TEACHER EDUCATION AND ITS ASSOCIATION WITH DECISION-MAKING: AN INVESTIGATION OF THE CLASSROOM MANAGEMENT DECISIONS OF INCOMING FRESHMAN EDUCATION MAJORS, GRADUATING EDUCATION MAJORS, AND EXPERT TEACHERS

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Jessica Beth Schocker
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ABSTRACT

Teacher education and its association with decision-making: An investigation of the classroom management decisions of incoming education majors, graduating education majors, and expert teachers.

Jessica Beth Schocker

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This study investigates the value of a teacher education program by comparing freshman education majors and senior education majors in their ability to make decisions about classroom management issues. Participants (N = 137) responded to a vignette style interview schedule and responses were coded and analyzed. Senior education majors were found to make significantly better decisions than freshman education majors and two groups of non-education students. Implications for improving and evaluating teacher education are discussed.

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CHAPTER 1

INTRODUCTION

In an era when high quality education matters more than ever before, there is great interest in the institutions that prepare schoolteachers. It has recently been alleged that traditional teacher education programs do not provide anything of value; I disagree with this claim and will attempt in this dissertation to show that teacher education programs have a strong effect on their graduates. The measure of that effect in this study is the quality of decisions graduates are able to make about classroom management situations. Decision-making and classroom management are both key aspects of teaching, yet prior research on the effectiveness of teacher education programs does not examine the impact teacher education programs may have on either one of these skills.

Opponents of traditional teacher education typically argue that formal teacher education programs with curricula in pedagogy are unnecessary, and emphasize the importance of hiring teachers with strong verbal ability, common sense, high levels of content knowledge in the subject taught, and natural talent (e.g., Abell Foundation, 2001; Ballou & Podgursky, 1998). Opponents of this view disagree, citing research that connects teacher certification to student achievement (e.g., Darling-Hammond, 2008). Research has indicated that content knowledge and verbal ability are not enough on their own; quality teachers must also possess high pedagogical knowledge, or more simply put, the specialized professional knowledge of how to teach

effectively (Schulman, 1987). This topic will be discussed in more detail in the literature review. While performance in any skill or profession is influenced to a certain extent by natural talent or inclination (or lack thereof), I will propose in this paper that regardless of any natural talent or inclination for the teaching profession, teacher education makes a profound difference. The influence of natural talent on teaching has been identified as a research confound by Berliner (2001), a researcher of teacher expertise. This study seeks to address that confound by looking directly at one place where traditional teacher education programs make a difference in their graduates.

First, it is important to operationally define high quality teaching. The terms "high quality teaching" and "effective teaching" will be used synonymously in this study and will refer to teaching that is geared toward student engagement, understanding, and achievement. High quality teaching is a difficult construct to strictly define due to the complex nature of the teaching profession. Elliot Eisner, an art education professor at Stanford University has equated the multifarious work of a teacher to art, and suggests that perhaps because of the scientific nature of our society, we tend to do this when we do not have any other explanation for how something works; we seek data, answers, methods, and facts (Eisner, 2002). Such is the case in the research on the effectiveness of teacher education programs; the main measure used to designate a level of teacher quality is student achievement (e.g., Darling-Hammond, 2008; Monk, 1994; Nathan & Petrosino, 2003). While this factor is certainly a central concern, it is merely one (albeit important) variable among many others that may reveal a teacher's quality. Suggesting that teaching is an art form, therefore, helps us to acknowledge that there exist

qualities of good teachers such as *finesse, charisma,* and *passion* (as cited by Eisner, 2002) that are extremely difficult to measure. Eisner says, "The highest accolade we can confer upon someone is to say that he or she is an artist, whether as a carpenter or a surgeon, a cook or an engineer, a physicist or a teacher. The fine arts have no monopoly on the artistic" (2002).

While many educational studies seek to empiricize the art of teaching with measurable numbers such as student achievement scores (and understandably so), it is also the responsibility of educational researchers to explore other, less palpable qualities that contribute to high quality teaching. To demonstrate the role teacher education plays in promoting high quality teaching, therefore, it is important to focus on aspects of teaching that would not be easy to intuit or develop outside of teacher education programs (on one's own). One such aspect is in the complex skill of teacher decision-making, particularly in the realm of classroom management issues.

Decision-making has been described as the basic, fundamental teaching skill (Shavelson, 1973). It has also been said that teachers make challenging decisions in every aspect of their professional lives (Emmer & Stough, 2001; Darling-Hammond & Bransford, 2005). The decisions a teacher makes create the classroom environment and set the academic tone (Medley as cited in Westerman, 1991). Teachers make decisions constantly, including before, during, and after instruction, based on innumerable contextual considerations (Westerman, 1991). As decisions are made all day in many different situations, the impact of these decisions has implications for instruction, assessment, classroom management, achievement, etc. It is reasonable to suggest, therefore, that decision-making skills are a valid measure of teacher

effectiveness. While research has examined the differences between the decision-making of expert and novice teachers (Swanson, O'Connor, & Cooney, 1990), it has not explored the differences between freshman education majors and graduating education majors to see how teacher education programs might influence those skills. High quality teachers must be able to make good decisions, and since graduates of these programs will have their own classrooms shortly after completing the programs, this is an absolutely essential area to explore.

Berliner (1988) has proposed a model of expertise development in teachers, suggesting there are five stages between the levels of novice and expert (novice, advanced beginner, competent, proficient, and expert). This model is discussed in more detail in the literature review and will serve as a framework to guide a part of the discussion of this study's results. This model has not been used prior to this study to illustrate how teacher education programs make a difference in the quality of their graduates. This context provides a valuable use for the model since, as stated above, most research on the quality of teacher education programs is limited by the use of one variable, student achievement, in spite of the fact that there are other characteristics that may measure teaching ability. I hypothesize that while graduates of teacher education programs will likely not provide responses that would situate them with the same status as experts, their responses will certainly be better than those of freshman education majors and non-education majors.

This study is designed to explore the correlation between the completion of a teacher education program and a person's decision-making ability by examining the decisions made by freshman in the program who have not yet taken pedagogy classes to seniors in their final

semester before graduation. Two comparison groups of non-education students are also included in the study. Details of the research method are presented in Chapter Three. I designed the instrument used to gather data about the four aforementioned groups, a standardized interview schedule that asks students to provide demographic information, educational background information, a number of opinions about educational topics, and responses to three hypothetical vignettes about classroom situations (See Appendix B). The design for this case study style of research is based on a prior study that explores teacher decision-making ability using vignette case studies about classroom management (Swanson, O'Connor, and Cooney, 1990). Swanson, O'Connor, and Cooney's (1990) paper will be discussed below. However, it is important to note here that these researchers identified that their work should be extended into teacher education programs to measure program effectiveness.

My research asks two main questions. First, does the quality of the decisions made to resolve a simulated classroom management issue differ between freshman education majors and senior education majors? The responses given to the case studies will provide a) differences in decision-making ability among groups, b) information about how and where teacher education may influence one's ability to make decisions, and c) an evaluation of whether or not natural inclination for teaching exists in participants who have not taken courses in pedagogy that would correlate with good decision-making skills. I hypothesize that due to their coursework in pedagogy, senior education majors will outperform participants in the other three groups, and the other three groups will not differ from one another. Further, I hypothesize that even if participants other than senior education majors demonstrate a natural inclination for teaching,

their decisions will still not be as solidly grounded in effective pedagogical strategy and theory as those of the senior education majors.

My second research question asks: what other factors may contribute to the types of decisions a participant makes about classroom management? If it is not teacher education, then what is it? First, if the literature that opposes formal teacher education programs has any merit, then what else predicts one's ability to teach? Background information on a number of items such as age, prior informal teaching experience, number of siblings in the household growing up, and ratings of self-efficacy in teaching will be examined for their potential value to predict decision-making ability with regression analysis. Another exploratory question will be examined in this study. There is a very large body of literature on overconfidence (Kahneman, Slovic, & Tversky, 1982; Weinstein & Klein, 2002) that suggests most people think they will be more successful than they actually are and also more successful than others in the same situation. So, my study will examine the extent to which pedagogy courses and classroom experiences seem to affect confidence judgments. I hypothesize here that the senior education majors should theoretically demonstrate higher levels of confidence due to their training and preparation throughout their tenure in the program.

I have chosen to focus my study of teacher decision-making ability in the specific realm of classroom management. Classroom management can be defined as: "actions taken by the teacher to establish order, engage students, or elicit their cooperation" (Emmer & Stough, 2001, p. 2). Without effective management, learning is unlikely to occur (Malone & Tietjens, 2000). Theories of effective classroom management will be consulted in the literature review that

follows. To gain further perspective on the issues surrounding classroom management, I also interviewed two expert teachers who were identified by their principals as having exemplary classroom management ability to supplement the research used in this study based on Berliner's (2001) qualifications of an expert teacher (See Appendix A). There is literature that suggests that teacher education programs may not prepare teachers for classroom management issues (Levine, 2006). I disagree with this idea, and will seek to show how teacher education certainly does contribute to the decision-making ability of seniors graduating from a teacher education program.

This dissertation is organized into five chapters. The second chapter is a literature review that will first discuss the debate over the effectiveness of teacher education programs. Next, expert-novice models of teacher decision-making will be examined and decision-making will be revealed as a critical teaching skill. Third, theoretical and empirical literature regarding effective and ineffective classroom management strategies will be explored. And finally, a brief section will highlight other possible predictors of teaching ability. In Chapter Three, I will outline the method for this research. Chapter Four contains the results of the study, and Chapter Five will contain a discussion of the results, suggestions for future research, limitations, and conclusions. On the following page, a glossary of terms is included to define commonly used terms and phrases in this paper.

GLOSSARY OF TERMS

The following terms are used throughout this paper, and since these terms may have multiple meanings in different contexts, they are operationally defined for their meanings in this work for clarity.

High Quality Teaching/Effective Teaching (will be used interchangeably) - Refers to teaching that is geared toward student engagement, understanding, and achievement.

Traditional Teacher Education Programs – Refers to teacher education programs located in universities that result in a degree and/or certification conferred upon completion.

Alternative Teacher Education Programs – Refers to any route other than traditional teacher education programs to place teachers into the classroom. Examples include Teach for America and The New Teacher Project.

Classroom Management – Actions taken by the teacher to establish order, engage students, or elicit their cooperation (Emmer & Stough, 2001). Classroom management in this study will refer to the holistic approach that teachers take to maintain an orderly, learning-focused classroom. Assumptions include that the teacher is the leader/authority figure and that good classroom management implies good instruction (Brophy, 1983). Further, decision-making is considered an

essential skill for classroom management, an assumption supported by a variety of literature (Emmer & Stough, 2001; Darling-Hammond & Bransford, 2005; Westerman, 1991).

CHAPTER 2

LITERATURE REVIEW

This literature review is organized in four parts. The first will discuss teacher education programs, including the debate surrounding teacher education and certification with regard to teacher quality and student achievement. This literature is relevant to the present study because it drives to the heart of the issue: does teacher education matter? A portion of this section will highlight the debate between traditional teacher education programs and alternative certification programs. The second part explores expert and novice teacher decision-making. Since this study examines the classroom decisions made by freshman and senior education majors with regard to classroom management, it is important to lay the groundwork for what is understood about decision-making at the expert and novice level. Third, classroom management is investigated. Because this research investigates the types of decisions that preservice teachers make about classroom management, it is necessary to identify theories of effective management and implications that classroom management has on teacher success and subsequent student achievement. Finally, a brief section explores what other factors may influence teacher decision-making about classroom management (other than teacher education). The goal of this section is

to consider what other variables may contribute to a person's success as a teacher if teacher education is taken out of the equation.

Teacher Education Programs

In recent years, the quality and effectiveness of teacher education programs have been hotly debated (e.g., Darling-Hammond, 2008; Holtzman, Gatlin, & Heilig, 2005; Levine, 2006; U. S. Department of Education, 2002). These debates have been fueled, in part, by conflicting findings regarding the links between teacher certification and student achievement. On one hand, there are studies that seem to suggest that students of certified teachers do not differ appreciably from students of uncertified teachers on achievement test scores. On the other hand, there are findings that suggest that students of certified teachers do, in fact, perform better. More simply put, the debate lies in the questions: does teacher training and certification make a difference in student achievement? Do students of certified teachers have higher achievement test scores than students of uncertified teachers?

These debates are sparked by a great interest in teacher education programs and the influence the programs have on teachers, particularly whether or not these programs make a difference in the quality of teachers and, ultimately, the achievement of students. Teacher education programs have a number of goals that vary by institution, and one issue surrounding teacher education programs is the lack of agreement among institutions on these goals (Levine, 2006). Common goals of teacher education programs often include teaching child development,

helping students develop habits of mind that lead to effective teaching, developing student understanding of educational theory and its application to practice, and initiating students into the profession of education, among others. Additionally, this research is built on the assumption that a major goal of *all* teacher education programs is to teach pedagogy. The term "pedagogical content knowledge" was introduced in 1986 by Schulman, opening up a new realm of research into understanding what teachers need to know in order to teach effectively (Schulman, 1986). It has grown to be defined as the specialized content-related knowledge and strategies needed for teaching; strong pedagogical content knowledge is the defining characteristic of a good teacher, above content knowledge alone (Schoenfeld, 2006). Schoenfeld further explains this way of thinking as unique to teachers and separates the knowledge of a mathematics teacher, for example, from a professional mathematician. It is assumed, therefore, that this knowledge can be taught in teacher education programs with a combination of field experience. Simply put, pedagogical knowledge and pedagogical content knowledge include the "everything else" teachers need to know in addition to pure content in order to be high quality teachers. In this light, it is the heart of a teacher education program's mission. This paper will focus on the importance of pedagogical knowledge.

Having high levels of subject matter knowledge alone does not necessarily mean that one has high pedagogical knowledge. One study suggests to the contrary, higher subject matter knowledge in algebra may in fact have a negative effect on a person's ability to effectively teach algebra to students (Nathan & Petrosino, 2003). This finding is consistent with prior research that refers to the "curse of knowledge" (Birch & Bloom, 2003; Camerer, Loewenstein, & Weber,

1989), the idea that the more knowledge one has on a topic, the more difficult it is to teach that knowledge to a learner. Those who know a topic to the point of automaticity may not remember the steps necessary to learn the information. Furthermore, a subject-matter expert does not necessarily have the ability to develop learning scaffolds for students. It is logical to assume, therefore, that teacher education programs operate with the philosophy that content knowledge is not enough on its own, and therefore teacher education curricula are designed to teach pedagogical knowledge to accompany subject matter knowledge.

While no one seems to dispute the claim that teachers could not effectively teach material that they themselves have not learned and mastered (e.g., trigonometric theorems), there is disagreement about whether teachers also need to learn about such as things as (a) different ways to present the same material effectively, (b) conceptual limitations of students that may affect their ability to understand the material, (c) likely motivational consequences of different instructional approaches, (d) classroom management strategies that could be used to keep students under control and engaged, and (e) methods for constructing assessments that reveal student competencies in a valid manner. Advocates of teacher certification would argue that the above pedagogical knowledge is neither obvious nor easily intuited on the job. Advocates of the opposite perspective would argue that adequate content knowledge should be enough. The latter may assume that all one has to do is stand in front of a class and explain the material.

It is worthwhile to compare traditional and alternative teacher certification routes in an effort to explore whether or not traditional teacher education is working. Traditional teacher education programs are located in universities and usually take several years to complete. It is

difficult to summarize exactly what is taught in a traditional teacher education program because the programs differ greatly from one another. Levine (2006) suggests traditional teacher education programs treat teaching as a *profession,* meaning the programs, in theory, have a regimented and regulated set of requirements and expectations achieved through coursework and then a student teaching component at the culmination of the program. It can be assumed that these requirements and expectations include courses about theoretical frameworks, effective pedagogical strategies, child development, assessment, and the like. Levine notes, however, unlike other "professions" such as law, medicine, or cosmetology, there is not one required "license" to be a teacher. Therefore, there are alternative routes to get teachers into the classroom aside from traditional, collegiate teacher education programs. While traditional teacher education programs view teaching as a profession, Levine suggests that alternative certification programs view teaching as a *craft*, and believe that it should be learned as such, through experiences focused more on apprenticeships rather than formal, theory-based teacher education programs. It is important to note that in many of the debates surrounding teacher certification that will be discussed in this paper, the *profession* and *craft* perspectives are seemingly viewed as mutually exclusive, rather than considering how teaching may best be described as a combination of both, therefore requiring both regimented and regulated coursework in combination with meaningful apprenticeships and field experiences.

