented in table 16.

Table 16

Eigenvalues and Canonical Correlations for Latent Roots.

Root Number.	Eigenvalue	Eigenvalue size	Canonical Correlation	Explained Variance
1	.85	65%	.68	46%
2	.30	23%	.48	23%
3	.16	12%	.37	14%
4	.01	1%	.04	1%

Note: Eigenvalues significance related to significance of Wilk's lambda (Ender, 1998).

Dimension reduction analysis. To test these findings for statistical significance, I conducted a dimension reduction analysis using Wilk's lambda. The object of this analysis was to determine the exact number and rank of significant canonical roots. The results indicated that the first and second roots are significant as evidenced by the F statistics in the third column of

Table 17, and their probability in the fourth column. These results provide further evidence of two latent relations between the self-report scales (PTHSS) and the instructor's scales (IHSS).

Table 17

Dimension Reduction Analysis: A Redundancy Index for Patterns of Correlations Amongst the Original Variables and Canonical Variates

Latent Roots	Wilk's Lambda	*F*-value	Significance of *F*
1	.36	3.19**	.01
2	.67	2.11*	.03
3	.86	1.70	.16
4	.99	.07	.80

**$p < .01$

* $p < .05$

According to Tables 16 and 17 the canonical correlation analysis yielded two significant canonical functions. The first canonical function ($R_{c1} = .68$) contributed approximately 46 percent ($R_{c1} = .68^2 = .46$) to the shared variance. This root was statistically significant, F (16) = 3.19, p.00; Wilk's lambda = .36. The second canonical function ($R_{c2} = .48$) contributed approximately 23 percent ($R_{c2} = .48^{2 =} .23$) to the shared variance. The second underlying root was statistically significant, F (16) = 2.11, p. = 03; Wilk's lambda = .67. All subsequent canonical functions were not significant ($p < .05$). The remaining two roots that emerged in this canonical correlation were much smaller in size. Therefore, the first two canonical roots accounted for the significant relations between the PTHSS set of scales and the IHSS set of scales and the two roots formed the basis of subsequent analyses.

Standardized coefficients and canonical correlations. A second part of a canonical correlation analysis assesses the relative roles of each subscale in predicting the latent root for help seeking. For each root, two key outcome measures were studied: canonical weights (standardized coefficients) and canonical correlations. The standardized canonical weights can be interpreted as regression weights. They indicate which subscales are weighted most heavily when predicting the underlying root. The larger the weight, the greater is the respective variable's predictive power. However, the negative or positive direction of canonical weights is not interpretable. The canonical correlations between observed variables and canonical functions are known as canonical loadings. Unlike weights, they show the simple direct relationship with the canonical scores while ignoring the correlation between other variables and the scores. Loadings greater than .30 are considered significant (Tabachnick & Fidell, 1989).

IHSS weights and correlations. The standardized canonical weights for the instructors' subscales of the IHSS are reported in Table 18. I examined the size of the standardized canonical weights for both significant roots using .30 as a minimum value (Lambert & Durand, 1975). Regarding the first root of the subscales of the instructor subscale (IHSS), three of the four subscales displayed substantial canonical weights for predicting the latent root for help-seeking. The most predictive instructor subscale was the Benefits subscale (1.40) followed by the Instrumental subscale (1.30). The Executive subscale of help seeking displayed the third highest predictive weight (.70). The Avoidance subscale weight was fourth in sequence, too small to be considered as a predictor (-.01). Regarding the second root, all four subscales displayed substantial canonical weights for predicting the latent root for help seeking. The two most predictive subscales were the Avoidance subscale (1.40) and the Benefits subscale (1.40). The

Instrumental subscale displayed the second highest predictive weight (.97). The Executive subscale was fourth in order of predictiveness (.62).

Table 18

Canonical Standardized Weights and Correlations with Canonical Variate for the Instructor Help-Seeking Scales and the Preservice Teacher Help-Seeking Scales (PTHSS) (N=50)

	Canonical correlations		Standardized canonical weights	
IHSS subscales	First root	Second root	First root	Second root
Instrumental	.46*	.52*	-1.30*	.97*
Executive	-.66*	-.13	-.70*	.62*
Help Avoidance	-.80*	-.05	-.01	1.40*
Help Benefits	.82*	.43*	1.40*	1.40*

*Loadings with the effect sizes larger that 0.3 (Lambert & Durand, 1975)

In contrast to canonical weights, the canonical correlations represent the relations between each instructor subscale of the IHSS and the canonical root. The contribution of the underlying variables in the instructor and student sets to the two underlying roots can be measured by these canonical roots also known as canonical loadings.