Some researchers propose that traditional teacher education programs are generally not equipped to prepare current and future teachers for new realities as our world changes and school demographics evolve. The Abell Foundation (2001) asserts that teachers should be hired based

on subject matter knowledge and verbal ability rather than completion of a teacher education program, which the foundation suggests may be unnecessary. They argue the idea that teacher certification programs produce high quality teachers is misleading because it suggests a teacher's quality should be based on the titles of courses taken rather than on qualities not measured by teacher education programs such as intellectual curiosity, creativity, affinity for children, natural instructional ability, etc. The Abell Foundation goes so far as to suggest that traditional teacher certification programs may even *prevent* good teachers from getting into the classroom by ignoring and/or discrediting the fact that there are highly able candidates who have not taken required courses in a traditional teacher education program. Similarly, Ingersoll (2004) stated, "The teaching occupation is "plagued by unusually restrictive and unnecessary entry barriers – teacher training and teacher licensing requirements, in particular" (p. 2). He goes on to discuss a paradox in the teaching field; traditional program entry standards are low, but bureaucratic requirements for completion and certification are high, which can discourage highly qualified candidates from going through with a teacher education program and/or staying in the field of education.

Those who believe there are highly qualified teachers that have not completed a traditional teacher education program are often proponents of alternative certification programs, such as Teach for America (TFA). The purpose of this paper is not to compare alternative and traditional teacher education programs, but much of the research exploring the effects of teacher certification on student achievement compare certified teachers to uncertified teachers who find their way into classrooms via these programs. For this reason, the realm of alternative

certification will be briefly discussed here to provide background information. Such programs prepare teachers in a short period of time such as a summer institute with immediate, corresponding field placements (Teach For America, 2009). Forty-seven states in the United States have alternative certification programs such as TFA that are highly selective, accepting candidates with strong backgrounds in their subject; the emphasis is on practice over theory (Levine, 2006). The federal government supports these programs, particularly since the No Child Left Behind Act (NCLB) identifies high quality teachers in large part by their subject matter mastery. These classes are taught by practicing teachers rather than the research professors who typically teach in traditional teacher education programs (Levine, 2006). It is important to note that although NCLB emphasizes the importance of content knowledge over pedagogical knowledge, studies have found a teacher's success in pedagogy classes was correlated more highly with student achievement than a teacher's success in subject courses (Monk, 1994; Nathan & Petrosino, 2003). Therefore, while content knowledge may certainly be linked to student achievement, it is seemingly not enough by itself.

TFA teachers mostly teach in high need school districts with a transient teaching staff (Teach For America, 2009). While this approach seeks to satisfy the TFA goal of bringing stability to classes that would otherwise have a slew of substitute teachers, one study showed that students of uncertified TFA teachers were found to perform more poorly when compared to the students of traditionally certified teachers who completed a teacher education program (Darling-Hammond et al, 2005). On five of six tests administered to students, uncertified TFA teachers showed a significant negative association with student achievement gains relative to traditionally

certified teachers. Only on one of three math tests given to the students of TFA teachers and regularly certified teachers did the TFA teachers' students perform better. Darling-Hammond suggests this could be the result of the teachers having attended selective colleges with stronger mathematics cores. This hypothesis would be consistent with suggestions that content knowledge and pedagogical training combine to provide teachers with skills that contribute to student achievement (Ashton & Croker, 1987). Overall, however, research has indicated that students with regularly certified teachers performed better than students with uncertified TFA teachers (Darling-Hammond, 2008). This result is consistent with a finding that students with certified teachers performed better than students with uncertified teachers on the 1999 Texas Assessment of Academic Skills mathematics assessment (Alexander & Fuller, 2004). Goldhaber and Brewer (2000) found puzzling results that while teacher certification tends to matter for student achievement, no differences were found in teachers with traditional and emergency certifications. While their findings do indicate that teacher education matters for student achievement, they discuss the important consideration that other predictors of student achievement such as family and individual background variables may be responsible for much of the variance in student scores. To this point, it is worthwhile to consider that the measure of a high quality teacher in many of the studies done on the effectiveness of teacher certification is student achievement. Because this variable may be influenced by so many other factors, it is worthwhile to explore other measures of an effective teacher aside from student achievement. The present study does this by measuring decision-making ability.

Fueled by the heated debate among researchers about the impact teacher education has on student achievement, a number of reports have attacked formal teacher education programs with suggestions for reform. What follows is a timeline of highlights in the ongoing debate over the last ten to fifteen years. In 1996, *What Matters Most* was published by the National Commission on Teaching and America's Future (NCTAF). The NCTAF panel, made up of 26 bipartisan governors, legislators, business leaders, community leaders, and educators, was concerned with increasing achievement levels in schools, preparing teachers in the best ways possible, and improving teacher effectiveness. The Commission presented a number of recommendations to improve and extend preservice teacher education and with measures including more required pedagogy courses and extended student teaching internships and new models of teacher education. Comparisons were drawn to clinical models of medicine education. The report was then criticized by Ballou and Podgursky (1998) who objected to many of the Commission's recommendations, particularly the need for teacher education beyond general literacy, common sense, and basic academic ability. Ballou and Podgursky assert that teaching cannot be compared to professions like medicine because more people are likely to have intuitive common sense about what will work in a classroom as opposed to what will work in a medical emergency. These authors argued that content knowledge is more important than classes on pedagogy and that highly talented candidates in their respective fields are discouraged from entering teaching due to its unnecessarily rigorous certification requirements. While it is possible that some highly knowledgeable field experts may have natural teaching inclinations that would contribute to teaching success, these authors do not discuss that these inclinations are not a given entity that

comes with common sense and literacy. The results of this study will later suggest that natural inclination for teaching does not equate to the effects of structured teacher education.

A later rebuttal to Ballou and Podgursky's paper cites research that knowledge about teaching and learning shows stronger relationships to teacher effectiveness than subject matter knowledge alone (Darling-Hammond, 2000). In this paper, she has cited a number of significant positive correlations between teacher certification in combination with holding a degree in the field to be taught with student outcomes and points out omissions and flaws in the reasoning presented by Ballou and Podgursky. Such studies include Ferguson and Ladd (1996), Greenwald, Hedges, and Laine (1996), and Darling-Hammond (2000), all of which found correlations between teacher qualifications and student achievement.

Striking against traditional teacher education again in 2002, the U.S. Secretary of Education issued the Secretary's Annual Report on Teacher Quality and essentially argued for the end of traditional teacher education programs, suggesting that alternative certification programs have been more successful. The report claimed graduates of traditional teacher education programs were educationally weak and less likely to remain in the career field; while the report suggests that teachers matter for student achievement, teacher education does not relate to teacher effectiveness. This report was quickly rebutted, again with the studies that provide evidence showing formal teacher education programs have consistently produced higher quality teachers than alternative programs and that the Secretary's report cited flawed and weak research to make its claims (Darling-Hammond & Youngs, 2002). The debate pattern continues.

After examining the literature behind this debate and investigating different types of teacher education programs, Levine (2006) concluded that many teacher education programs have an imbalance between theory and practice (weighted toward theory), a lack of coherence and curricular balance, less than adequate field placements, low admission standards, and a faculty too removed from the actual K-12 classroom experience; all of the above are issues which could lead to programs that would not prepare teachers. He uses examples of model programs to suggest reforms necessary to improve the quality of teacher education. Inasmuch, he makes the point that there are traditional programs in existence that work; the issue is not the potential for teacher education to be effective but rather in the variance of teacher education's effectiveness. Perhaps schools of education would benefit from exploratory program evaluation research like the present study to identify areas where each program works and where it could use reform.

The conflicting findings described above suggest that there is pervasive uncertainty in exactly how teacher education is impacting the quality of the teachers that graduate from traditional, collegiate-based programs. The research seems to indicate that the programs do in fact matter, but there may be elements of the programs that need to be reformed. Further investigations into *how* the programs matter and *where* they matter can help to provide the basis for developing stronger programs.

It is important to highlight the possibility that coursework, as it is currently implemented in many teacher preparation programs, may not instill pedagogical knowledge that is assumed by advocates of teacher preparation programs. It is one thing for students to develop knowledge and

understanding at one point in time, and another for them to utilize and apply this knowledge effectively in the classroom at some later point in time. In other words, pedagogical knowledge may be inert knowledge for them (Bransford, Franks, Vye, & Sherwood, 1989). Many students learn pedagogical concepts a year or more before they are actually in a classroom and learn it as a form of declarative knowledge rather than contextualized procedural knowledge. As noted in Levine's (2006) survey results, graduates of teacher preparation programs often report that they did not learn enough about the realities of the classroom; too much of the class work was weighted toward theory with a deficit of practical applications. This finding does not necessarily show that pedagogical training is not, in principle, necessary or helpful; rather it could mean that the current form of pedagogical training is not helpful in all aspects. Negative findings do not rule out the possibility that a better approach would not reveal the differences assumed by advocates of teacher preparation programs. Furthermore, general claims that graduates of teacher preparation programs report that they did not learn enough about classroom realities does not account for variance across programs. Future research could explore these variances further. In the meantime, it is worthwhile to take small steps to uncover where traditional teacher education programs are (and are not) making differences in graduates of the programs.

To this point, the main measure being used in the debate over the effectiveness of teacher education is student achievement. Other factors could represent measures of effective teaching practices such as decision-making. This study seeks to find one way to address this uncertainty about the effectiveness of the traditional teacher education by conducting research on how the program at Temple University impacts the development of one specific aspect of teacher quality

in its graduates: decision-making skills with regard to classroom management. The goal of this research is to take a first step to evaluate the current pedagogical training in a teacher education program by examining how students evolve over their tenure in such a program with regard to their decision-making ability. Although there is little formal research examining differences in decision-making ability between teachers who graduated from teacher education programs and teachers who did not graduate from these programs, there is related work examining differences in decision-making between novice and expert teachers. This literature is explored next.

Expert-Novice Decision Making in Teaching

If coursework in pedagogy does anything, it reveals different ways to teach content to children in a productive learning environment. Over the course of time in a teacher education program, therefore, preservice teachers presumably develop an understanding and appreciation of a variety of instructional approaches. As such, one would presume that certified teachers would be aware of more and richer options for presenting the same content than uncertified teachers and also more aware of classroom management strategies. Uncertified teachers would probably rely on default approaches presented in textbooks or by their own teachers in the past. Given that all teachers make a number of decisions throughout the day (Darling-Hammond & Bransford, 2005) and such decisions precede their actions and more distal outcomes such as student achievement, one could argue that teacher decision-making is a more proximal locus of

potential differences that should be investigated. If pedagogical courses help to cultivate a student's understanding about instructional options, then there should be large differences between certified and uncertified teachers when asked to make decisions about the same problem. Given the possible centrality of decision-making in debates about the utility of teacher preparation programs, it is useful to examine the literature on teacher decision-making, especially that portion that discusses the links among experience, expertise, and decision-making.

But before getting into the literature on expertise, it is important to define and understand some of the dimensions of teacher decision-making. Shavelson (1973) identified decision-making as the essential teaching skill, combining other skills including questioning, explaining, reinforcing, probing, and listening; he proposes that any teaching act requires a decision, whether that decision is made consciously or unconsciously. Therefore, teachers make decisions in every aspect of their career, in planning, assessment, instruction, management, etc. For the purposes of this paper, I focus on decisions made with regard to management. With that said, it is safe to assume that the domains in which teachers make decisions will undoubtedly overlap, particularly the domains of management and instruction. In order to maintain a well-managed and learning-focused classroom, a teacher must be able to make interactive decisions often based on unexpected events during instructional time (Shavelson & Stern, 1981). Decision-making will be explored as a dimension of teaching that is central to classroom management and as a skill that develops over time through training and experience.

Expertise research has spanned such disciplines as chess, sports, music, medicine, and the arts to name a few; what unites the research on expertise is a theoretical assumption that those who become experts have done so through an extended period of training and practice (Ericsson, 2005). The research on expertise is usually conducted by comparing experts to novices (Byrnes, 2001). This is the case in literature about teaching expertise (e.g. Hogan, Rabinowitz, & Craven, 2003; Westerman, 1991). Since all teaching acts require decisions, it is important to explore research comparing expert and novice teachers, particularly how they make decisions.

Teacher reflection is one area where expert and novice teachers have been compared. Teacher reflection, which will be revisited again in the review of classroom management literature, has been investigated by a great number of researchers (e.g. Dewey, Zeichner, Korthagen, etc.). In teacher education, reflection is used as a tool to help students grow into thoughtful practitioners (Hatton & Smith, 1995; Korthagen & Vasalos, 2005). Reflection can be described as a concept in which a teacher is an active, knowledgeable theorist in her own right (Zeichner, 1994). Reflective teachers are socially responsible because they take into account how they can learn from their decisions for the future, which impacts student learning and improves education overall (Colton & Sparks-Langer, 1993). Since teacher reflection is a tool teachers use to improve practice, and is used in teacher education programs to model and develop these skills in preservice teachers, researchers have explored how this skill is different between experts and novices.

Standley and Madsen (1991) researched teachers' ability to provide their perceptions of music education classrooms, comparing responses of teachers with ten or more years of

experience to teachers with less experience and even undergraduate music education majors. They found a significant relationship between years of experience and ability to make judgments about classroom events. The more experience the teachers had, the better able they were to categorize classroom interactions. The ability to organize classroom interactions and make judgments about classroom events is a necessary skill for reflective practice and decision-making. Also related to teacher reflection, Allen and Casbergue (1997) examined the differences between novice, intermediate, and expert teachers in their ability to recall classroom events for later reflection. This skill is important, as development and improvement is dependent on ability to recall and reflect upon classroom experiences. The researchers found that novices were less able to recall classroom events than the intermediate and expert teachers. Furthermore, they tended to recall events through the lens of their own teaching as opposed to student actions and learning. The novices gave hesitant explanations of classroom events, lacking fluid explanations. Interestingly, novices were less likely to report classroom management issues, particularly times when the entire class was out of control and the teacher was visibly agitated. Intermediate and expert teachers were more likely to recall and discuss times when the students were off task. Allen and Casbergue (1997) suggest that teacher education programs could help to cultivate reflective practices by incorporating more opportunities for reflective practice in coursework. Because reflection helps students to learn from teaching experiences, teachers who reflect regularly and deeply will be better equipped to make future classroom decisions. In this light, good teacher education that incorporates reflective practice could potentially speed up the process of developing decision-making skills in novices.

Borko and Livingston (1989) researched expert and novice math teachers, asking them to reflect on daily lessons. They found that experts focused on student learning and understanding of the topic whereas novices focused on themselves as teachers and on other small points such as chalkboard usage. Furthermore, the experts were more likely to think of planning more holistically, considering daily planning, monthly planning, and year-long planning. The researchers also noted that this planning could be done quickly and efficiently by experts who relied upon their complex cognitive skills. While novice teachers also planned on these three levels, they focused much more on short term planning than the long term. The expert teachers in this study knew when to use various instructional formats based on classroom circumstances such as whole-class versus small-group instruction and were able to make these decisions quickly. The novice teachers, however, had to think through instructional approaches ahead of time, and often spent a great deal of time developing mental scripts where they planned everything they were going to say in the classroom. Subsequently, the novices were not consistently able to translate their planning to practice as the experts do. Because novices tend to spend a great deal of time developing their mental scripts and planning what they will say in class, it is logical to assume that a classroom disruption would be more difficult for a novice to effectively handle than an intermediate or expert teacher.

Research has shown that expert teachers have more developed teaching routines and styles than novices who are still exploring what teaching and management styles they are comfortable with in the classroom. Borko and Livingston (1989) make clear that the expert teachers knew their own styles and were therefore able to make quicker decisions based on what

worked for them. It would seem plausible that novices would not have had as much time to develop their styles, although teacher education that encourages reflection and development of a teaching philosophy could potentially make a difference in this area. Klein and Hoffman (1993) noted that "novices see only what is there while experts can see what is not there" (p. 203). Other research has found that experts are more likely to make assumptions and inferences based on classroom events than novices; experts use their advanced pedagogical knowledge to ascribe meaning to teaching situations where novices may struggle. Developing an understanding of "what is not there" presumably comes from being comfortable and confident with oneself as a skilled and able teacher through experiences and, maybe, through well designed teacher education coursework.

Establishing routines helps people make decisions quickly based on prior experiences. Experts and novices take different things into consideration while making decisions and exhibit very different levels of routine development. Westerman (1991) specifically studied the differences between expert and novice teachers in decision-making skills and found that when experts make decisions, they do so by combining a variety of sources of information. She identifies three stages of decision-making: Preactive, Interactive, and Postactive (before, during and after practice respectively). Experts combined all three levels of decision making throughout the learning process, and could refer to preactive and postactive reflections during interactive practice. Novices approached the process in a more linear fashion, unable to modify quickly. Expert teachers simultaneously considered developmental concerns, contingency plans, potential problems, student perspectives, etc. Similarly, Leinhard and Greeno (1986) studied the teaching

routines of experts and novices, finding that experts had more fluid transitions, better guided practice, and stronger questioning skills; they were able to get more done in a short period of time than the novices. Novices, to the contrary, were typically unable to be flexible, stuck to their lesson plans, and did not interact with the students with as much ease; they were only able to attend to a limited number of teaching strategies at one time (Westerman, 1991). This may be a result of novices not yet having established routines; therefore, they have to spend more time explaining directions to students who are confused. Students of experts are much less likely to need clarification of directions (Leinhard & Greeno, 1986). These findings are particularly relevant to classroom management, where a teacher's established routines are essential for maintaining an academic focus. There is a recurring theme here of being decisive; the expert teachers are able to make quick decisions while weighing a variety of options. The novices lack the decisiveness and seem to only be able to consider a limited number of options.

Expert and novice teachers make classroom decisions based on different systems of reasoning. Housner and Griffey (1985) found that expert physical education teachers made decisions about instruction based on student achievement, whereas the novice physical education teachers made decisions about instruction based on what the students were interested in. The experts were able to differentiate instruction and make decisions to meet the needs of all students individually. Novices were more likely to look at the class ability level as a whole, changing the class approach if the whole class seemed to be disinterested to prevent classroom management issues.

Swanson, O'Connor, and Cooney (1990) published a study using a method similar to the approach of the present study (see Chapter 3). They researched the potential differences between expert and novice teachers' information processing with regard to how they solved common classroom management problems presented in hypothetical vignettes. The research was conducted by asking the two groups of participants (preservice teachers and expert teachers) to think aloud while they responded to the situational prompts. The data were coded and the presence or absence of predetermined components was recorded. Further, the researchers looked for patterns in participant responses. The data suggest that the experts had more comprehensive reflections about their classroom management issues and considered multiple perspectives whereas the novices focused more on surface details. Like other findings that compare experts and novices, the authors assert that the data indicate novices are primarily interested in immediate problem solving as opposed to thoroughly considering potential long-term solutions. Thus, experts are more effective in managing classroom discipline problems than novices. The vignette approach is useful for evaluating the problem solving ability of preservice teachers, because much of their initial "experience" in dealing with classroom management issues would have to occur through hypothetical situations until their student teaching experiences. Swanson, O'Connor, and Cooney (1990) assert that their findings indicate there are factors other than years of experience that contribute to expertise in teaching, and future research should examine these factors; in particular, they recommend that future research take place in the field of teacher education. Doing just this, I will break the preservice teachers into two groups, freshman and seniors, which will allow me to assess how going through a teacher education program may create differences in the decisions of the two group. While the above study examines the

differences between a general group of preservice teachers and expert teachers, the present study adds an important (and relevant, given the debates about teacher education) comparison to the design. This study will be revisited in the following section on classroom management.

As evidenced above, much of the research available on expertise compares experts to novices (Byrnes, 2001). This is the case with the literature on teacher expertise. Unlike the dichotomous models, Berliner (1988), however, has hypothesized that there are five levels between novice and expert teachers: Novice, Advanced Beginner, Competent, Proficient, and Expert. His model is an important framework in which to view the present research. Because it is my goal to explore how teacher education influences a person's ability to make decisions, I can use this model to estimate if graduates of these programs fall somewhere between novice and expert in their decision-making ability. Novices, Berliner suggests, are in the early stages of learning where much information is learned out of context. Such is the case in teacher education, where many students do not have field placements until later in their programs (Levine, 2006). The Advanced Beginner is a stage in which teachers are still involved in the learning process, but are gaining episodic knowledge based on experience. Advanced Beginners may still lack a sense of responsibility for their actions, and Berliner suggests that this ownership of responsibility does not happen until the third stage, Competency. He theorizes that the Competency stage is where teachers are able to make decisions, set priorities, and make plans. Personal investment has increased, and therefore teachers at this level often have emotions linked to their successes and failures. Competent teachers are still not completely fluid, fast, or flexible in their behavior; these are characteristics that develop in the fourth stage, Proficiency, and final stage, Expert. He

argues that proficient teachers are able to do higher level analysis to make decisions in the classroom; expert teachers are able to make these decisions on the spot, effortlessly, without formal analysis (Berliner, 1988). Considering the research presented throughout this portion of the literature review, it is likely that experts have attained this ability through years of practice and continual reflection. Theoretically, future research could study the evolution of teacher quality from novice through expert levels based on experience checkpoints, higher education, professional development, reflective practice, and other such career milestones. In the discussion of this research, I will explore whether or not freshman and senior education majors may lie on different planes of this spectrum.

None of the above literature specifically compares the decision making skills of incoming freshman education majors to graduating education majors. What these studies do show, however, is that experience seems to matter in the development of teacher decision-making. Given that years of experience foster changes in decision-making skills, this study will explore whether multiple courses in pedagogy might promote changes as well. This information could be useful for improving teacher education programs for the future.

The following section of the literature review will discuss Classroom Management. As evidenced by the above literature, the decisions teachers make throughout the course of a day are complicated and influence all aspects of a teacher's work. Classroom management, which will be defined and elaborated upon below, is one such area that requires strong decision-making skills. The literature presented will provide a case for why it is absolutely essential for teachers to be able to make strong decisions in situations that impact the management of the classroom.

Classroom Management

Classroom management is an essential skill for a high quality teacher. However, it can be argued that the knowledge of how to manage a classroom is neither obvious nor easy to intuit. As such, knowledge of classroom management strategies is a possible locus for discernable differences between certified and uncertified teachers. Because most teacher education programs include coursework in classroom management (Emmer & Stough, 2001), these differences should theoretically exist between freshman education majors and graduating senior education majors. The section of the literature review that follows will define and contextualize classroom management and review some of the empirical and theoretical models of effective and ineffective strategies. Effective classroom managers have a number of characteristics according to many researchers and theorists alike. There is a vast amount of theory and research about classroom management, and since it often overlaps with instruction, this literature review contains merely a portion of the literature available. Some of the assertions about classroom management are overlapping, and some are conflicting, as the topic is charged with educational opinion and preference. Empirical data and theoretical models will be investigated to identify a working understanding of effective and ineffective classroom management strategies. This literature was consulted in designing the vignettes used in the present study.

Many definitions exist for the construct of classroom management, but most are comparable to the following: "actions taken by the teacher to establish order, engage students, or elicit their cooperation" (Emmer & Stough, 2001, p. 2). Classroom management comes with the assumptions that the teacher is the leader and authority figure in the classroom and that good classroom management implies good instruction, where misbehavior is prevented more so than addressed (Brophy, 1983). Classroom management is also directly related to student motivation and engagement. Engagement can take place in three forms: behavioral engagement, emotional engagement, and cognitive engagement. Strong positive correlations have been found between behavioral engagement and achievement, and less strong, but still significant correlations have been found with cognitive engagement, particularly in strategy development. There are also some indications that emotional engagement may also be positively correlated with student achievement (Fredericks, Blumenfeld, & Paris, 2004). Good and Grouws (as cited in Emmer & Stough, 2001) found that teachers whose students are higher achievers had better management skills, spent less time focusing on discipline issues, and were able to transition from topic to topic quickly with ease, providing clear directions and expectations. It makes sense that teachers who are able to transition well between subjects would get more accomplished. Teaching requires more than simple instruction; it requires organizational abilities and flexibility, and while planning ahead of time is necessary, an entirely new and essential component is added when the teacher is "live" in the classroom. This is when teachers must be able to make fluid decisions based on contextual circumstances.

While it is clear that classroom management is an essential skill in order for teachers to be effective, it is difficult to provide a straightforward formula for how to be an effective classroom manager since contextual issues such as environment, past experience with student, age and academic level of students, self-confidence, and quality of teacher-student relationship will impact the effectiveness of a classroom management strategy choice. There is, however, research and theory that attempts to provide an understanding of effective and ineffective strategies. One well established method of classroom management is the use of classroom rules. Canter and Canter's (1976) Assertive Discipline maintains that teachers need to make rules that they teach, review, and implement regularly in activities such as situational role-playing activities. They suggest that teachers should have pre-planned incentives for following the rules as well as consequences for breaking those rules. Malone and Tietjens (2000) developed six guidelines for classroom rules drawing on existing literature regarding effective and ineffective rules concluding that classroom rules must: be rational and easily understood, address specific and necessary behavior, be limited in number, be aligned with the school's code of conduct, address desired moral behavior, and be inclusive of students, parents, teachers, and administrators (Malone & Tietjens, 2000). These models make a clear distinction between teacher and students, emphasizing the importance of the teacher being the leader in a partnership with parents and school officials. The students are actively engaged in the classroom management plan but are not necessarily a proactive part of creating it. This behavioral approach to classroom management is consistent with much of the research in the field; because behavioral outcomes are measurable and traceable to achievement patterns, this tends to be the way classroom management is measured (Emmer & Stough, 2001).

Others have promoted more holistic approaches of effective classroom management. Research suggests that using techniques that enable students to feel both valued and in control of their learning and behavior can have a positive impact on classroom management. Praise is a common theme in the literature that supports helping children to feel valued in the classroom. Brophy (1983) maintains that praise that is specific and focuses on behaviors will assist in more positive behavior as well as encourage the development of intrinsic motivation. Cipani (1993) points out that praise can encourage compliance in children who are non-compliant in an attempt to receive attention. Since the teacher is continually praising compliant behavior, students would receive no additional attention by acting out; to get the teacher's attention, they would need to demonstrate compliant behavior. Providing students with choices may also be a way to enable students to feel valued. Much of the literature on classroom rules indicates that having students involved in the creation of rules has positive effects on the classroom environment and can lead to a sense of a shared community (Malone & Tietjens, 2000). When students share a role in creating their classroom rules, it is likely that they will be less resistant to consequences that were pre-established and agreed upon by the students. This sense of community where student input is encouraged and incorporated can certainly allow students to feel they are valued. Student input on assignments can also be beneficial. A meta-analysis of the use of choice-making (i.e. choice of the order assignments will be completed and a choice in what assignment to complete) as an intervention for behavior problems in the classroom found that giving students a choice was effective in reducing negative classroom behaviors (Shorgen, Fagella-Luby, Bae, & Wehmeyer, 2004).

Other models stress student self-regulation and value building as part of a well-developed and positive classroom culture as effective. Gordon (1974) suggests a theoretical model of self-control; students should learn self-regulation and communication skills as a part of a holistic management approach where the teacher communicates to the students with "I-messages" rather than "you-messages." This is intended to increase a sense of responsibility and community in the classroom. Unlike those cited above, Gordon does not suggest using praise and rewards, but rather students should learn to help others and problem solve, teaching students to doing the right thing because it's right, not because of a reward. He identifies six steps in problem solving: define the problem, generate possible solutions, evaluate those solutions, decide which is best, determine how to implement this decision, and assess the effectiveness of the decision later. Gordon's model is not dissimilar from Glasser's (1977) theory of Noncoercive Discipline, which stresses meaningful classroom activities, student freedom, meeting students' needs, and communication between students and teachers. Glasser suggests that students and teachers participate in class meetings where the students help to develop, monitor, and enforce classroom rules. Student involvement such as this gives students an added sense of value in the classroom and builds a positive classroom culture. He also asserts that teachers should have a continuum for action where a student is exhibiting behavior problems, moving from step to step in order to attempt remediation before an office referral is necessary. His goal is to keep classroom management between the teacher and his or her students rather than involving the school-level authorities.

Other theoretical models explore effective classroom management as a function of the teacher-student relationship. This relationship has the potential to help students develop self-efficacy that would contribute to good classroom behavior. Albert (cited in Charles, 2002) developed a theory of Cooperative Discipline, in which she suggests that teachers need to meet the students' needs in order to ensure that students will cooperate with classroom rules. When it is necessary to address a management issue, Albert postures that teachers must be sure to address the behavior rather than the student and stresses the importance of avoiding arguments with students, even providing a list of "graceful exits," or strategies a teacher can use to avoid power struggles with students. Since teachers cannot control behavior, but only influence it, they need to know when to let go. Also opposed to power struggles between teachers and students, Ginott (1993) proposes that it is essential for teachers to know when misbehavior is the result of seeking acceptance and approval, and believes that the students' emotions in the learning environment are important; teachers should help to develop those emotions and encourage conversation about them. When teachers minimize situations, tell students that their feelings are not justified, try to reason with students, or allow for student self-pity, they may create more discipline problems in the future. Ginott asserts that management issues can be resolved by acknowledging, developing, and communicating emotions and feelings. This assertion puts the teacher in the position of a character builder, a charged topic among educators who debate the role of the teacher.

Theories of effective classroom management often reference and recommend the use of teacher reflection. Albert (cited in Charles, 2002) suggests that a thorough analysis of misbehavior is necessary for any behavior remedy to work. This suggests that a teacher cannot

simply rely on an inflexible classroom management plan without taking contextual and student circumstances into account. Rather, it emphasizes reflective practice, a concept in which a teacher is an active, knowledgeable theorist in her own right, and can learn much about how to improve the dynamic of a classroom and the effectiveness of instruction by studying her own teaching and constantly learning from experiences (Zeichner, 1994). According to Dewey, one who fails to reflect is destined to not learn and grow from prior experiences, a failure that hurts oneself and others (as cited in Rogers, 2002). It is logical to make a connection, therefore, between teacher reflection as a vehicle to improve classroom management (and decision-making).

Teachers who regularly reflect about classroom management would seemingly be more equipped to deal with unpredicted classroom scenarios based on their studies of prior experiences. In combination with using past reflection to guide their practice, teachers also must always be aware of what is currently going on in the classroom. Kounin (1970) explains that effective managers demonstrate "withitness" by having a keen awareness of all happenings in the classroom and subsequently being able to predict when misbehavior will happen to prevent it quickly and efficiently. These teachers are able to do more than one thing at a time. Effective managers also keep momentum in the classroom, moving from task to task without allowing time for the students to lose focus or be confused; they give good directions with eye contact and modeling and make sure students understand before moving on. Teachers who ask questions during instructions and activities are better able to hold students accountable. Further, effective managers are able to estimate the academic abilities of their students so that the work assigned is

appropriate, minimizing frustration based misbehavior (Kounin, 1970). Presumably, "withitness" requires decision-making skills which may grow out of thoughtful reflection of prior learning and experiences. In order to make effective classroom management decisions while holding momentum, modeling appropriate behavior, and estimating student ability, the teacher must be able to think on a variety of levels at the same time, making quick decisions that take into account a number of issues. These skills would indicate a teacher's ability to differentiate instruction (and management) for all students; this not only ensures a well managed classroom, but one that is academically focused for students (Tomlinson, 1999).

While strategies such as creating classroom rules, creating a sense of value for students, and being reflective practitioners are all useful methods allowing teachers to be proactive, even the most proactive teachers and effective classroom managers are going to need specific strategies to react to problematic classroom situations. Effective classroom managers are aware of the context in which they are teaching and how that context works for each student in the class. Research has shown that instructional context is strongly correlated to student engagement; students who are more prone to behavior problems, for example, will not do as well in instructional contexts where they need to use self-regulation (Baker, Clark, & Maier, 2008). One instructional context where reactive classroom management may be necessary is when teachers put students into cooperative learning groups. Regardless of how well planned the group activity is, teachers need to be sure to use appropriate management techniques such as asking questions, pacing groups, giving feedback, establishing routines, giving directions, and monitoring (Brophy, 1999). Good managers are able to shift from instructional director to facilitator of

student learning when the students are working in groups (Antil, et. al as cited in Emmer & Stough, 2001). If a group gets off task, these monitoring skills are essential for bringing that group's focus back to learning.