From the Instructor point of view the canonical correlations indicate all of the scales could be considered predictors of the latent root. Table 18 reveals that specific to Root 1 the highest correlation with the latent roots for help seeking involved the instructors' ratings of their

students' perception of the benefits of help seeking followed by their students' avoidance of help seeking. The Executive subscale was third in size and the Instrumental help-seeking scale was fourth in size. As expected, the Instrumental subscale and the Benefit subscale displayed positive canonical correlation with the latent root, and the Executive and the Avoidance scales correlated negatively with the underlying root. How instructors assess positive and negative help seeking behaviors of preservice teachers and their relation to how preservice teachers self-report the same behaviors contributed to the predictive value of Root 1.

Specific to Root 2, the highest correlation with the latent root for help seeking involved the instructors' ratings of their students' adaptive help seeking behaviors. Instrumental help-seeking (.52) and student's perceptions the benefits of help seeking (.43) are considered to be adaptive (self-regulatory) forms of help-seeking (Newman, 2008). Both loadings are considered significant for predicting the latent root according to Lambert and Durand's (1975) criteria. The remaining two predictors Executive subscale (-.13) and the Avoidance scale (-.05) were respectively third and fourth in size and nonsignificant.

As expected, the Instrumental help seeking subscale and the Benefit subscale displayed positive canonical correlation with the latent root, and the Executive and the Avoidance scales correlated negatively with the underlying root. The evaluation of a second root (Root 2) provided additional support for the positive loadings of adaptive help-seeking behaviors and negative loadings of nonadaptive help-seeking behaviors (as indicated by the canonical correlations Root 1). It also provided further evidence of the strength of the scale which measures instrumental help-seeking.

PTHSS weights and correlations. The standardized canonical weights for students' PTHSS subscales are presented in Table 19. Three subscales displayed sizeable canonical

weights for predicting the latent root, according to Lambert and Durand's (1975) criteria. Regarding the first root of the subscales of the self-report scales (PTHSS), three of the four subscales displayed substantial canonical weights for predicting the latent root of help seeking. The Executive subscale (.63), followed by the Avoidance subscale (.60) and in turn the Benefits subscale (.59) reported similar canonical weights for predicting the latent help seeking root for the *student set*. The Instrumental subscale did not display a significant canonical weight (.07).

Regarding the second root, three of the four subscales displayed substantial canonical weights for predicting the latent root of help-seeking. The most predictive of the three was the Instrumental subscale (1.6), followed by the Avoidance subscale (.74), and in turn, the Executive subscale (.65). The Benefits subscale (-.18) was fourth in the sequence, below the minimum value (.30) for identifying roots.

Table 19

Canonical Standardized Weights and Correlations with Canonical Variate for the Instructor Help-Seeking Scales and the Preservice Teacher Help-Seeking Scales (PTHSS) (N=50)

	Canonical Correlations		Standardized canonical weights	
PTHSS Subscales	First root	Second root	First root	Second root
Instrumental	.65*	.55*	.07	1.60*
Executive	-.90*	-.08	-.63*	.65*
Help Avoidance	-.60*	.24	-.60*	.74*
Help Benefits	-.07	-.09	-.59*	-.18

*Loadings with the effect sizes larger that 0.3 (Lambert & Durand, 1975)

The canonical correlations represent the relations between each subscale of the PTHSS (self-report scales) and the canonical root. The contributions of the underlying variables in the instructor and student sets to each of the underlying roots were measured by their canonical loadings. There are some factors which emerge more clearly from the student's point of view than from the instructor. Table 19 reveals that specific to Root 1, the highest correlation with the latent roots for help seeking involved the students' nonadaptive help seeking when self-reported using the Executive subscale (-.90) followed by the Instrumental (.65) and the Avoidance subscale (-.60). The Benefits subscale did not correlate significantly with the underlying root (-.07). As expected, the Executive and the Avoidance subscales displayed negative canonical correlation with the latent root and the Instrumental subscale correlated positively with the underlying root. These results suggest the underlying root could be an indicator of adaptive help-seeking.

Specific to Root 2 the strongest correlation with the latent root for help-seeking involved student's assessment of their adaptive help seeking behavior. The Instrumental subscale (.55) was the only one of the four subscales that correlated significantly with Root 2. The Avoidance subscale (.24), Benefits subscale (-.09), and the Executive subscale (-.08) did not correlate significantly with Root 2.

In summary, these findings provide evidence of two significant canonical functions (R_{c1} = .68, R_{c2} = .48) between the subscales for the instructor scale (IHSS) and the student scale (PTHSS). The subscales predicted as expected with the exception of the Benefits subscale. From the student's point of view, perceived benefits derived from help-seeking experience are not a strong predictor of help seeking behavior. From the instructor point of view, benefits derived from help-seeking experience were a strong predictor of help-seeking behavior. As expected, or

both scales, adapted measures correlated negatively with non adaptive measures. These results provide support for hypothesis 6.