Research provides more specific examples of effective and ineffective strategies to react to unexpected classroom issues. Little and Atkin-Little (2008) in their research designed to determine most commonly used and most effective strategies utilized by effective classroom teachers, report that 83% of teachers surveyed use proximity in response to classroom disruption, rating it as the most effective strategy, followed by verbal reprimand, long stares, ignoring negative behavior of disruptive students, recognizing and reinforcing appropriate behavior of on-task students, and listing names of disruptive students. The use of proximity as an intervention was also found to be linked to effective classroom management in a study conducted by Brophy & McCaslin (1992) designed to determine which strategies of classroom management are most effective by drawing on the knowledge of experienced classroom teachers, having them indicate how they would handle hypothetical disruptive classroom situations. Responses were correlated with teacher effectiveness, a composite based on the principal and classroom observers' ratings as well as teacher ratings of their own success. Overall, all of the teachers provided similar strategies for dealing with situations, but effective teachers provided more detailed and coherent strategies (i.e. provided more detail in terms of what their approach would be and how the strategy would be implemented) and were more likely to work to establish a personal connection with students. They also had more confidence in their ability to influence the situation. Specific strategies linked to effective classroom managers included proximity and the use of touch (e.g.,

pat on the back) for encouragement, while ineffective classroom management was linked to the use of intrusive techniques (e.g., blaming, threatening, and yelling), which disrupted the classroom environment. Intrusive techniques are deemed ineffective because they not only undermine the overall effectiveness of general classroom management, but may also slow the momentum of the specific lesson being taught. In contrast, effective classroom managers cued appropriate behavior, cited classroom rules, used praise, and were able to remain calm and professional, maintaining control over the problem students, the classroom as a whole, and their emotions while successfully sustaining the momentum of academic lessons (Brophy & McCaslin, 1992). The concept of how a teacher's emotions may influence classroom management is discussed next.

Classroom management often invokes emotion in teachers. Much literature published by teachers contains emotional content (Carter & Doyle as cited in Emmer & Stough, 2001). Often, the emotions described related to teacher anxiety and low personal efficacy in relation to classroom management. These negative emotions are usually stronger with behavior issues than with academic issues (Emmer & Stough, 2001). These emotions can have an impact on the way the teacher feels and the way the teacher acts toward the students. For example, a teacher who has been disrupted by a student repeatedly may reach a point of anger where he or she would be unable to reflect on the reasons behind the behavior to make a good decision due to intense feelings of frustration (Colton & Sparks-Langer, 1993. This example further illustrates the importance of studying teacher education and its link classroom management decision-making abilities because management may have influence on teacher burnout. Research has found that

one of the most common reasons for teacher attrition within the first five years of teaching is student misbehavior; other reasons cited were student tardiness and apathy, both of which are related to classroom management (Harrell, P. et al., 2004). Since teacher attrition is a major problem in education, it is reasonable to propose that exploring the relationship between teacher education programs and subsequent classroom management abilities is worthwhile to continue to improve these programs and promote a confident, strong self-efficacy in each graduating teacher. Teachers with a strong self-efficacy believe they can make a difference in the lives of their students and positively impact the greater society (Ashton & Webb, 1986).

In teacher education programs, classroom management can be taught in a variety of ways. Without the actual K-12 classroom context, however, it is difficult to develop methods of teaching the construct that are reliable and valid. Methods that promote a reflective-practitioner approach are typically used and situate classroom management events within actual contexts and events (Emmer & Stough, 2001). The opportunity for students in teacher education programs to use case studies allows for reflective practice without the intense immediacy of the real classroom (Emmer & Stough, 2001); can be seen as a stepping stone for student teaching and eventually the first year of teaching. Since one of the essential assumptions of classroom management is that a good manager should be able to prevent behavior disruptions rather than troubleshoot (Brophy, 1983), these case studies are a seemingly good way for future teachers to develop this ability to use foresight and critical thinking in the classroom. Therefore, because it is assumed that students in teacher education programs will have had experience with situational case studies, one common method of studying classroom management is the use of realistic

vignettes to assess strategies employed by teachers. Brophy and McCaslin's (1992) study that focused on effective classroom management strategies had teachers respond to different vignettes that were representative of any K-6 range without giving any contextual factors such as age, grade, or past behavior. In this study (which was described above) teachers were asked to indicate what they would do in each situation and explain their rationale for their approach (Brophy & McCaslin, 1992).

Another study used a series of vignettes depicting students engaging in aggressive classroom behavior and had teachers respond to a questionnaire following the vignettes to assess whether training in classroom management influenced teachers' response to aggressive behaviors as well as their affective reactions, attributions, and suggested strategies for intervening (Alvarez, 2007). Similarly, Lacina-Gifford, Kehr, and Besant (2004) used vignettes to assess pre-service teachers' knowledge of effective and ineffective strategies for dealing with shy and withdrawn students by having them review a hypothetical situation and complete a questionnaire providing both effective and ineffective strategies that may be implemented for the given situation. Sixty-one percent of participants indicated that they would talk to the student about his/her behavior while approximately a third of the participants indicated that they would involve the entire class in improving the student's behavior. The strategies reported as least effective by the student teachers were confronting the student in front of peers or any attempt to purposely embarrass the student (64 and 41 percent respectively). Results indicated that while student teachers seemed to have some awareness of effective strategies for dealing with shy and

withdrawn students, their ability to articulate strategy details and explain the implementation process may need to be further developed (Lacinda-Gifford, Kehr, & Besant, 2004).

Vignettes were also utilized in a study designed to examine differences between expert and novice teachers' ability to solve classroom management issues. Expert and novice teachers were asked to think aloud to develop and decide on a strategy in response to six vignettes dealing with issues such as classroom disruptions, aggressive behavior, and off task students. Results indicated that expert teachers had more comprehensive reflections about their classroom management issues and considered multiple perspectives whereas the novices focused more on surface details. The authors assert that the data indicates that novices are primarily interested in immediate problem solving as opposed to thoroughly testing potential solutions (Swanson, O'Connor, & Cooney, 1990). While this study provides useful insight into the differences between new and experienced teachers, it does not explore differences between those who have received no teaching training, those who have received training but lack experience, and those who are expert teachers. A method similar to this study is employed in the present research.

The research presented above indicates that classroom management has important implications for teacher success and subsequent student learning. It is clearly a complex and nuanced skill that teachers need before and during instruction and is as much a part of the planning process as content knowledge; it is an essential component of effective pedagogy. As such, teacher education programs should theoretically work to develop these skills before teachers go into the field. The present study will seek to explore how a teacher education

program prepares its students for classroom management by examining the decisions they make about classroom management issues.

Other Factors Influencing Teacher Decision-Making

The above three sections of this literature review discuss the issues surrounding teacher education and its effectiveness, teacher expertise and decision-making skills, and classroom management. Seemingly, the research links these skills to teacher education and experience. What the research does not explore, however, are possible other factors that may contribute to a teacher's decision-making process. It is reasonable to explore the possibility that factors other than teacher education and other than formal teaching experience could contribute to a person's ability to make decisions about classroom management. And, if these factors exist, perhaps they could explain why some uncertified teachers sometimes do not differ from certified teachers in their behaviors or in their students' achievement. This research will look at correlations between such factors as babysitting experience, tutoring experience, experiences with younger siblings, and public speaking aptitude to explore if there are any associations between these factors unrelated to formal teacher education and the decision-making of participants. No literature was found on this particular topic to cite, so it is purely exploratory.

Research Questions

The purpose of this study is to compare incoming freshman education majors to graduating senior education majors, particularly in the decisions these two groups make about classroom management. Because high quality teacher education is a widely debated topic, it is important to examine its effects. This study seeks to answer the following questions:

1) First, is the quality of the decisions made to resolve a simulated classroom management issue higher in graduates of a teacher education program than in students who did not graduate from such a program. To provide an unconfounded answer to this question, I examine how the senior education students perform in comparison to the freshman education majors, freshman non-education majors, and senior education majors, the last two groups serving as control groups. I hypothesize that (a) the senior education majors would generate more effective classroom management strategies than participants in the other three groups, and (b) participants in the other three groups would not differ among themselves.

(2) Second, what other factors may contribute to the types of decisions a participant makes about classroom management? The following section will detail the method for this research.

CHAPTER 3

METHOD

Participants and Design

There are four groups in this study. The first group consists of freshmen that have declared majors in education (N = 33). Another group consists of graduating seniors from the education program who are in their last semester before graduation (N = 34). A third group consists of freshmen of various non-education majors at Temple University (N = 33). The last group consists of graduating seniors of various non-education majors in their final semester at Temple University (N = 34).

Comparisons of groups one and two served to show differences between freshmen and seniors in the education program. However, if a difference emerged, this result could either be due to the fact that the seniors had more pedagogy courses, or due to other experiences associated with being older and in school longer. To control for these other possible differences, a group of non-education seniors was added. However, if people are predisposed to being "natural teachers," it would be useful to compare the education freshman to non-education freshman. The education students were selected from a pool of eligible participants by visiting

introductory education classes. The students from the control groups were selected from non-education classes where students volunteered to participate after being asked. To complete the sample, I asked seniors and freshman in public venues on campus to participate in the interview; those who were willing did so as volunteers. I simply asked students at the Student Center and other lounges in academic buildings if they were freshmen or seniors and if they would be willing to participate in a brief interview for a research study. I did not provide an incentive, and most students still agreed to participate.

The gender distributions among groups differed, with the non-education groups having a higher percentage of males than the education groups (see demographic tables below). To account for this, hierarchical linear regressions were conducted on the data and indicate no significant gender differences in the responses given. See results section below.

Also participating in the study were two expert teachers. These expert teachers were selected based on opinions from their principals and other supervisors using Berliner's (2001) propositions about expert teachers (see Appendix A). Additionally, the experts both have a minimum of ten years of teaching experience and a strong record of successful classroom management. I met with the principals of the schools where these teachers work to ensure the qualifications of the expert. The responses provided by expert teachers during the interview are used (in combination with relevant literature) as a benchmark for measuring quality responses.

Interview

The participants were tested individually and asked interview questions either by the researcher or one of two research assistants. The interview was standardized and administered identically by all three interviewers. All participants were asked to provide the background information listed below first. This information is used later for multiple regression analysis to examine other factors that may correlate with the types of decisions made by participants (research question number two). Because there are so many possible factors that could influence the types of decisions that participants make, these data are necessary for exploration and potential links and could serve as a starting point for future research.

1. Age
2. Gender
3. Major
4. Minor (if applicable): This question was asked out of thoroughness, to ensure that none of the non-education students have an education minor that would blur the difference between education and non-education students.
5. Number of Siblings: It is possible that the experience of growing up with other children could impact the types of decisions one would make about children in a classroom setting.
6. Birth Order (if applicable): Although research on birth order is conflicting, I thought it was worth exploring to see if participants with younger siblings may be more likely to make good decisions about management.

7. Prior Teaching or Tutoring Experience: Any experience may make a difference in a teacher's performance. Working in a school, day care, after school program, etc. could certainly impact the types of decisions that a participant would make. These experiences provide a type of education different from what is offered in a formal education program and may contribute to responses given.
8. Prior Formal Experience with Children (Babysitting, volunteering, etc.): It would seem logical that babysitters and other childcare workers who may have had training would have decision-making skills different from those without that experience. If babysitting correlates with the types of decisions one makes, it could be interesting to explore how.
9. What Type of School Attended K-12 (Public vs. Private): One can intuit that much of what we know about classroom decision-making comes from the observations we have made of our own former teachers. Because individual education experiences may have such a profound influence on the educational philosophy of any given individual, it would be worth noting this for potential areas of future research.

The following questions were asked purely for exploratory purposes, making sure to include as much information as possible to explore during and following analysis. These questions were asked within a series of unrelated, distracter questions, so as not to give away any hypotheses.

10. The participants were asked if they are more of a "math person" or "English person."
11. The participants were asked what kind of grades they get in their math and English courses. Both questions 11 and 12 served the purpose of seeing if self-reported verbal ability does in fact correlate with classroom decision-making, as opponents of formal teacher education suggest.

12. The participants were asked if they enjoy public speaking. I hypothesized that it could be possible that comfort level in front of groups may correlate with the types of decisions one makes.
13. The participants were asked their opinion on the following statement: teachers should partner with parents to help instill good behavior, character, and values in students. This response drives to the heart of classroom management philosophy. It seems plausible that teachers who are strong classroom managers also would have a strong and holistic philosophy of successful classroom management.

An interview schedule was designed (see Appendix B) and administered to the expert teachers on a one-on-one basis. They responded to the standardized interview prompts delivered by the researcher. The experts were then revisited following data collection to discuss and help analyze the data and coding system. The interview schedule was administered to the participants in each group on an individual basis. Responses were recorded with a digital audio recorder and transcribed verbatim. The participants were given two minutes to respond to each of the three classroom management vignettes in the interview schedule. Because expert teachers are able to make decisions quickly, weighing multiple perspectives at once, this was done to serve the purpose of controlling for the advantage that additional time may provide.

Coding

Following transcription of all of the interviews, I collaborated with the expert teachers and the two research assistants to code the data, looking for patterns. Studies incorporating data from vignettes typically create a coding system, test the system on a subset of data, and then use interrater reliability to ensure appropriate categorization. For example, Brophy and McCaslin's study (1992) created a coding system for transcribed vignette responses, tested the system on a subset of 20 transcripts, and retained categories that had at least 80% agreement among independent coders. Categories that did not have agreement were analyzed collaboratively until agreement was reached and then all transcripts were independently analyzed by two coders who resolved any discrepancies through discussion. The same strategy was used by Lacina-Gifford, Kehr, and Besant (2004), and a similar coding procedure was used by Swanson, O'Connor, and Cooney (1990); however, the latter required .95 interrater reliability for each vignette.

Following the established protocol in prior studies, in the present study a qualitative content analysis was conducted and then we (two research assistants and me) translated the strategies into codes for quantitative analysis. These codes will be referred to as "strategy codes" because participants provided strategies for handling each vignette, or they may be referred to as "categories." The strategy codes were tested on a subset of 25 transcripts that yielded 94% agreement. When agreement did not exist, the coders engaged in additional discussion, revising categories. Once agreement was reached, each strategy code was assessed as either positive or negative (meaning effective or ineffective for classroom management) using existing literature, expert teacher opinion, and discussion and agreement among the research team to guide decisions; all categorizations were agreed upon by the researchers and expert teachers. See

detailed explanations below. I coded the data with the assistance of one research assistant for roughly 20% of the interviews. If a response's appropriate code was not clear, the research team collaborated to choose the best category in which to group the response.

For each scenario, a number of strategy codes were established. A different set of strategies was established for each one of the scenarios because each issue is contextual and often require different strategies. These strategy codes will be explained further below. Then, as stated above, the responses given were coded into either effective or ineffective strategies, and three new variables were defined, one for each of the classroom management scenarios: goodA, goodB, and goodC. The participants who provided an effective strategy were assigned a value of 1 for these variables; the participants who provided an ineffective strategy were assigned a value of 0 for these variables. The coding schemes for each scenario are detailed below.

Scenario A – Group Work

The first vignette asked respondents to explain how they would handle a small student group that was supposed to be working on an assignment but was off task. This vignette was chosed because group work is a highly nuanced pedagogical strategy; good design and management of group work is necessary for productive work to be accomplished in the classroom (Brophy, 1999). When a teacher breaks students into groups, he or she relinquishes control of the class and must rely on the directions given and the expectations established to maintain control and productivity in the classroom. If that control is lost, as in Scenario A, a good teacher should be able to make a quick, effective decision about how to handle the situation in a positive manner. The participants' responses were placed into one of ten categories. The

strategy codes that were coded as positive/effective included *verbal redirection* (e.g., verbally address the students and reinforce the activity they should be working on), *positive reinforcement for on task students*, and *problem solving to find out why students were off task*. The expert teachers both agreed that teachers who consistently monitor and remind students of the directions have well-managed classrooms. Literature confirms that positive reinforcement is an effective strategy for keeping students on task (Brophy, 1983). Furthermore, teachers who problem-solve are more likely to get to the root of a problem in order to effectively remedy the situation and prevent it in the future (Darling-Hammond and Bransford, 2005).

Categories that were coded as ineffective included *verbal threat to punish*, *specific punishment, split group up, embarrass/punish students by comparing to on-task students, generally negative responses*, and *responses that were ambiguous or where the respondent did not give an answer*. Punishment has been deemed less effective than reinforcement by many sources (Little and Atkin-Little, 2008; Axelrod, 1982; Ginott, 1993; etc.), and the expert teachers agreed that punishment and embarrassment of students often backfires and results in more behavior problems overall. Splitting the group up was agreed to be a negative/ineffective strategy by the research team and expert teachers, as that strategy would interrupt the flow of the class, change the dynamic of the groups who were on task, and avoid solving the problem situation. Changing groups mid-lesson is rarely a good idea according to the expert teachers; it is better to switch groups the next time a group assignment is given.

Scenario B – Apathy

The second vignette asked respondents to explain how they would handle a student who was not working on an in class assignment and demonstrated lack of interest in doing the work in combination with doubts about his or her ability to perform well. This issue was selected because if a student demonstrates that he or she does not care to participate, that obviously hinders that student's learning but could also hinder the learning of the other students. A good classroom manager would be able to help the individual student and maintain a positive learning environment for the rest of the class. The participants' responses for the second vignette were placed into one of eleven categories. The categories that were coded as effective included *general encouragement*, *reformat or change the way the assignment was presented*, *praise and reinforce the students who are working, problem solve why the student wasn't working, create a personal connection with the student*, and *communicate the purpose and significance of the assignment in relation to the student's life*. One expert teacher stressed the importance of having a personal connection along with a positive attitude toward the students; these personal connections help to make the students feel encouraged and able. The second expert agreed with this statement. Changing the way an assignment is presented is a concept called "differentiated instruction," where teachers understand the different needs of different students and adjust instruction accordingly to maximize learning for all students (Tomlinson, 1999). As stated above, teachers who problem-solve during difficult situations and seek to understand why the problem is occurring are more likely to garner lasting remedies (Darling-Hammond & Bransford, 2005).

Categories that were coded as ineffective included *preventing that type of behavior in the first place*, *calling parents, ignoring students/letting them fail, threatening academic deduction*, and *unsure or ambiguous answers*. The experts and researchers agreed that participants who indicated that they would prevent that type of behavior in the first place were avoiding answering the question at hand; the vignette did not ask the participants to outline their plans for preventing issues, but rather it asked the participants to discuss what they would do in the moment. Further, both experts adamantly agreed that calling parents should be a last resort; teachers should partner with students to be successful in the classroom, but parents should not be relied on as a crutch. Allowing students to fail or lowering grades before making an effort seems to be obviously negative/ineffective. Teachers that are motivating and encouraging of their students are likely increase student performance levels (Brophy, 1983).

Scenario C – Students Talking during Whole-Class Instruction

The third vignette asked respondents to explain how they would handle students whispering during a teacher led lecture to the entire class. This is a classroom issue that almost every teacher will encounter during the course of a school day, according to the expert teachers in this study. The participants' responses to the third vignette were assigned to one of ten strategy codes. The categories that were coded as effective included: *proximity* (i.e. moving closer to student), *ignore students, quick verbal redirection, talk to students after class*, and *praise the students who are paying attention*. Use of proximity has been found to be effective in keeping students on task (Brophy & McCaslin, 1992). Ignoring students when their behavior is not distracting the rest of the class is often a smart tactic so as not to interrupt the flow of the

instruction according to both experts; literature has found that momentum is important in quality instruction (Brophy & McCaslin, 1992). Talking to the students after class prevents the teacher from interrupting class and taking instructional time away. Again, positive reinforcement of students who are on task has been found to be an effective strategy for keeping students on task (Brophy, 1983).

Categories that were coded as ineffective included *verbal punishment in front of the entire class*, *calling on students in an attempt to embarrass them*, *change seats*, *go over to students during class time and tell them to stop talking*, and answers that were *ambiguous* or where respondents indicated that they *did not know* what to do. As cited above, punishment, specifically that embarrasses students, has been found to be ineffective in literature and was confirmed by the experts in this study. Both experts agreed that changing seats in the middle of class time interrupts the flow of the class which could cause other students to become distracted and takes away instructional time. Stopping class to talk to students individually is unnecessary for this level of misbehavior and clearly takes away instructional time while giving students who were previously on task the opportunity to become distracted, as agreed upon by the research team and the expert teachers.

The above vignettes were chosen based on my belief that of the classroom management issues posed to teachers, these are some of the most common. A previous study used similar situations in vignettes used to measure classroom management decision-making skills of teachers (Swanson, O'Connor, & Cooney, 1990). Furthermore, it has been suggested that serious classroom management issues typically do not cause difference in teacher responses and

decisions, but more minor classroom management issues such as the above three do often result in the use of different strategies by different teachers (Kounin, 1970). No contextual information is included in the vignettes because I believe that there are some classroom management strategies that work across contexts, ages, subjects, etc. Simple classroom management strategies such as monitoring student work, administering positive reinforcement, and using proximity should be universally effective. Future research could explore context more deeply to determine how robust "universal" classroom management practices really are.

Additional Exploratory Items

The interview schedule (see Appendix B) included an additional question at the end of each of the Classroom Management vignette scenarios. Participants, after giving their answers, were asked how confident they were on a scale of 1-5 that their strategy would work to get the students under control. I generally hypothesized that senior education majors, given the time spent on pedagogical training, should be more confident in their responses than the other three groups. Results for these items may provide the framework for additional research about teacher self-efficacy and perceived ability. However, there is also a very large literature on overconfidence (Weinstein & Klein, 2002) that suggests that most people think they will be more successful than they actually are and also more successful than others in the same situation (e.g., I can drive well in the snow but everyone else cannot). So my study will examine the extent to which pedagogy courses and classroom experiences seem to affect confidence judgments.

CHAPTER 4
RESULTS

Results will be presented in three sections. First, descriptive analyses of the main variables will be presented. Second, the results of the analyses of the two main research questions will be presented. And third, a section will be included for supplemental analyses.

Descriptive Analyses

Table 1 shows the means and standard deviations of the other possible predictors by group and in total. Table 2 lists the frequencies of answers given for each of the classroom management scenarios by group. Table 3 shows the means and standard deviations for goodA, goodB, and goodC by group. Table 4 lists the means and standard deviations for the confidence levels by group on all three of the classroom management scenarios.

Table 1. Means and Standard Deviations of Other Possible Predictors of positive/effective responses

Group		Fr Non-Ed n = 36	Fr Ed n = 33	Sr Non-Ed n = 34	Sr Ed n = 34	Total n = 137
Age	M	18.58	18.48	22.53	23.15	20.66
	SD	.646	.18	2.107	2.776	2.809
Gender	M	.36	.18	.53	.26	.34
	SD	.487	.392	.507	.448	.474
Siblings	M	1.78	1.76	1.76	1.76	1.77
	SD	1.149	1.062	1.257	1.257	1.171
BirthOrder	M	.06	.12	.15	.26	.15
	SD	.984	1.053	1.019	1.024	1.011
PriorTeach	M	.44	.85	.53	.79	.65
	SD	.504	.364	.507	.410	.479
Babysit/Vol	M	.83	.91	.76	.88	.85
	SD	.378	.292	.431	.327	.362
Pub/Priv	M	.75	.79	.82	.79	.79

Group		Fr Non-Ed n = 36	Fr Ed n = 33	Sr Non-Ed n = 34	Sr Ed n = 34	Total n = 137
	SD	.439	.415	.387	.410	.410
Math/Eng	M	.56	.48	.56	.74	.58
	SD	.504	.508	.504	.448	.495
PublicSpeak	M	.14	.48	.38	.74	.43
	SD	1.199	1.149	1.129	1.082	1.149
GoodTeacher	M	.42	1.42	.74	1.62	1.04
	SD	.937	.502	.790	.493	.861

Notes: Gender: Female = 0 and Male = 1. Siblings represents number of siblings a participant has. BirthOrder: Youngest = -1, Middle = 0, Oldest/Only = 1. PriorTeach represents prior informal teaching experience such as tutoring, Yes = 1 and No = 0. Babysit/Vol represents prior experience with children such as babysitting or volunteer work with children, Yes = 1 and No = 0. Pub/Priv represents whether a participant went to public or private school, Public = 1, Private = 0. Math/Eng represents whether a participant reports being more of a math person or an English person, 0 = Math and 1 = English. PublicSpeak represents participants' reported like or dislike for public speaking on a 5-point likert scale coded -2-2, strongly disagree to strongly agree. GoodTeacher represents participants' reported belief that he or she would be a good teacher on a 5-point likert scale coded -2-2, strongly disagree to strongly agree.

Table 2. Percentages of Participants who mentioned particular strategies by Group and Scenario

Group	Fr Non-Ed	Fr Ed	Sr Non-Ed	Sr Ed
Scenario A				
Verbal redirection	19	32	22	27
Verbal threat to punish	13	25	38	25
Positive reinforce students on task**	14	0	0	86
Specific punishment	29	14	14	43
Split group up	23	27	32	18
Find out why off task/ talk to them**	0	14	27	50
Reinforce on-task AND punish off-task	0	67	33	0
Unsure/Ambiguous**	67	13	13	0
Academic Deduction	47	27	27	0
Other/Negative	50	50	0	0
Scenario B				

Table 2. (continued)

Group	Fr Non-Ed	Fr Ed	Sr Non-Ed	Sr Ed
General Encouragement	24	34	17	20
Reformat/change way of presenting	30	10	20	40
Praise/reinforce students who are working	0	0	0	100
Prevent that behavior	100	0	0	0
Rationalize purpose of assignment	15	23	38	23
Call parents	43	14	43	0
Ignore/Let fail	43	0	43	14
Threaten academic deduction	25	38	13	25
Unsure/Ambiguous	50	42	0	8
Scenario C				
Proximity***	0	6	6	88

Table 2. (continued)

Group	Fr Non-Ed	Fr Ed	Sr Non-Ed	Sr Ed
Verbal redirection	19	36	19	26
Verbal punishment in front of class***	44	0	50	6
Ignore	23	31	31	15
Talk after class	15	38	23	23
Call on students talking	29	43	29	0
Change seats/separate	54	23	8	15
Go over to students and tell to stop talking*	50	0	50	0
Unsure/Ambiguous	33	33	33	0

Note: significant group differences in the frequencies of each reported strategy per scenario are marked by asterisks, as determined by chi square analyses; * $p < .05$, ** $p < .01$, *** $p < .001$

Table 3. Means and Standard Deviations for goodA, goodB, and goodC by Group

Group	Fr Non-Ed	Fr Ed	Sr Non-Ed	Sr Ed
	n = 36	n = 33	n = 34	n = 34
goodA				
M	.28	.45	.41	.79
SD	.454	.506	.500	.410
goodB				
M	.58	.73	.76	.85
SD	.500	.452	.431	.359
goodC				
M	.36	.73	.47	.91
SD	.487	.452	.507	.288

Note: Each participant received a "1" if they mentioned any of the most effective strategies; the means listed are based on 0s and 1s; as such the means can be read as percentages of each group who received a 1.

Table 4. Means and Standard Deviations for the Confidence Levels by Group

Group	Fr Non-Ed	Fr Ed	Sr Non-Ed	Sr Ed
Scenario A				
M	.89	.52	.47	.62
SD	1.190	.834	.662	.551
n	36	33	34	34
Scenario B				
M	.64	.30	.24	.50
SD	1.515	.918	.819	.749
n	36	33	34	34
Scenario C				
M	1.25	.82	.65	1.09
SD	1.461	.983	1.012	.668
n	36	33	34	34

Note: Scores are based on a -2-2 scale ranging from "-2" very unsure it will work to "2" very sure it will work.

Analyses of Research Questions and Hypotheses

Research Question #1

My first main hypothesis that (a) the senior education majors would generate more effective classroom management strategies than students in the other three groups, and (b) students in the other three groups would not differ among themselves. To test this hypothesis for each of the three scenarios, I performed planned contrasts for each part of the hypothesis. That is, one contrast was set between the senior education majors and the other three groups, and three other contrasts were set between the three possibly pairwise comparisons of the other three groups (i.e., freshman education vs. freshman non-education majors, freshman non-education vs., senior non-education majors, and freshman education vs. senior non-education majors). Tests for homogeneity of variance were conducted, and the Levene's tests were significant for all three scenarios. Therefore, for all three scenarios, the statistics do not assume equal variances. Although the .05 confidence level was used, when doing a planned contrast it is necessary to divide that by the number of contrasts (in this case 4) and set the confidence level at .0125, as per the Bonferonni correction. The results of each quartet of contrasts for scenarios A, B, and C are shown in Table 5.

Table 5. Planned Contrasts

	t	sig
Scenario A		
Sr Ed vs. Other Groups	4.842	.000
Fr Ed vs. Fr Non-Ed	-1.523	.133
Fr Ed vs. Sr Non-Ed	.348	.729
Fr Non-Ed vs. Sr Non-Ed	-1.172	.245
Scenario B		
Sr Ed vs. Other Groups	2.104	.039
Fr Ed vs. Fr Non-Ed	-1.256	.214
Fr Ed vs. Sr Non-Ed	-1.629	.108
Fr Non-Ed vs. Sr Non-Ed	-.347	.730
Scenario C		
Sr Ed vs. Other Groups	5.721	.000
Fr Ed vs. Fr Non-Ed	-3.238	.002
Fr Ed vs. Sr Non-Ed	-.921	.361
Fr Non-Ed vs. Sr Non-Ed	2.189	.032

As can be seen in the table, the main hypothesis was confirmed for Scenario A. Senior education majors did generate a significantly greater number of effective strategies than students in the other three groups, and students in the other three groups did not differ among themselves.

For Scenario B, however, although senior education majors scored higher than the other three groups, they did not generate significantly more effective strategies than the other three groups once the Bonferonni correction is taken into account (confidence level of .0125 vs. .05). While it would have been significant without the correction, the lower confidence level is employed due to the use of planned contrasts. The other three groups also did not differ from one another, as predicted.

In Scenario C, senior education majors generate a significantly greater number of effective strategies than students in the other three groups. Interestingly, the two freshman groups did differ (freshman education scoring higher than freshman non-education), even with the Bonferonni correction. The two non-education groups did not differ. Finally, the freshman education group did score higher than the senior non-education group, but with the Bonferroni correction, this difference is not quite significant. It's marginal significance suggests that perhaps people oriented towards education may be predisposed to good management ideas even before taking pedagogy classes. This will be discussed further in the discussion section.

Below are a sampling of verbatim answers given by participants in each group for each of the three scenarios, Scenario A, Scenario B, and Scenario C. The examples below for Scenario A, Scenario B, and Scenario C provide qualitative context for the statistical results of the planned contrast analysis. The senior education group was found to be significantly different from the

other three groups who did not differ from each other. The passages posted below were agreed upon by the two research assistants and me to be representative of the answers provided by each group.

Scenario A

Example Set 1: Freshman Non-Education Majors.

The items answers listed below represent the answers given by freshman education majors. Some of the answers were effective and some ineffective. The sampling below gives examples of the unsure language used by the freshman non-education students. Notice the use of phrases such as "I guess," "I think," and "I'm not really sure." This group was quick to punish or put the responsibility onto the students.

> "I would go over to the group that is not on task and try to get them back on task, I guess." (Verbal redirection – effective)
>
> "I think I would remove the group that was misbehaving from the classroom so they'd stop distracting the rest of the students and take them aside and explain that this is a group project, they need to get it done, and stop telling jokes and goofing off. Then go back in the classroom and hope that worked." (Other/Negative - ineffective)
>
> "I think I would pull the children aside in the group that wasn't acting right and ask them if they could possibly act like the other group." (Other/Negative - ineffective)
>
> "I would call time and have them present what information that they have so that they would have to deal with their own consequences in front of the class." (Specific Punishment - ineffective)
>
> "I'm not really sure I would do a whole lot because I would put the responsibility on the students themselves. This is their time that I'm giving them to work, and if they choose to waste it, then they waste it. The price would come in their grade if they don't produce quality work. If they

> choose to work hard outside of class or somehow like that, then by all means that's fine, but I really wouldn't punish them for not doing it. I'd just let them know that it's their time, and they're wasting it." (Unsure/Ambiguous - ineffective)
>
> "I would tell the students that were not behaving properly to behave, and if they don't, the results were going to be negative for their group project or whatever they were working on." (Verbal threat to punish - ineffective)

Example Set 2: Freshman Education Majors.

This set of examples looks similar to the first set. The students use unsure and ambiguous language and rely more on punishments than reinforcers. The sampling below shows how even the "effectively" coded strategies are not as effective as those given by the senior education majors. The limitations of the 0-1 coding scheme are discussed more thoroughly in the discussion section below.

> "I guess if we had a group that was not acting right and then a group that was, maybe switch group members to maintain control of that." (Split group up - ineffective)
>
> "I guess I would go over to the group that's off task and tell them to look around at the other groups and say that's how you should be working or else you're not doing the best of your ability." (Reinforce on-task students AND redirect/punish off-task - ineffective)
>
> "I would definitely have the students that were performing the task tell me what exactly they were doing and share with the class whatever they were talking about. The group that wasn't doing what they were supposed to, I would definitely give them an extra long homework assignment pretty much to teach them a lesson." (Specific punishment - ineffective)
>
> "I would approach that group, ask them what they were talking about, and depending on the answer that they gave me if they were honest or not, I would say well I heard you talking about this which isn't part of the assignment. Please get back on task. If they gave me an answer that was on task, I would say then quiet down so you don't disturb the groups around you." (Find out why students are off task/talk to them - effective)

> "I would probably go over to the students and tell them that they would be losing points on their grade to try to get them to work harder. If not, then they just wouldn't be allowed to present, and they would get a zero for the project." (Academic Deduction - ineffective)

Example Set 3: Senior Non-Education Majors.

The senior non-education majors were similar to the first three groups. The examples below provide further context for the points made above and will be discussed in more detail in the discussion section.