Clearly, the instructor and student help seeking scales measured two significant common roots. What emerged from these results is evidence of two underlying factors which measure help-seeking behavior common to both scales. From the instructor point of view, all subscales were predictive of help-seeking behavior, specifically adaptive help seeking. From the student point of view, subscales which measure adaptive help-seeking are stronger predictors than scales which measure nonadaptive help seeking. In creating the underlying latent roots, the two most important subscales were Instrumental and Benefits. These results correspond with the consistent significant findings throughout this research study that single out the Instrumental subscale as a reliable measure of help-seeking.

Hypothesis 7

This hypothesis tested whether the construct validity of the four subscales of the PTHSS could be determined through correlations of its scales with the subscales of the IHSS. The canonical correlations provided clear evidence of construct validity of the PTHSS and the IHSS. Two underlying factors measured help-seeking behavior common to both scales (see Table 18). These results provide support for hypothesis 7.

Exit Interview

An exit interview was conducted, along with a debriefing for the participants in the study. A short questionnaire of five items was developed by the researcher. Specific areas that were explored in the interviews were the students' overall impressions of the experience in the workshop and attitude changes towards help-seeking. Responses to the four questions were categorized as "yes" and "no". Question one addressed help-seeking practices prior to

participation in the workshop. Responses to this question indicated 20 per cent of the participants were not disposed to seeking help regarding LAST preparation. Questions 2-4 focused on overall impressions of the workshop experience and attitude towards help seeking. The results are reported in Table 20. These results indicated a high percentage of students in the study sought help and experienced a positive benefit from the self-regulatory process.

Table 20

Responses to Exit Questionnaire in Percentages

	Percent	
Question 1-4	Yes	No
1. Do you seek assistance independently when you are having difficulty with LAST related tasks?	80	20
2. Did you actually ask for help with this task?	84	16
3. Did the help give you a better understanding of the task?	84	16
4. Was asking for help a positive experience?	82	18

N = 50

Chapter Five

Discussion

This study was designed to identify help-seeking behaviors of preservice teachers, who are at risk for failure of state certification examinations. In the past, assessment of help-seeking behavior patterns has been problematic due to the use of questionnaires with low reliability. Help-seeking scales (White, 2007) that were adapted from those constructed by Pajares, Cheong, and Oberman (2004) to provide teacher educators with a more reliable and valid measure of this important self-regulatory strategy. The results indicated the student questionnaire (PTHSS) demonstrated reliability and concurrent validity with an Instructor questionnaire (IHSS) and an in-class observational measure (DOHS) of help-seeking.

Specifically, the scales were used to assess help-seeking in preservice teachers preparing to pass state certification exams. Predicting which students are at risk for failure involves more than knowing whether or not they have the basic skills to pass the exam. Whether or not a student will seek help strategically when studying can be critical to his/her development as a teacher candidate. The present research focused on minority teacher candidates. Historically, the attrition rate among aspiring minority teachers due to failure on teacher certification tests of basic skills has been heavy (Cochran-Smith & Zeichner, 2005; Mitchell et al, 2001). Many minority preservice teachers have significant deficiencies in arts and science which can be attributed to being underprepared (Vegas, et al., 2001; McCabe, 2000). Often minority students who enter the teacher education pipeline drop out because they are underprepared for college level work and fail to seek help from faculty and other students in their preparation for important

exams. Instead they rely on a self-reliant approach to exam preparation, which can lead to unfortunate results (Tellez, 1992).

The three measures used in this study (PTHSS, IHSS, and DOHS) identified which students were in most need of assistance and the least likely to seek it. When confronted with the passing or failing the initial teacher certification exam (New York State LAST), these aspiring teachers would be the ones who wait until it is too late to use available resources (Tellez, 1991; Karabenick, 2004). These students often give up their dream to become teachers rather than admit their need for academic support using social resources (Orlich & Gifford, 2006). Unfortunately, this decision has a significant impact on the number of minority teachers who enter the classroom. It also can negatively impact the growth and development of teacher education programs who admit vulnerable students.

Hypotheses

Hypothesis 1

The first hypothesis tested whether each subscale of the Preservice Teacher Help-Seeking Scales (PTHSS) that I adapted for use in preservice education courses would have acceptable internal consistency reliability ratings. These results supported this hypothesis. The internal consistency reliability (Cronbach's alpha) for each of the four subscales of the self-report measure of preservice teacher help seeking (PTHSS) was acceptable. The alpha coefficients for the PTHSS were .88 for instrumental help-seeking, .81 for executive help-seeking and .96 for help-seeking avoidance and .96 for benefits of help-seeking scales. The most widely used *general* help-seeking scale for college students was developed by Karabenick (1991; 2003). His scale measures executive, instrumental, avoidance, threats to seeking help, and target choice. He (Karabenick, 2003) reported lower alpha coefficients for his self-report measures of instrumental

help-seeking (.62), .executive help-seeking (.78) and help-seeking avoidance (.77) than the PTHSS. Karabenick's subscales do not measure benefits of help-seeking.

Hypothesis 2

The second hypothesis stated that each subscale of the instructor scales (IHSS) would have acceptable internal consistency reliability ratings. Cheong, Pajares and Oberman (2004) recommended that their self-report measure of help-seeking should be validated by comparison with ratings by the students' academic instructor, who is in a favorable position to observe the occurrence of students' help-seeking behavior. Following this recommendation, I designed an instructor rating scale (IHSS) to correspond to items in the PTHSS. Adjustments were made to the IHSS during my pilot study (White, 2007). The internal consistency reliability for each of the four subscales of the Instructor Help Seeking Scale (IHSS) measure of preservice teacher help seeking (PTHSS) was uniformly high (Instrumental α = .99, Executive, Avoidance and Benefits α = .98) , indicating high levels of reliability for each subscale. These results supported hypothesis 2.

The IHSS subscales provided valuable information regarding individual student's help-seeking behavior not evident from the self-report measure. Self-report measures have their limitations even when students are assured that their responses will be confidential. For example, students often prefer to give socially desirable answers rather than admit to experiencing problems. These results support Pajares et al. (2004) recommendation that it would be instructive to compare students' and teachers' teacher ratings of students' help-seeking.

Hypothesis 3

The third hypothesis stated the Direct Observation of Help-Seeking Behavior (DOHSB) scale would have an acceptable level of inter-rater agreement. Inter-rater (observer) agreement is

usually defined as consistency among observers when they are simultaneously coding the same classroom events. When two or more trained observers make independent observations the level of inter-observer reliability can be determined. Finding three qualified observers who were verbally fluent and motivated to do a good job was critical to collecting reliable data for this study. Each observer received IRB approval and participated in training and practice prior to the actual data collection. Their preparation for the direct observation of help-seeking behavior in a college setting was enhanced due to the fact they were college level instructors. Random assignment of observation targets to observers included making sure each recorder observed each individual at least once. The inter- rater agreement for this study was high with a Kappa coefficient of agreement of 1.00 ($p < .03$). These results confirmed hypothesis 3.

Hypothesis 4

The fourth hypothesis tested whether the four scales of the PTHSS self-report measure would predict students' LAST practice test performance significantly. The results indicated the PTHSS is a significant predictor of performance on state certification exams R=.50 The regression weights for the individual subscales revealed that the Instrumental subscale was the best and only significant predictor of LAST performance. These findings confirm hypothesis 4. These results may imply that teachers may administer only the instrumental subscale if prediction of the LAST is the sole purpose of using the scale.

High levels of instrumental help-seeking indicate that students readily seek out resources which will help them with their exam preparation, such as workshops, tutoring, or other types of LAST support. Teacher education programs, such as the one where the study was conducted, have sought to provide minority preservice teachers with extra training to pass these "gateway" exams. Workshops are offered as a source of exam preparation training. Students who attend

workshops have reported improved scores on teacher certification exams (Cochran-Smith & Zeichner, 2004). However, significant numbers of minority preservice teachers have not sought help from workshop or alternative training, and this decision has placed their planned careers at risk (Mitchell, et al., 2001).

Preservice teachers should be highly motivated to pass the LAST because, if they do not pass the state exam they are excluded from the teacher education program and must choose a different major by the end of the sophomore year in college. Unfortunately, students who are in most need of assistance are often the least likely to seek appropriate help for a variety of reasons. This is especially true of college students aspiring to be teachers (Tellez, 1991), who often wait until it is too late to use available resources (Karabenick, 2004) to pass state certification exams. When confronted with the reality of high stakes testing, these students often give up their dream of becoming teachers rather than admit their need for academic support using social resources (Orlich & Gifford, 2006). Unfortunately, this decision has a significant impact on the number of minority teachers who enter the classroom.

Often, students of color who enter college with the desire to become teachers do not remain in the program, and many do not graduate from college (Vegas, et al. 2001; Cochran-Smith & Zeichner, 2005). These students enter college without having mastered the basic academic skills which are required to pass the first state certification exam (Mitchell, et. al., 2001). Deficiencies in these areas can be remediated with appropriate instruction (Sims, 2006; Tobolowsky, Mamrick, & Cox, 2005; Ley & Young, 1997). Early assessment of help-seeking behaviors can help teacher educators identify those students who are not likely to pass the LAST because of their help-seeking behavior. Once identified, appropriate intervention measure can be used to encourage the nonadaptive students to participate in exam preparation activities.

Hypothesis 5

The fifth hypothesis tested whether the four subscales of the PTHSS self-report measure would significantly predict overt help-seeking in classroom settings. Zimmerman and Martinez-Pons (1988) recommended using direct observations of students during academic functioning and ratings by other observers of students (e.g., parents or peers) as additional measures of student self-regulatory strategy use.