> "I might install some sort of deadline where if they don't reach the deadline by a certain point, the whole group will suffer, and they'll see that the other groups around them are already ahead of the game. Hopefully they would pick it up." (Academic Deduction - ineffective)

> "I would fail the single group that wasn't doing their assignment. They know what their assignments are. They're not doing it. They deserve the grade." (Academic Deduction - ineffective)

> "I think I would guess in a way point the group out that was causing problems and bring it to the attention of the rest of the class and ask the other class how they felt about the other students not doing work while they were doing their work correctly." (Specific punishment - ineffective)

> "I guess what I would do is I would maybe go over to the group and separate them out. Ask them what the problem is individually. If the other groups are working fine, they should be okay if I left and dealt with the single group." (Find out why students are off task/talk to them - effective)

Example Set 4: Senior Education Majors.

The senior education examples that are given below show evidence of pedagogical knowledge, holistic thinking (considering many factors at once that may influence student behavior), and reflection. The second example is good use of positive reinforcement, as it the fourth, where the participant suggests addressing the class as a whole rather than embarrassing and singling out one group. These examples

use pedagogical terminology and have the explanations to back up their understanding of those terms. These examples will be discussed in more detail in the discussion section.

> "I'd first try and figure out why they were off task. I would go over to the group while the other groups were working, and I would try and bring meaning to them so they had ownership over the activity and find a way for the students to relate to the topic. Then maybe I could alter the topic to them so it had meaning to them so I could get them back on task." (Find out why students are off task/talk to them - effective)

> "I would emphasize the positive group. Praise them for their behavior and possibly wait until I see the other group. If they just get on task at whatever minute and try to praise them to do that to redirect them. Perhaps also go up and see why they are talking because maybe they don't understand the assignment or they have a problem so I would have to make sure that I'm doing everything I'm supposed to be doing before blaming them." (Positive reinforce students who are on task - effective)

> "I would probably walk over to the group that is misbehaving and ask to see what they've got accomplished. If they have little or nothing done, I would ask if they were having problems understanding the assignment. Maybe it's just that or maybe they feel very chatty that period. If they were having problems, I would sit with them and explain maybe a little more in detail to each of them what I want from them and what they should be doing and not goofing off. I'd explain that it is a major assignment that they really should take their time and do the work that way they can earn a good grade in the class. I'd probably just sit and work with them for a couple minutes to make sure they stayed on task but keep periodically checking in with them throughout the period." (Verbal redirection - effective)

> "I think the first thing, I would address the class as a whole. Maybe use positive reinforcement, especially if it is a younger grade. Say I really like how group A is working if group C is the one out of control." (Positive reinforce students who are on task - effective)

> "I think depending on the project, I would probably redirect them by asking them questions; kind of guiding them in terms of where they should be. I think it might be based on maybe one person's dynamic just a little bit rowdy, and it gets everyone else rowdy or just maybe the assignment is too hard so maybe I need to go over the directions again. I guess it would be

based on what I think the issue is. Generally, I would probably just go over and continue; try to redirect." (Verbal redirection - effective)

"I would probably first use proximity and walk over and see if just by standing there that they may feel like okay we have to stay on task and we don't want to get in trouble. Secondly, if that didn't work, I would ask them what they were doing or how they were progressing, if they needed any assistance. If that didn't work, I would remind them of what they had to do, the procedures that they were supposed to be doing, or what the task is they are supposed to be doing." (Verbal redirection - effective)

Scenario B

In Scenario B, since the results were less significant, the examples chosen reflect the mix of results and show how the coding scheme of 0-1 made it difficult to sort the answers. This issue will be addressed in more detail in the discussion section.

Example Set 1: Freshman Non-Education Majors.

"I would probably threaten to lower their grade or take away a privilege like recess or something so that they would feel like they have to work." (Threaten academic deduction - ineffective)

"I would probably just take them to the side and make sure they were, I don't know…" (Unsure/ambiguous - ineffective)

"I would ask them why they think they would fail or why they don't care and try to tell them that everything matters. It's helping them better their education." (Ask why to troubleshoot/problem solve - effective)

"I would assure them that if they work hard they won't fail and try to get them to get a little bit excited about doing the work and engage them in the work so they will actually do it." (general encouragement - effective)

Example Set 2: Freshman Education Majors.

"I guess I would try and understand why they don't find it interesting and try to think of an alternative method that could catch their attention." (Ask why to troubleshoot/problem solve - effective)

"I would talk to them and try to get them to work. Obviously, if they're being resistant, that might not work. I would try very hard not to give up on them, but I would also try to figure out why they are in such a bad mood because all the other kids are being good in class. Those two should not be disrupting everyone else by not working, and I would just try to talk to them and see if I can get through. If I can't, then I guess I can't." (General encouragement - effective)

"I would I guess pull them aside from the class, really listen to them, and understand why they don't think they could do well. Try and talk to them and tell why it is important to do well and I guess go from there." (Ask why to troubleshoot/problem solve - effective)

"I guess remind them that it's part of their grade. They will get penalized for not working in class. Maybe if they don't stay on task, they'll have to stay after school one day and then work on it then." (Threaten academic deduction - ineffective)

Example Set 3: Senior Non-Education Majors.

"I would basically find out what is the overall problem, if this student is okay, what's going on, why aren't you focusing on your work. I would address the overall issue that is going on with the student. It can be a family issue at home. It could be something both of them are going through like one of them could have broken up with a boyfriend or something and they are discussing that. I would like to get to the overall issue." (Ask why to troubleshoot/problem solve - effective)

"I would try my best to tell him again but still if he doesn't know what I'm trying to tell him, then probably I'll just quit" (Unsure/Ambiguous - ineffective)

"I would find something that they are interested in and do care about. I would give them an alternate project to do. One that probably wouldn't be so in-class based. I would work more independently with them on a different project." (Reformat/change way presenting assignment - effective)

"I would try to help them and comment that they don't have to fail. They should try at least, and I will speak to their parents. If I can't get any

positive response, I will just excuse them. That's not my problem." (General encouragement - effective)

Example Set 4: Senior Education Majors.

"Well, I would try to explain to them that the things they are learning they are learning for a reason. It's important, and it'll help them in the future somehow. I would try, I guess, to get to the base of why they think it doesn't matter or they don't care and try to show them that I do care about their schoolwork, and I just would probably make it a lot more personal and try to get to the root of them." (Rationalize purpose of assignment - effective)

"I think positive reinforcement will really help in a situation like that. If I reward other students for their good behavior then the students who are lacking will want to participate more to receive those rewards." (Praise/reinforce students who are working - effective)

"I feel that a lot of times when students say that it's not that they don't care, it's that they don't understand. It's above their ability or they're bored. If I give them a little bit of attention, perhaps start off with them and get them started, they probably will work and reward them immediately if they actually do start working, like more positive encouragement." (General encouragement - effective)

"If they answer by saying they didn't' care or it doesn't matter, I would have a really hard time with that because I can help the kids who say they don't understand this, but for kids who have the I don't care attitude, I don't know how to go about it. I've had that situation and haven't had much success." (Unsure/ambiguous - ineffective)

Scenario C

The results of Scenario C indicated that freshman and senior education majors both did better than the non-education majors. The answers sampled below demonstrate this pattern. However, note that senior education majors used more pedagogical terminology (and backed up their understanding of the terms), thought about multiple possibilities simultaneously, and used reflective practice to guide their decisions.

Example Set 1: Freshman Non-Education Majors.

"I would just break them up and make them sit away from each other and tell them to stop talking." (separate/change seats – ineffective)

"I would move their seats to the opposite ends of the classroom and just point them out in front of the class." (separate/change seats – ineffective)

"I would pull the students that are whispering aside and ask them if they would mind keeping what they have to say to themselves or wait until I'm done talking." (Go over to students during class/tell them to stop – ineffective)

"Share it with the class. You know traditional share it with the class. Passing a note, share it with the class." (Verbal punishment in front of class – ineffective)

Example Set 2: Freshman Education Majors.

"Well, if it wasn't interrupting the students, I would probably continue teaching, and then when I had them break out to do an activity or something, take the people who were whispering aside instead of interrupting class because I don't want to be the form of interruption and just ask them not to do that anymore." (Talk after class – effective)

"I would just tell them to stop talking. That is it." (Verbal redirection – effective)

"I figure I would probably be one of the teachers that kind of walks around the room the whole class rather than just stand in the front. If they were kind of just whispering, I would probably go to the back and teach a little bit back there because hopefully if I go back there they wouldn't want to keep talking because I'm the teacher. If they did do that, I guess maybe I could, again if it was a group that really were friends, maybe separate them but just kind of say it is distracting the classroom. If you keep doing that I will have to separate you or move one of you to the front or something and then again go back into the back and teach a little bit back there to kind of keep them quiet and paying attention." (Proximity – effective)

"I would tell them that they need to stop talking. I'm sure there would be some type of rule as to what happens if you goof off in class or interrupt the class. If that was the case, then I would implement that rule and just tell them to be quiet. If they didn't, then they would have to be disciplined and subject to getting written up or whatever the consequence to that is." (Verbal Redirection – effective)

Example Set 3: Senior Non-Education Majors.

"I would call the students out in the back, and I would explain to them how it's very disrespectful that you are talking while I'm trying to facilitate this lesson. Be respectful not only towards me but towards your classmates. It's extremely rude to do that." (Verbal punishment in front of class – ineffective)

"I would just put a smile on my face and tell them to be quiet so the class won't be disturbed by them. I hope they will understand." (Verbal redirection – effective)

"I think I would probably have to call them out and make them something of a spectacle in the classroom so that it is more peer driven that what they're doing is not okay." (Embarrass students in front of class – ineffective)

"I would make a general announcement just saying it's important for everybody to pay attention and there should be no side conversations going on." (Verbal redirection – effective)

Example Set 4: Senior Education Majors.

"Well, you're supposed to circulate throughout the room so I would probably circulate throughout the room and tap on their desks or snap or tap on their shoulder. Do something as I'm still talking so I don't have to take the time out of the lesson to talk to them and try and get them to be on task. IF they're still talking and they're not listening, probably talk to them aside. IF they have to do something out of the book or do a project or something, talk to them while everybody else is still doing something so I'm not taking time out of class and wasting time." (Proximity – effective).

"First thing I would do, I would just change my position in the room. I would walk to the back of the room proximity. I would hope that just by me being near them they would just stop whispering." (Proximity – effective)

"Again, emphasizing the positive. Somebody sitting in their seat that is actually listening, praise them, give them points. Sometimes I really like to do something to get the students' attention, throw something, or say wow to get all their attention and definitely they'll stop and hopefully I'll engage them from there." (Positive reinforce on-task students – effective).

"I think at first I would probably let it go just to not disrupt the whole class because I know in my teaching if I have to stop it does disrupt everything." (Ignore – effective).

Research Question #2

What other factors may contribute to the types of decisions a participant makes about classroom management? The foregoing analyses provided support for the hypothesis that pedagogical coursework did seem to have an effect on the instructional decision-making of the senior education majors. To explore possible correlations with alternative explanations of the findings, however, I conducted several hierarchical regression analyses in which group membership (i.e., senior education major, freshman non-education major, etc.) was entered after a number of background variables had been entered first. Dummy codes were created for the four groups using freshman non-education majors as the reference group. The variables selected to enter the hierarchical regressions first were those which may have caused confounds in the results. Analyses on the group demographics revealed differences among groups in age, gender, prior teaching experience (PriorTeaching), reported math GPA (MathGPA), and the belief that one would be a good teacher (GoodTeacher).

The interview schedule (See Appendix B) asked participants a series of questions about attitudes toward teaching and where the responsibility for classroom management resides (with the parents, teacher, or a partnership of both) in addition to demographic information. To see whether or not participants' opinions on these issues were related and correlated with good decisions, a factor analysis was conducted. Although the items did factor analyze, they did not correlate with either goodA, goodB, or goodC and were therefore not entered into the regressions.

The results for Scenario A (see Table 6) showed that the group membership still predicted a significant amount of the variance even after the background variables had been controlled. Similar results obtained for Scenarios B and C (see Tables 7 and 8). These results suggest that pedagogical training did seem to have an effect and the results could not be explained solely by other predictor variables.

Model 1 of the regression on goodA included those five variables and revealed an R square value of .130 (adjusted R square = .102), meaning 13% (10% adjusted) of the variance was explained by those five variables ($p < .002$). Age was the only significant predictor in model 1. Group membership was dummy coded and entered in model 2, which yielded an R square value of .190 (adjusted R square value of .143), meaning that 19% (14% adjusted) of the variance can be accounted for by both models ($p = .000$). This means that even with the possible confounds taken out of the model, results for goodA are still significant due to group membership. See Table 6.

Table 6. Summary of Hierarchical Regression Analysis for Variables Predicting GoodA (N = 137).

Variable	*B*	*SE B*	_
Step 1			
Prior Teaching	.139	.093	.133
Age	.048	.016	.263**
MathGPA	.109	.067	.141
GoodTeacher	.057	.053	.097
Gender	.009	.093	.009
Step 2			
PriorTeaching	.092	.093	.087
Age	.034	.024	.190
MathGPA	.071	.068	.092
GoodTeacher	-.013	.060	-.022
Gender	.058	.092	.054
Grdum1	.352	.169	.309*
Grdum2	-.042	.152	-.035
Grdum3	.161	.135	.141

* $p < .05$, ** $p < .01$

The regression on goodB was not significant. None of the predictor variables in step one were significant. However, step two revealed that senior education majors were significantly different from the other three groups after the confound variables were entered. See Table 7.

Table 7. Summary of Hierarchical Regression Analysis for Variables Predicting GoodB (N = 137).

Variable	*B*	*SE B*	_
Step 1			
Prior Teaching	.114	.087	.122
Age	-.003	.015	-.019
MathGPA	-.079	.063	-.115
GoodTeacher	.050	.050	.096
Gender	.048	.-87	.051
Step 2			
PriorTeaching	.096	.088	.104
Age	-.041	.023	-.254
MathGPA	-.073	.064	-.106
GoodTeacher	.021	.057	.040
Gender	.066	.087	.070
Grdum1	.369	.159	.365*
Grdum2	.252	.144	.239
Grdum3	.078	.127	.077

* $p < .05$

Model 1 of the regression on goodC included the five confound variables and revealed an R square value of .059 (adjusted R square = .028), meaning 6% (3% adjusted) of the variance was explained by those five variables and was not significant ($p < .111$). GoodTeacher was the only significant predictor in model 1 but because the model is not significant, that result will not be interpreted further. Group membership was dummy coded and entered in model 2 with the other variables, which yielded an R square value of .223 (adjusted R square value of .178), meaning that 22% (18% adjusted) of the variance can be accounted for by both models ($p = .000$). Group membership was significant in that senior education majors and freshman education majors were significantly different from the other three groups, consistent with results of the planned contrasts. See table 7.

Table 8. Summary of Hierarchical Regression Analysis for Variables Predicting GoodC (N = 137).

Variable	*B*	*SE B*	_
Step 1			
Prior Teaching	-.032	.094	-.032
Age	.016	.017	.091
MathGPA	-.25	.068	-.033
GoodTeacher	.117	.054	.205*
Gender	.010	.094	.009
Step 2			
PriorTeaching	-.131	.089	-.129
Age	-.003	.023	-.015
MathGPA	-.078	.064	-.104
GoodTeacher	-.021	.057	-.036
Gender	.082	.088	.079
Grdum1	.629	.160	.569***
Grdum2	.099	.144	.085
Grdum3	.463	.128	.418***

* $p < .05$, ** $p < .01$, *** $p < .001$

Supplemental Analyses

As noted above, it is of interest to determine whether or not differences in confidence levels exist between groups. Pedagogy courses and classroom experiences may prompt changes in confidence over time (either higher or more tempered). However, confidence ratings are surprisingly robust to experience. After providing a response to each scenario, participants were asked how confident they were on a 5-point likert scale (coded -2 – 2). To test the significance of group differences, confidence scores were entered into a, a 2x2 (Year by Major) multivariate analysis of variance (MANOVA) for Scenarios A, B, and C. The only significant difference found was in the interaction of year and major for scenario C. Freshman non-education majors (M = 1.25) had scores significantly higher than all of the other three groups: Freshman education (M = .82), Senior non-education (M = .65), and Senior education (M = 1.09). No other significant differences were found in confidence levels by major, year, or interaction in any of the three scenarios.

Lastly, it is worthwhile to note that a chi square analysis on the correlation of goodA, goodB, and goodC was not significant. Therefore, I cannot suggest that there is one overarching variable for good classroom management decisions from this study; performance varies by instance. However, goodA and goodC did correlate with one another. GoodB did not correlate with either one.