Of the two primary methods used to assess student engagement, direct observation and student self-report, direct observation is preferable (O'Malley, Moran, Haidet, Seidel, Schneider, Morgan, Kelley, & Richards, 2003). If we only used data derived from self report measures the validity might be questioned because of limitations in students' capabilities to accurately assess their own behaviors (Assor & Connell, 1992). For this study, observational measures of help-seeking behavior in real time and in authentic contexts provided additional evidence about the validity of the subscales being tested. The regression analysis indicated that the combination of the four subscales of the PTHSS significantly predicted the observed help-seeking behavior.

The instrumental subscale was the most important predictor of overt help-seeking behavior. Preservice teachers who reported their help-seeking behavior as adaptive actually used help-seeking strategies to complete difficult math tasks during a LAST workshop. These results confirm hypothesis 5.

Hypothesis 6

This hypothesis tested whether the four subscales of the PTHSS would correlate significantly with the identical subscales of the IHSS. Three of the four subscales of the self-report measure (PTHSS) and the instructor measure (IHSS) correlated significantly. The individual scales which measured instrumental help-seeking, executive help-seeking, and

avoidance of help seeking evidenced strong agreement between the instructor and the student when making judgments about individual help-seeking behaviors.

However, the self-reported Benefits subscale did not show agreement with the scales which measured instrumental, executive and avoidance of help-seeking. In this one area, perceptual differences regarding the benefits of help-seeking could account for the results. Students tendency to rate themselves differently in this area than their instructors could have been due to the possibility that instructors may not have been able to see whether the students were committed to obtaining the perceived benefits of help-seeking. Further revision of the content of the test items which measure help-seeking benefits should be undertaken and tested in the college setting.

Hypothesis 7

This hypothesis tested whether the construct validity of the four subscales of the PTHSS could be demonstrated through the correlations of its scales with the subscales of the IHSS. The canonical correlations analysis provided clear evidence of the construct validity of the PTHSS and the IHSS. What emerged from these results is evidence of two underlying factors that measure help-seeking behavior common to both scales. Based on the instructor measures all four subscales are predictive of student measures of help-seeking. By contrast, based on student measures of help-seeking, adaptive help seeking subscales (instrumental and benefits) are stronger predictors of the common factor than nonadaptive help seeking subscales (executive and avoidance). When examining the smaller latent root, the two most important subscales were adaptive subscales (Instrumental and Benefits). These results correspond with the consistent significant findings throughout this research study that single out the Instrumental subscale as the most valid measure of help-seeking.

Educational Implications

The present study has introduced a valid and reliable measure to identify the help-seeking behaviors of preservice teachers, who are at risk for failure of state certification examinations, through use of a scale adapted to the arena of teacher education. In the past, self-report measures of help-seeking behavior patterns has been problematic due to scales with limited reliability (Pajares, Cheong, & Oberman, 2004) and no help-seeking scales were designed for use in teacher education. The PTHSS proved to be a more reliable assessment of preservice teachers' use of this important self-regulatory strategy to pass state certification exams.

The PTHSS was also found to be valid according to multiple measures. It predicted help-seeking rated by their instructors' as well as the preservice teachers' overt help-seeking in classroom situations. This indicates student reports of help-seeking are valid measures that predict overt studying behavior. The PTHSS was also a significant predictor of student performance on the LAST exam.

It is suggested that the PTHSS scales can be used by teacher education programs to evaluate aspiring teachers' potential to pass the teacher certification exams. Students with low PTHSS scores might be identified, and their PTHSS profiles might be used to provide specialized training in help-seeking (Young, 2004). The study confirmed that preservice teachers with high help-seeking skills were more likely to learn how to pass the certification exams than preservice teachers with low help-seeking skills.

Limitations and Future Research

The first limitation of this study is the sample size. The participants in this study were from a small, private college in an urban setting. The sample was 90% minority students aspiring

to enter the teacher education program. Therefore, these results may not generalize beyond this population.

The second limitation of this study was that the Benefits of Help-Seeking scale did not show the same agreement as the other subscales of the PTHSS. Revisions were made to these items during the pilot study; however, further revisions are required. The scales were constructed for use in middle and high school computer classrooms and should be adapted further for college classrooms. What should be considered are the differences in perceptions of middle, high school and adult learner of the criteria that measure the benefits of seeking help.

The third limitation concerns the direct observation which was conducted during a LAST workshop using math tasks. The tasks were chosen from LAST sample questions. Items from other sections (Science, Language Arts, Fine Arts, History and Writing) of the LAST were not used for the direct observation. The choice of task could make a difference if this study is replicated. Future research should be conducted in workshops which include additional sample LAST tasks, such as writing and reading comprehension.

The present study did not address gender and ethnic differences. Future research should explore how gender and ethnic group differences influence academic help-seeking behavior. Pajares and his colleagues evaluated these distinctions in younger student's finding girls and African American students showed a nonsignificant tendency to seek help as well (Pajares, et al., 2004). In the college setting, Treisman (1985) noted that most of the black students studied alone while the Asian students sought peers with whom to collaborate. More than merely studying together, the Asian students formed academic communities. In the arena of teacher education these differences could provide important information to the teacher educator who can help students form academic communities to prepare for the state certification exams.