CHAPTER 5

DISCUSSION

The primary purpose of this study was to test the proposal that pedagogy courses do have an effect on students in the area of their ability to make instructional decisions. Finding such an effect would have important implications for the recent debates on the "value added" of teacher preparation programs. To test the proposal that pedagogy courses would make a difference, four groups of students were recruited who differed in their orientation toward teaching, their year in school, and exposure to pedagogy courses (i.e., freshman education majors, freshman non-education majors, senior education majors, and senior non-education majors). Classroom scenarios were presented to participants, and they provided strategies that could be used to deal with a problematic classroom management situation. I expected that senior education majors would be more likely to generate effective strategies than the other three groups, given their pedagogical training. Results generally supported this prediction, though with some interesting caveats. Other factors which tended to correlate with good decision-making were age, prior teaching experience, and high self-efficacy about one's teaching ability. In what follows, I discuss the meaning of my findings and make suggestions for future studies in this area.

Key Findings and their Interpretation

Participants responded to a standardized interview schedule in which they were asked to make decisions about three classroom management scenarios. Scenario A asked participants to make a decision regarding a class working on group assignment where one group was off task,

goofing around, telling jokes, etc; the rest of the groups were on task and working. Seniors generated significantly more good answers than the other three groups for this scenario, and the other three groups did not differ from one another (see Table 5). This finding suggests that seniors who have gone through a teacher education program have better insight into dealing with a class that is broken up into groups. Perhaps pedagogy classes address strategies for managing a class of students that is broken up into groups. Such classes would provide the senior education majors with a skill set not found in students who have not completed the program.

Group work is a highly nuanced pedagogical strategy; good design and management of group work is necessary for productive work to be accomplished in the classroom (Brophy, 1999). When a teacher breaks students into groups, he or she relinquishes control of the class and must rely on the directions given and the expectations established to maintain control and productivity in the classroom. If that control is lost, as in Scenario A, a good teacher should be able to make a quick, effective decision about how to handle the situation in a positive manner. The findings of the analyses on Scenario A confirm the hypothesis that completion of a teacher education program contributes to a student's ability to make such decisions. Those who did not complete a teacher education program struggled to identify effective strategies for reestablishing a learning focused classroom. Most studies on the effectiveness of teacher education programs use student achievement scores as the primary measure. The present results evidence that those studies are not looking at some of the most likely places to see a difference in the performance of teacher education graduates. The ability to manage students working in cooperative groups in

order to maintain a learning focused classroom certainly separates effective teachers from ineffective teachers (Brophy, 1983).

Listed in the results section are some examples of verbatim answers given by the different groups. For each example, the assigned strategy code (and whether it was deemed effective or ineffective) is listed in parentheses. Trends exist among senior education majors of using pedagogical terminology (e.g. proximity, positive reinforcement, redirect), citing examples from coursework and/or field experiences, and making references to why they are confident the strategies they suggest will be effective. The senior education students typically had more to say; they explained and clarified their choices. This is consistent with research that has shown experts are more likely than novices to be able to make inferences about classroom events in more detail than novices, who often give short, generic responses to classroom situations (Carter, et. al, 1988). Furthermore, of all the participants, only senior education majors made comments about how the issue may be related to unclear directions or another error on the part of the teacher. This demonstrates the ability to think reflectively and holistically about a classroom issue, cited above as a valuable component of effective classroom management (Zeichner, 1994). The other groups were more likely to tend toward defensive punishment and grade deductions. Furthermore, their answers often included the use of ambiguous language such as, "I guess," or "I think," or "I don't really know." Even when the strategy given fit into the "positive/effective" category, the answers given by the other three groups were not as strong as the "positive/effective" answers given by the senior education majors (see examples above). Senior education majors were able to view the classroom situation realistically. While the other three

groups were likely to suggest splitting the groups up or separating students, more of the senior education majors realized that doing so in the middle of an assignment would disrupt the flow of the class (Brophy & McCaslin, 1992). A good classroom manager does not just deal with misbehavior of one group, but also the good behavior of the rest the groups (Brophy, 1999).

A stepwise multiple regression was conducted on Scenario A to see what other factors may predict effective/positive responses. As stated in the results section, both age and prior teaching experience (which was described as informal teaching experiences such as tutoring) were found to be significant predictors of a participant giving a good response. Age may account for greater maturity, additional life and management experiences, and other potential factors that generally contribute to a person's ability to make good decisions. And, it is logical that prior teaching experience would be a significant predictor of good decision-making. Plenty of literature suggests experience is the key to attaining expertise in teaching (Berliner, 1988; Westerman, 1991).

In Scenario B, participants were asked to explain what they would do in a classroom situation where the students were working independently on a task at their desks. One or two of the students were not motivated to do their work, making comments such as, "This is dumb," "I don't care," or "I'm going to fail anyway." Results of the planned contrast analysis for this scenario were not significant. While the seniors did have more good answers than the other three groups, the difference was not found to be significant after the Bonferroni statistical correction was made. However, results of the hierarchical regression did show group membership as a significant predictor of making a good decision (refer back to table 7). I propose several potential

reasons for the lack of statistical significance in the planned contrasts in this scenario. First, Scenario B asks the participants to make a decision about a more complex classroom management issue. Scenarios A and C have more obvious answers that apply to most all students. However, Scenario B could differ based on context and certainly involves a teacher's knowledge of motivation and engagement strategies. This is a potential area for future research. It is also possible that some individual student motivation issues may not be covered in classroom management courses. This possibility illustrates the fact that one cannot necessarily assume that the variable "education major" in any given study can be equated with "has learned what they need to learn about classroom management." Most studies of the effects of teacher preparation programs use the major as the index of knowledge. It would be better to come up with a more direct measure of knowledge and link that measure to classroom success.

Second, the responses for Scenario B were more varied and difficult to interpret than the responses for Scenarios A and C. For example, one strategy code was called "general encouragement." General encouragement could be interpreted in many ways, and while this was coded as a positive/effective strategy, the style in which a teacher goes about encouraging a student can influence its level of effectiveness. Two responses may have fallen under the strategy code of "general encouragement" even though one may have been better than the other. Often times a participant seemed to suggest that they would generally encourage the student, but follow it with a negative or ambiguous remark. Examples in the results section illustrate this issue. It is possible that a better coding system or a purely qualitative analysis would reveal that the senior education groups were in fact significantly different from the other three groups in Scenario B. In

a replication or future study that uses vignettes, a better coding scale that would go beyond the simplistic 0-1 would be necessary. The codes in this study were either deemed effective or ineffective. Qualitative analyses for this scenario in particular show that there appear to be several levels of answers.

Next, this is a scenario difficult to propose in a general sense, without knowledge of the specific students. Issues of motivation, lack of interest, or low academic self-efficacy may need to be handled on an individual basis by a student's teacher (Ames, 1992). Therefore, asking participants to make a general decision based on an unknown student could confound the results. A strategy code was identified as "personal connection," but I recognize this would be a difficult strategy for some of the participants to fathom, considering the impersonal nature of the interview. Research has shown different students respond to different strategies for motivation (Ames, 1992).

And finally, this scenario may simply present disconfirming evidence. The teacher education curriculum may not prepare students to deal with this type of management issue. Teacher education programs should, theoretically, prepare students to respond strongly to such issues. However, as stated above, qualitative analysis of the results reveals that senior education majors did, in fact, give better answers than the members of the other three groups, regardless of the assigned strategy codes. Therefore, a different coding system may have revealed statistical results that show a significant difference between senior education majors and the other three groups. If those differences did not exist, then one could posture that the teacher education program would need to add curriculum in motivation, as these are important skills for preservice

teachers to gain. The limitations of the coding system are discussed again in the limitations section.

In Scenario C, participants were asked what they would do in a classroom situation where a couple of students in the back of the classroom were whispering to one another during whole-group instruction; the whispering is somewhat distracting, but not loud or obnoxious. The planned contrasts revealed that the senior education majors generated significantly more positive/effective strategies than the other three groups, but interestingly, the freshman education majors performed significantly better than the freshman non-education majors. Further, there was a marginally significant difference between the freshman education majors and the senior non-education majors, with the freshmen education majors scoring higher. This finding suggests that interest in pursuing a career in teaching alone may correlate with a predisposed ability to make classroom management decisions. The regression analysis on this item revealed that high self-efficacy about one's teaching ability correlated with giving effective responses. The students who choose teaching as a profession may have higher levels of self-efficacy about their ability to make good classroom decisions. Further, they may have had influences and experiences that contributed to their decision to become a teacher, which may have equipped them with specific skills and aptitudes going into a teacher education program. Therefore, even without pedagogy classes, these students may be different from those who do not start or complete a program. In the literature review, I discussed the idea that a natural inclination for teaching may impact the quality of a person's decisions about classroom situations, but hypothesized that natural ability would not be enough without courses in pedagogy. This finding supports that hypothesis.

Examples from each of the four groups demonstrate this finding and can be found in the results section.

The above examples in the results section provide qualitative context for the results of the planned contrasts. The senior education students, as in Scenario A, give more in depth answers and often use pedagogical terminology. Although the freshman education majors gave a high number of effective strategies, their answers were not as sophisticated as the senior education majors who considered the whole picture, such as how the other students in the class may be influenced by the decision. Furthermore, the senior education majors gave more decisive responses, which has been said to be a skill that comes with expertise in teaching (Leinhard & Greeno, 1986). Freshman education majors used more ambiguous language such as "I guess," "I would hope," and "Probably." Clearly though, there is a trend that the senior education majors give the best responses, and the freshman education majors give responses better than the non-education groups.

Additional analyses were conducted on the confidence levels of each group for each scenario. After each participant gave his or her response, the interviewer asked how sure he or she was on a scale of 1-5 that the strategy suggested would be successful. Results essentially indicated no differences in confidence levels among groups. The only difference existed in Scenario C where, surprisingly, freshman non-education students were significantly more confident than the other groups. In fact, freshman non-education students had the highest means for confidence levels in all three scenarios, in spite of the fact that I would have hypothesized they should have the lowest confidence levels considering they have no pedagogical training and

less life experience than seniors. These findings spark questions that could fuel future research. First, why weren't the senior education majors more confident than the other three groups after completing a teacher education program? It would be plausible to assume that completion of such a program would naturally equip students with the skills, understanding, and resources to be confident about their decisions. However, these findings would suggest to the contrary that perhaps teacher education programs magnify the deep complexity of the teaching profession, therefore causing seniors to question their confidence. Research in self-efficacy and motivation could provide the basis for one to make relevant connections to extend this finding in further projects. Zimmerman, Bandura, & Martinez-Pons (1992) found that higher levels of self-efficacy in students resulted in setting higher goals and expectations for themselves, which in turn led to higher academic achievement. If this line of thinking is applied to teacher education, I would suggest that teacher education should be designed to build the self-efficacy of students in order to promote the setting of higher goals and expectations for excellence in teaching. Ultimately, this would result in higher achievement in the profession. These meanderings are unsupported, and further research would need to be consulted and conducted about the impact teacher education has on graduates' self-efficacy before further discussion. However, these results make a clear case for this action.

Second, does this study confirm literature that people are overly confident in their own abilities? Literature has documented that people tend to believe they are above average when asked about most skills such as driving (Weinstein & Klein, 2002; Kahneman, Slovic, & Tversky, 1982) As indicated by the data in this study, there are certainly differences in the

effectiveness of participants' responses, so there should logically be differences in the confidence levels of the participants who gave those answers. The absence of differences is puzzling.

Overall, my findings add to the literature in support of teacher education programs and bring to light a number of ideas which could be extended in future research. This present study provides an example of the multiple sources of teaching competence. As stated several times above, most of the research measuring the quality of a teacher does so by looking strictly at student achievement scores. This study broadens the scope of consideration and demonstrates that other variables can measure teaching ability. In addition to the statistical significance found to demonstrate that senior education majors made better decisions than the other three groups, there are also acute qualitative differences in the responses given by senior education majors in comparison to the other three groups. Therefore, it is safe to conclude that courses in pedagogy matter and make a difference in the quality of teachers. In Scenario B, where the results are only marginally significant, there is still much to learn from the findings. Qualitatively, the results still look different, senior education majors giving better answers than the other groups. But, since those differences are not as profound as in scenarios A and C, perhaps it is an indication that more pedagogical coursework in motivation should overlap with coursework in classroom management. One issue in studying the effectiveness of teacher education programs is in determining how they matter and where they matter (Levine, 2006). This type of research indicates how they make a difference in building decision-making skills with regard to classroom management issues, and may be able to suggest areas where programs could add meaningful

curriculum that would help preservice teachers feel more confident and prepared, such as motivational strategies.

Revisiting Berliner's (1988) model of expertise development, speculations can be made about the contribution that teacher education makes to the skill level of graduates. He describes five levels between novice and expert, Novice, Advanced Beginner, Competent, Proficient, and Expert. Since he suggests that novices typically learn information out of context, this seems to be an appropriate level to attribute to freshmen (and presumably sophomore) education majors who presumably learn what they know about education through basic coursework and readings and the occasional observational school visit. Advanced Beginners, according to Berliner, gain episodic knowledge through initial experiences, and while their understanding is greater than that of a novice, they have not yet developed a sense of ownership and responsibility in their work. Perhaps this level could be attained through early field experiences and subsequent reflections in more advanced pedagogy and methods courses. Theoretically then, juniors and seniors could reach this stage with appropriate field experiences and the opportunity to develop their thought processes in combination with those field experiences in pedagogy classes. I would argue, however, that many of the seniors in the present study gave responses that would suggest their decisions were at the Competent level. Competent teachers, as described by Berliner, are not yet completely fluid or flexible in the classroom, but they are able to make decisions, set priorities, and make plans; they are personally invested and their emotions are linked to their work. Many of the seniors expressed their understanding of the importance of reflection, priorities, and goal-setting. They made decisions from the standpoint of a responsible leader and recognized that

when issues come about in the classroom, the teacher plays a role in the origin of those issues. Further research into operationalizing the characteristics of these levels could contribute further to the literature of the value added by teacher education programs.

Although my findings indicated that there are significant predictors of decision-making ability other than teacher education such as age, prior teaching experience, and high self-efficacy about one's ability to teach, it is my conclusion that those predispositions are not enough on their own to take the place of a teacher education program. The qualitative data speaks volumes to this point. Even when the freshman education group had significantly better responses than the non-education majors, their responses were still not as sophisticated or well-developed as those of the senior education majors. Prior research has found that teachers' performance in pedagogy classes was more likely to predict student achievement than teachers' performance in subject courses (Monk, 1994; Nathan & Petrosino, 2003). This study adds to these findings and suggests that pedagogy classes are also a stronger predictor of decision-making ability than other predisposing factors.

Future research should look at how teacher education programs cultivate a number of important aspects of effective teaching in their students. This study focused specifically on decision-making. However, the research in this paper revealed that motivational strategies of preservice teachers would also be worthwhile to examine. Surely, there are other variables that would be valuable to help identify qualities of effective and ineffective teachers in addition to student achievement scores. Identifying where and how programs make a difference (or do not

make a difference) in their students is essential for continuing to improve and develop teacher education.

Limitations

This study has several potential limitations. The first is in the participants. I used a convenience sample of students I could find access to. Participants who volunteer may generally give responses different from the participants who are not willing to volunteer, which could influence the results. Furthermore, I had only 137 participants due to the limited amount of time and resources available; this study could be replicated on a larger scale with a larger research team. It is possible that with more subjects, some of the Bonferroni corrected results would have been significant. And finally, because this study will take place within the College of Education at Temple University, it may or may not be possible to generalize this study.

Another potential limitation of any study involving interviews and qualitative analysis of data is researcher bias. By having a standardized interview, I have attempted to control for that bias. During content analysis, the two doctoral students who assisted me with this research conducted tests of interrater reliability. Although interrater reliability was high, they were not blind to the hypothesis of this study. A blind rater would add strength to this study.

As stated above, the use of Scenario B in this study may be problematic. This scenario turned out to be complex and difficult to code, and the responses varied greatly. Therefore, it is possible that responses with good face validity were given a negative code and vice versa. This data would probably best be recoded and reanalyzed. What can be gained from the evidence

available, however, is that teacher education, in this case, may not have provided its seniors with the ability to transfer, or apply, their knowledge to scenarios outside of their scope of study. Because any number of situations could arise over the course of a given school day, teacher preparation programs should theoretically prepare students not only to respond to specific kinds of instances, but to be able to make decisions about other contexts based on a strong foundation of pedagogical knowledge. The use of more realistic, hypothetical case studies in classroom management classes may help with this issue.

After conducting regression analysis on other possible predictors of decision-making ability, I realized that I may not have asked about some very important predictors such as whether or not anyone in the participant's family was a teacher or otherwise involved in education. It is possible that exposure to educational professionals could make a difference in the answers a participant gave.

This study studied change over time but was done as a cross sectional study rather than a longitudinal study; a longitudinal study would have required that my dissertation take more than four years in data collection alone. For convenience, I make inferences that compare the seniors to the freshmen in this group based on cross-sectional data. This does not take into account whether or not people may have dropped out and/or transferred in from other programs.

Finally, any research seeking to measure a quality of a teacher is lacking some validity when the measure takes place out of the classroom. The classroom is the natural setting to observe teachers, but because of logistics, it is not possible to get uncertified teachers into the classroom, particularly not without influencing their performance and therefore the research. For

now, this is the most valid way to do this kind of assessment, and will hopefully be a catalyst for more valid approaches in the future.

References

Alexander, C. & Fuller, E. (2004). Does teacher certification matter? Teacher certification and middle school mathematics achievement in Texas. Presented at the Annual Meeting of the American Educational Research Association, San Diego, CA.

Alvarez, H. K. (2007). The impact of teacher preparation on responses to student aggression in the classroom. *Teaching and Teacher Education, 23*(7), 1113-1126

Ames, C. (1992). Classrooms: Goals, Structures, and Student Motivation. *Journal of Educational Psychology*, 84(3), 261-271.

Ashton, P., and Crocker, L. (1987). Systematic study of planned variations: The essential focus of teacher education reform. *Journal of Teacher Education*. 38(3) : 2-8.

Ballou, D. and Podgursky, M. (1998). The case against teacher certification. *Public Interest*, 132, 17-29.

Baker, J. A., Clark, T. P., & Maier, K.S. (2008). The differential influence of instructional context on the academic engagement of students with behavior problems. *Teaching and Teacher Education,* 24(7), 1876-1883.

Berliner, D. C. (1988). The development of expertise in pedagogy. Charles W. Hunt Memorial Lecture, presented at the annual meeting of the American Association of Colleges for Teacher Education.

Berliner, D. C. (2001). Learning about and learning from expert teachers. *International Journal of Educational Research*, 35, 463-482.

Birch, S. A. J., & Bloom, P. (2003). Children are cursed: An asymmetric bias in mental-state attribution. *Psychological Science*, 14(3), 283-286.

Borko, H. & Livingston, C. (1989). Cognition and improvisation: Differences in mathematics instruction by expert and novice teachers. *American Educational Research Journal*, 26(4), 473-498.

Brophy, J. E. (1983). Classroom organization and management. *The Elementary School Journal*, 83(4), 264-285

Brophy, J., & McCaslin, M. (1992). Teachers' reports of how they perceive and cope with problem students. *The Elementary School Journal, 93*(1), 3-68.

Brophy, J. (1999). Perspectives of classroom management. In H. J. Freiberg (Ed.), *Beyond*

behaviorism: Changing the classroom management paradigm, 43-56. Boston: Allyn Bacon.

Byrnes, J. P. (2001). *Cognitive development and learning in instructional contexts*. Boston: Allyn & Bacon.

Camerer, C., Lowenstein, G., & Weber, M. (1989). The curse of knowledge in economic settings: An experimental analysis. *Journal of Political Economy*, 97(5), 1232-1254.

Canter, L. & Canter, M. (1976). *Assertive discipline: A take-charge approach for today's educator*. Los Angeles: Canter and Associates.

Carter, K., Cushing, K., Sabers, D., Stein, P., Berliner, D. (1988). Expert-novice differences in perceiving and processing visual classroom information. *Journal of Teacher Education*, 39(3), 25-31.

Charles, C. M. (2002). *Building classroom discipline*. Boston: Allyn and Bacon.

Cipani, E., & Council for, E. C. (1993). *Non-compliance: Four strategies that work. CEC mini-library: Classroom management*

Collier, C. P. (2006). The expert on experts: a guide to expertise. Fast Company, 110, Retrieved 8/2/2007, from http://www.fastcompany.com/

Colton, A. B. & Sparks-Langer, G. M. (1993). A conceptual framework to guide the development of teacher reflection in decision making. *Journal of Teacher Education*, 44(1), 45-54.

Emmer, E. T. & Stough, L. M. (2001) Classroom management: A critical part of educational psychology with implications for teacher education. *Educational Psychologist*, 36(2), 103-112.

Darling-Hammond et al. (2005). Does Teacher Preparation Matter? Evidence about Teacher Certification, Teach for America, and Teacher Effectiveness. *Education Policy Analysis Archives, 13*, 1-51.

Darling-Hammond, L. (2007). A marshall plan for teaching. *Social Policy*, Spring/Summer, 41-44.

Darling-Hammond, L. & Youngs, P. (2002). Defining "highly qualified teachers": What does "scientifically-based research" actually tell us? *Educational Researcher*, 31(9), 13-25

Darling-Hammond, L. (2000). Reforming teacher preparation and licensing: debating the evidence. *Teachers College Record*, 102(1), 28-56.

Darling-Hammond, L. (1997). Doing what matters most: Investing in quality teaching. National Commission on Teaching and America's Future, Kutztown, PA.

Darling-Hammond, L. (2007). Highly qualified teachers for all. *Educational Leadership*, November, 14-20.

Darling-Hammond, L. (2000). How teacher education matters. *Journal of Teacher Education*, 51(3), 166-173.

Darling-Hammond, L. (1998). Teacher learning that supports student learning. *Educational Leadership*, 55(5), 6-11.

Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. *Education Policy Analysis Archives*, 8(1), Retrieved 7/20/2007, from http://epaa.asu.edu/epaa/v8n1/

Emmer, E.T. & Stough, L. M. (2001). Classroom management: A critical part of educational psychology, with implications for teacher education. *Educational Psychologist*, 36(2), 103-112.

Emmer, E. T., Evertson, C.M., & Worsham, M. E. (2003). *Classroom management for secondary teachers.* Boston: Person Education.

Eisner, E. W. What can education learn from the arts about the practice of education? The Encylcopedia of Informal Education. Retrieved 7/20/2007, from http:// www.infed.org/biblio/eisner_arts_and_the_practice_of_education.htm

Ferguson, R. F. & Ladd, H. F. (1996). How and why money matters: An analysis of Alabama schools. In Ladd, H. (Ed.) *Holding schools accountable*, 265-298, Washington, DC: Brookings Institution.

Fredricks, J. A., Blumenfeld, P.C., & Paris, A.H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74(1), pp. 59-109.

Fuller, E. J. (1999). *Does teacher certification matter? A comparison of TAAS performance in 1997 between schools with low and high percentages of certified teachers.* Austin: University of Texas at Austin, Charles A. Dana Center.

Ginott, H. (1993). *Teacher and child: a book for parents and teachers*. New York: Scribner Paper Fiction.

Glasser, W. (1977). Ten steps to good discipline. *Today's Education*, 66, 61-63.

Goldhaber, D. D. & Brewer, D. J. (2000). Does teacher certification matter? High school teacher certification status and student achievement. *Educational Evaluation*

and Policy Analysis, 22(2), 129-145.

Gordon, T. (1974). *T.E.T.: Teacher Effecitveness training*. New York: McKay.

Greenwald, R., Hedges, L.V., & Laine, R. D. (1996). The effect of school resources on student achievement. *Review of Educational Research*, 66(3), 361-396.

Harrell, P., Leavell, A., Van Tassell, F., & McKee, K. (2004). No teacher left behind: A 5 year study of teacher attrition. *Action in Teacher Ed*, 26(2), 46-69.

Hatton, N. & Smith, D. (1995). Reflection in teacher education: Towards definition and implementation. *Teaching and Teacher Education*, 11(1), 33-49.

Hawk, P. Coble, C. R., & Swanson, M. (1985). Certification: It does matter. *Journal of Teacher Education*, 36(3), 13-15.

Hogan, T., Rabinowitz, M., & Craven, J. A. (2003). Representation in teaching: Inferences from research of expert and novice teachers. *Educational Psychologist*, 38(4), 235-247.

Housner, L.D., & Griffey, D. C. (1985). Teacher cognition: Differences in planning and interactive decision-making between experienced and inexperienced teachers. *Research Quarterly for Exercise and Sport*, 56, 45-53.

Ingersoll, R. M. in Smylie, M. & Miretazky, D. (Eds). (2004). Four myths about America's teacher quality problem. *Yearbook of the National Society for the Study of Education*, University of Chicago Press.

Levine, A. (2006) Educating school teachers. Washington D.C.: The Education Schools Project.

Little, S. G., & Akin-Little, A. (2008). Psychology's contributions to classroom management. *Psychology in the Schools, 45*(3), 227-234.

Klein, G. A. & Hoffman, R. R. (1993). Seeing the invisible: Perceptual-cognitive aspects of expertise. In Rabinowitz, M. (Ed.), *Cognitive science foundations of instruction*, 203-226. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Korthagen, F. & Vasalos, A. (2005). Levels in reflection: Core reflection as a means to enhance professional growth. *Teachers and Teaching: Theory and Practice*, 11(1), 47-71.

Kounin, J.S. (1970). *Discipline and group management in classrooms*. New York: Holt, Reinhart, and Winston.

Malone, B. G., & Tietjens, C. L. (2000). Re-examination of classroom rules: The need for clarity and specified behavior. *Special Services in the Schools, 16*(1), 159-170.

Monk, D. (1994). Subject area preparation of secondary mathematics and science teachers and student achievement. *Economics of Education Review*, *13*(2), 125-145

Nathan, M. J. & Petrosino, A. (2003). Expert blind spot among preservice teachers. American Educational Research Journal, 40(4), 905-928.

Schoenfeld, A. H. (2006). Mathematics teaching and learning. In Alexander, P.A. & Wiinne, P. H. (Eds.), *Handbook of Educational Psychology*, 2, 479-510.

Schraw, G. (2005). An interview with K. Anders Ericsson. *Educational Psychology* Review, 17(4), 389-412.

Shogren, K. A., Faggella-Luby, M., Bae, S. J., & Wehmeyer, M. L. (2004). The effect of choice-making as an intervention for problem behavior: A meta-analysis. *Journal of Positive Behavior Interventions, 6*(4), 228-237.

Standley, J. M. & Madsen, C. K. (1991). An observation procedure to differentiate teaching experience and expertise in music education. *Journal of Research in Music Education*, 39(1), 5-11.

Shavelson, R. J. (1973). What is the basic teaching skill? *Journal of Teacher Education*, 24, 144 151.

Shavelson, R. J. & Stern, P. (1981). Research on teachers' pedagogical thoughts, judgments, decisions, and behavior. *Review of Educational Research*, 51(4), 455-498.

Stonge, J. H., Ward, Thomas J., Tucker, P. D., & Hindman, J. L. (2007). What is the

relationship between teacher quality and student achievement? An exploratory study. *Journal of Personnel Evaluation in Education*, 20(3-4), 165-184.

Swanson, O'Connor, & Cooney, J. B. (1990). An information processing analysis of expert and novice teachers' problem solving. *American Educational Research Journal*, 27(3), 533-556.

Teach For America (2009). Official website retrieved 02/01/2009 from <http://www.teachforamerica.org>

Tomlinson, C. (1999). *The differentiated classroom: Responding to the needs of all learners.* Alexandria, VA: Association for Supervision and Curriculum Development.

Westerman, D. A. (1991). Expert and novice teacher decision making. *Journal of Teacher Education*, 42(4), 292-305

Zeichner, K. (1994). Research on teacher thinking and different views of reflective practice in teaching and teacher education. In Calgren, I., Handal, G. and Vaage, S. (Eds.), *Teachers' Minds and Actions: Research on Teachers' Thinking and Practice*. London/Washington, DC: The Falmer Press.

Zimmerman, B. A., Bandura, A., & Martinez-Pons, M. (1992). Self-Motivation for Academic Attainment: The Role of Self-Efficacy Beliefs and Personal Goal Setting. *American*

Educational Research Journal, 29(3), 663-676.

APPENDIX A

Propositions about expert teachers from Berliner (2001)

- Expert teachers excel mainly in their own domain and in particular contexts
- Expert teachers develop automaticity for the repetitive operations that are needed to accomplish their goals
- Expert teachers are more opportunistic and flexible in their teaching than are novices
- Expert teachers are more sensitive to the task demands and social situations surrounding them when solving problems
- Expert teachers represent problems in qualitatively different ways than do novices
- Expert teachers have faster and more accurate pattern recognition capabilities
- Expert teachers perceive more meaningful patterns in the domain in which they are experienced
- Expert teachers may begin to solve problems slower, but they bring richer and more personal sources of information to bear on the problems that they are trying to solve.

An elaboration of each of these points is provided in Berliner (2001).

APPENDIX B

INTERVIEW SCHEDULE

The following interview schedule will be administered to participants in a standardized fashion. The interview will be read word for word by the researcher.

Hello, and thank you for being willing to participate in this research. You will be asked a series of questions about yourself and then a series of questions about teaching. Your name will be anonymous in this study. Please relax and answer the questions to the best of your ability.

- *Please state your age.*
- *Please state your gender.*
- *Please state your college major.*
- *Please state your college minor if applicable.*
- *Please state the number of siblings you have.*
- (IF the participant has siblings) *What is your birth order in relation to your siblings?*
- *Do you have any prior teaching or tutoring experience, formal or informal? If so, please explain.*
- *Do you have any prior formal experience with children such as babysitting or volunteer work with children? If so, please explain.*
- *Did you go to public or private school for kindergarten thru twelfth grade? Would you say that your classrooms were generally in control or out of control?*

- *Thinking about your academic career, would you consider yourself more of a math person or an English person?*
- *What kinds of grades do you typically earn in your math classes?*
- *What kinds of grades do you typically earn in your English classes?*
- *What were your math and verbal SAT scores if you remember and do not mind sharing them?*

For the following questions, I am going to show you a chart of possible answers for you to choose from: Strongly disagree, disagree, neutral, agree, or strongly agree. After I make each statement, tell me which level is closest to your opinion.

- *I enjoy public speaking*
- *Teachers should rely on textbooks as the sole source of content information in the classroom* (Distracter)
- *It is the teacher's job to ensure good behavior of students in school.*
- *It is the parents' job to ensure good behavior of students in school.*
- *Students should be punished by taking away recess* (Distracter)
- *Teachers should be sure to teach lessons in line with how students are tested on standardized assessments such as the PSSA's.* (Distracter)
- *Teachers should partner with parents to help instill good behavior, character, and values in students*
- *I think I would be a good teacher.*

I am now going to ask you to answer a few questions about possible situations in a classroom. Give the answer you believe to be the best. You will have two minutes to respond to each question, and then I will call time.

- *Imagine that you are a teacher, and your students are working on an assignment in small groups. One group is off task, goofing around, telling jokes, etc. They are not on task. The rest of the groups are on task and working. What could you do to handle this situation? Explain what you would do and why you would do it. Please explain your answer to the best of your ability.* (If needed, the interviewer can prompt the participant by repeating the question and reiterating the second part, "explain what you would do and why you would do it." This applies for each of the three scenarios); after they suggest strategies, they will be asked which they would choose and why; finally, they will be asked, "if you were in a real classroom situation like this and implemented that strategy, how sure are you that it would get the students under control?" Choices range from 1very uncertain to 5 very certain.
- *Imagine that you are a teacher, and your students are working independently at their desks on an assignment you just gave. You are circulating the room to check on student progress. One or two students are not working. You ask the students why they are not working and they respond with answers such as: "I don't care," "This is dumb," or "I'm going to fail anyway." Essentially, their comments are resistant. What could you do to handle this situation? Explain what you would do and why you would do it. Please explain your answer to the best of your ability.* After they suggest strategies, they will be

asked which they would choose and why; finally, they will be asked, "if you were in a real classroom situation like this and implemented that strategy, how sure are you that it would get the students under control?" Choices range from 1very uncertain to 5 very certain.

- *Imagine that you are a teacher, and you are teaching a lesson to the whole class. Some of the students in the back of the room are whispering to each other, not paying attention. Their whispering is somewhat distracting, but is not loud or obnoxious. The rest of the students in the class are on task. What could you do to handle this situation? Explain what you would do and why you would do it. Please explain your answer to the best of your ability.* After they suggest strategies, they will be asked which they would choose and why; finally, they will be asked, "if you were in a real classroom situation like this and implemented that strategy, how sure are you that it would get the students under control?" Choices range from 1very uncertain to 5 very certain.

Following the interview, participants will be given this debrief:

Thank you for participating in this interview. It is a part of a research project to determine whether or not formal teacher education correlates with the types of decisions that teachers make about classroom management.