The scale not only assessed help-seeking behavior, it made a distinction between a peer and an instructor as sources of help. These issues were not investigated in the present study, however, future research should analyze whether the choice of helper is peer or instructor and the influence that choice has on help-seeking behavior.

Finally, the present study implies that in future research minority teachers who acquired advantageous help-seeking skills might be studied to see if they, as teachers and role models, convey help-seeking skills to their students, especially minority students attending inner city schools.

APPENDICES

Appendix A

Direct Observation Coding Form and Instructions

Observable Behaviors:

1. One participant asks a question. (Code only if question meets the criteria of a question)
2. Is the question relevant to the task?
3. Is the question adaptive or nonadaptive?
4. Is the response adaptive or nonadaptive?
5. Is there an adaptive response to the answer?

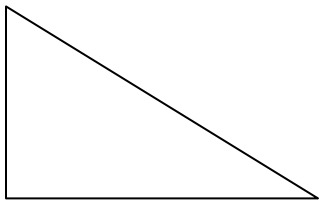
Target: Seat Number _____ Time Beginning: Time Ending:			
	Yes (2)	No (1)	Other (0)
1. Is the help-seeking phrased in the form of a question? Write as stated.			
PROCEED IF A QUESTION HAS BEEN ASKED AND CODED			
2. Is the question relevant to the task?			
PROCEED IF QUESTION IS TASK RELEVANT			
3. Is the question adaptive, as in seeking instrumental help, not an answer?			
PROCEED			
4. Is the answer adaptive?			
PROCEED			
5. Is the follow-up to the response independent problem solving?			

Appendix B

Sample Mathematics Problems
LAST Preparation Workshop
Nyack College Manhattan Campus
School of Education

1. Nina can accessorize her outfits by wearing a hat, a scarf, and a belt. If she can wear one accessory or more at the same time, how many different ways can she wear these accessories?
    a. 7
    b. 6
    c. 5
    d. 3

2. In a group of 100 people, 25 have brown eyes, 25 have blue eyes, 20 have green eyes, and 30 have hazel eyes. If one person is chosen at random from this group, what is the probability that the person chosen will have either brown or green eyes?
    a. .75
    b. .60
    c. .55
    d. .45



3. Given the right triangle above, which of the following must be true?
    a. AB=AC
    b. BC>AC
    c. AB>AC
    d. AB is not equal to AC

4. A certain lemonade mix requires 3 cups lemon juice to make 4 quarts of lemonade. How many cups of lemon Juice would be required to make 10 quarts of lemonade?
    a. 4 ½
    b. 6
    c. 7 ½
    d. 8 ¾

Appendix C

Preservice Teacher Help Seeking Scales

Preservice Teacher Help-Seeking Scales (PTHSS) LAST Preparation
Likert Scale 1-8 1- Not at all like me 8- very much like me

These scales measure help-seeking behavior.

Each scale is to be completed regarding your efforts to seek help when a problem is too difficult for you to accomplish on your own. Specifically the scales measure your efforts as a student when it comes to seeking help regarding the subject matter measured by the LAST. The LAST (Liberal Arts and Sciences Test) is a state certification exam which tests basic skills in Math and Science, History and Social Sciences, Arts and Humanities, Music, Pure Reading Comprehension and Communication Skills (Writing).

This questionnaire is a self-assessment, a score of 1 means the statement is not like you at all and a score of 8 means the statement is very much like you.

Scale 1	
1. When I ask for help with items on the LAST, I prefer to be given hints or clues rather than the answer.	1 2 3 4 5 6 7 8
2. When I am having trouble with items on the LAST, and ask instructors for help, I like to be given examples of similar problems we have done.	1 2 3 4 5 6 7 8
3. When I ask instructors for help with something I don't understand (relating to my LAST preparation), I ask to have it explained to me rather than just give me the answer.	1 2 3 4 5 6 7 8
4. When I ask the instructor for help in preparing for the LAST, I only want as much help as is necessary to complete the work myself.	1 2 3 4 5 6 7 8
5. When I ask my instructor for help understanding the material on the LAST, I prefer that the instructor help me understand the general ideas rather than simply tell me the answer.	1 2 3 4 5 6 7 8
6. When I *ask a peer* for help with my work (LAST preparation), I don't want *my peer* to give away the whole answer.	1 2 3 4 5 6 7 8
7. When *ask a peer* for help understanding the material on the LAST, I prefer that *my peer* help me understand the general ideas rather than simply tell me the answer.	1 2 3 4 5 6 7 8
8. When I *ask a peer for* help in preparing for the LAST, I want to be helped to complete the work myself rather than	1 2 3 4 5 6 7 8

have the work done for me.	
9. When I *ask a peer* for help in preparing for the LAST, I prefer to be given hints or clues rather than the answer.	1 2 3 4 5 6 7 8
10. When I *ask a peer* for help with something on the LAST I don't understand, I ask the peer to explain it to me rather than just give me the answer.	1 2 3 4 5 6 7 8
Scale 2	
1. When I ask the instructor for help preparing for the LAST, I prefer that the instructor do the work for me rather than explain to me how to do it.	1 2 3 4 5 6 7 8
2. When I ask my instructor for help on something I don't understand, I prefer that the instructor do it for me.	1 2 3 4 5 6 7 8
3. When I ask my instructor for help on something I don't understand on the LAST, I prefer the instructor just give me the answer rather than explain it.	1 2 3 4 5 6 7 8
4. When I ask my instructor for help with my work, I prefer to be given the answer rather than an explanation of how to do the work myself.	1 2 3 4 5 6 7 8
5. When I ask my instructor for help, I want the instructor to do the work for me rather than help me to be able to complete the work myself.	1 2 3 4 5 6 7 8
6. When I *ask a peer* for help on something I don't understand, I prefer that student to just give me the answer rather than to explain it.	1 2 3 4 5 6 7 8
7. When I *ask a peer* for help with my work, I prefer that the student do the work for me rather than explain to me how to do it.	1 2 3 4 5 6 7 8
8. When I *ask a peer* for help on something I don't understand, I ask that the student do it for me.	1 2 3 4 5 6 7 8
9. When I *ask a peer* for help in this class, I want the work done for me rather than be helped to complete the work myself.	1 2 3 4 5 6 7 8
10. When I *ask a peer* for help with my work, I prefer to be given the answer rather than an explanation of how to do the work myself.	1 2 3 4 5 6 7 8
Scale 3	
1. I don't ask for help in preparing for the LAST, even when the material is too hard to complete on my own.	1 2 3 4 5 6 7 8
2. If I need help to solve a problem, I prefer to skip it rather than ask for help.	1 2 3 4 5 6 7 8
3. I don't ask for help in preparing for the LAST, even	1 2 3 4 5 6 7 8

though I don't understand how to respond to the test items.	
4. If I didn't understand something in my LAST preparation, I would guess rather than ask someone for help	1 2 3 4 5 6 7 8
5. I would rather do worse on a section of the LAST I couldn't finish than ask for help in my test preparation.	1 2 3 4 5 6 7 8
6. Even if the work was too hard to do on my own, I wouldn't ask for help in my test preparation.	1 2 3 4 5 6 7 8
7. I would put down any answer rather than ask for help in my test preparation.	1 2 3 4 5 6 7 8
8. I don't ask questions regarding preparing for the LAST, even if I don't understand the material.	1 2 3 4 5 6 7 8
9. If the work required to pass the LAST is too hard, I don't do it rather than ask for help.	1 2 3 4 5 6 7 8
Scale 4	
1. I like to ask questions about my test preparation for the LAST.	1 2 3 4 5 6 7 8
2. I feel smart when I ask questions about my test preparation for the LAST.	1 2 3 4 5 6 7 8
3. Asking questions makes preparing for the LAST more interesting for me.	1 2 3 4 5 6 7 8
4. I like to ask for help about my LAST preparation because it helps me understand the material better.	1 2 3 4 5 6 7 8
5. I think asking questions about my LAST preparation helps me learn.	1 2 3 4 5 6 7 8
6. I enjoy preparing for the LAST more when I ask questions.	1 2 3 4 5 6 7 8
7. I like to ask for help about my LAST test preparation because it helps me understand the topic more completely.	1 2 3 4 5 6 7 8

Appendix D

Instructor Help-Seeking Scales

Instructor Help Seeking Scales	
These scales measure four types of help-seeking behavior. It is to be filled out for the following student regarding how he/she works with you as an instructor when it come to seeking help regarding the subject matter measured by the LAST . The LAST (Liberal Arts and Sciences Test) is a state certification exam which tests basic skills in Math and Science, History and Social Sciences, Arts and Humanities, Music, Pure Reading Comprehension and Communication Skills (Writing). Name of Student _____ Instructor _____	Please rate the student according to the following criteria: 1 – Definitely not like this student 8- Definitely like this student
Scale 1	
1. When this student asks for help, he/she prefers to be given hints or clues rather than the answer.	1 2 3 4 5 6 7 8
2. When this student is having trouble and asks for help regarding the LAST subject materials, he/she prefers to be given examples of similar problems we have done.	1 2 3 4 5 6 7 8
3. When this student asks for help with LAST subject materials that he/she doesn't understand, he/she asks to have it explained rather than just be given the answer.	1 2 3 4 5 6 7 8
4. When this student asks for help, he/she only wants as much help as is necessary to complete the work independently.	1 2 3 4 5 6 7 8
5. When this student asks for help understanding the material covered on the LAST, he/she prefers help to understand the general ideas rather than simply be told the answer.	1 2 3 4 5 6 7 8
Scale 2	

1. When this student requests help regarding LAST material, he/she prefers that the instructors do the work rather than explain how to do it.	1 2 3 4 5 6 7 8
2. When this student asks the advisor for help with items similar to those on the LAST that he/she does not understand, he/she prefers that the instructor solve the problem.	1 2 3 4 5 6 7 8
3. When this student asks for help with items similar to those on the LAST that he/she does not understand, he/she prefers the teacher just give the answer rather than explain it.	1 2 3 4 5 6 7 8
4. When this student asks for help with items similar to those on the LAST, he/she prefers to be given the answer rather than an explanation of how to do the work independently.	1 2 3 4 5 6 7 8
5. When this student asks for help with items similar to those on the LAST, he/she wants the instructor to do the work rather than help this student complete the work independently.	1 2 3 4 5 6 7 8
Scale 3	
1. He/she does not ask for help with LAST subject materials, even when the work is too hard to solve independently.	1 2 3 4 5 6 7 8
2. If he/she needs help to solve a problem on the LAST, he/she prefers to skip it rather than ask for help.	1 2 3 4 5 6 7 8
3. He/she does not ask for help even though he/she does not understand how to do the item.	1 2 3 4 5 6 7 8
4. If he/she didn't understand something related to the LAST, he/she would guess rather than ask someone for help	1 2 3 4 5 6 7 8
5. He/she would rather do worse on LAST preparation items that he/she could not finish than ask for help in (a) this class.	1 2 3 4 5 6 7 8
6. Even if practice test items for the LAST were too hard to do independently, he/she would be reluctant to ask for help.	1 2 3 4 5 6 7 8

7. This student would put down any answer rather than ask for help regarding items on the LAST.	1 2 3 4 5 6 7 8
8. This student does not ask questions regarding the LAST, even if he/she does not understand the items.	1 2 3 4 5 6 7 8
9. If an LAST test preparation assignment is too hard, he/she does not do it rather than ask for help.	1 2 3 4 5 6 7 8
Scale 4	
1. This student voluntarily asks questions in class.	1 2 3 4 5 6 7 8
2. Asking questions in class appears to Improve the student's self-confidence in the material.	1 2 3 4 5 6 7 8
3. The students is more engaged in the class material when he/she is asking questions.	1 2 3 4 5 6 7 8
4. This student benefits from seeking help with the difficult material by showing improvement in comprehension of the material.	1 2 3 4 5 6 7 8
5. When this student is struggling with course-related material, he/she shows the benefits from help received	1 2 3 4 5 6 7 8
6. When this student asks questions it leads to a better understanding of the course material in question. (Study groups, tutor, buddy, writing center)	1 2 3 4 5 6 7 8
7. This student uses the support services made available for LAST preparation. (Writing Center, Workshops, Appointments)	1 2 3 4 5 6 7 8

Appendix E

Exit Questionnaire

1. Do you seek assistance independently when you are having difficulty with LAST related tasks?
2. Did you actually ask for help with the task?
3. Did the help give you a better understanding of the task?
4. Was asking for help a positive experience?

Appendix F

Consent Form

Ph.D. Program in Educational Psychology

The Graduate School and University Center
The City University of New York
365 Fifth Avenue
New York, NY 10016-4309
TEL 212.817.8285 FAX 212.817.1516

CONSENT FORM

My name is Marie C. White and I am an assistant professor at Nyack College and a student in the Educational Psychology Ph.D. Program at The Graduate Center of the City University of New York (CUNY), and Principal Investigator of this project, entitled "Adapting a Help-Seeking Scale to Measure The Help-Seeking Behaviors of Preservice Teachers Engaged in Test Preparation for State Certification Exams." This is a research study of preservice teachers engaged in LAST exam preparation. The study is expected to be conducted during the general education course meetings offered by the School of Education at Nyack College. In addition, I would like permission to have you fill out a questionnaire about your work and study habits.

The risks involved in this study are no more than those encountered during you regular course work experiences in our academic setting. The benefits of your participation are that you as a student can help me to add to knowledge regarding help-seeking in preservice teachers. There will be approximately thirty_participants taking part in this study. If you choose not to participate in the study it will have absolutely no impact on your grade in this course. Your participation is totally voluntary, and you may withdraw at any time.

I may publish results of the study, but names of people, or any identifying characteristics, will not be used in any of the publications. If you would like a copy of the study, please provide me with your address and I will send you a copy in the future.

If you have any questions about this research, you can contact me at 646-378-6129), Marie.White@nyack.edu, or my advisor Dr. B. J. Zimmerman at 212-817-8291 or bzimmerman@gc.cuny.edu. If you have questions about your rights as a participant in this study, you can contact Kay Powell, IRB Administrator, The Graduate Center/City University of New York, (212) 817-7525, kpowell@gc.cuny.edu.

Thank you for your participation in the study. I will give you a copy of this form to take with you.

_____ _____ _____ _____

Participant's signature Date Investigator's signature Date

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