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THE MEDIATED EFFECT OF TEACHING EFFICACY ON THE RELATION BETWEEN CONTEXTUAL VARIABLES AND PUPIL CONTROL IDEOLOGY

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This work is dedicated to my intelligent and beautiful wife Marsha, my oldest son Jacob and youngest son Joshua. Everything I am is because of your unconditional love and support. I hope to make you proud.

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Abstract

The purpose of this study is to examine the observed relations between contextual variables, pupil control ideology, and pre-service teachers' self-perceptions of teaching efficacy. Eighty-three pre-service teachers were presented with one of three fictional classroom conditions manipulating the presence of classroom resources and time constraints for instruction. The participants were also administered measures of teaching efficacy and pupil control ideology. Direct effect analysis was conducted in order to determine if teaching efficacy mediates the relation between contextual variables and pupil control ideology. Results indicated significant direct effects between (a) participant teaching efficacy beliefs, and pupil control ideology, as well as (b) participant assigned condition and pupil control ideology beliefs. Results provide implications for teacher education programs.

Chapter 1: Introduction

Ideology is a pattern of normative ideas and concepts used by individuals to support their navigation in a social, political, or professional context (James & Steger, 2010). In each profession, ideology provides individuals a framework from which behavior and speech are derived (James & Steger, 2010; Popkewitz, 1985). In the profession of education, pupil control ideology is an integrative theme that gives meaning to interactions between students and teacher (Hoy, 2001). Pupil control ideology is defined as the amount of control teachers believe they should exercise in order to manage students' behavior (Malow-Iroff, O'Connor, & Bisland, 2004). This ideology represents teachers' organization and comprehension of the world through classroom interactions (Adwere-Boamah, 2010; Gutek, 2003).

The conceptualization of pupil control ideology was built under the theoretical framework presented by Gilbert and Levinson (1957). Gilbert and Levinson's original work focused on the control ideology of hospital staff, examining the belief composition of hospital staff members for differences among ideological orientations when working with mental patients and found that the hospital staff ideology fell on a continuum from humanistic to custodial. Gilbert and Levinson conceptualized a humanistic orientation in a hospital context as one where staff members seek to create an atmosphere of trust and respect and a custodial orientation as one where staff members direct behavior and enforce standards with little tolerance for patient questioning. Willower, Eidell, and Hoy (1967) adopted Gilbert and Levinson's conceptualization to examine a teacher's pupil control ideology when dealing with students. Willower and colleagues (1967) found this conceptualization appropriate

because like hospitals, schools often contain student "clients" who attend unwillingly. Hoy (2001) expanded further:

> There were two compelling reasons for selecting Gilbert and Levinson's framework over the others. First, a custodial approach was theoretically consistent with the problems of control of unselected clients in the service organizations. Second, the framework was a good fit with the extant theory of teaching and learning; that is, humanistic pupil control was consistent with the discovery method of teaching and learning and other educational reforms popular in the 1960s. (p. 425)

One outcome of Willower and colleagues' (1967) pupil control studies was the creation of *pupil control ideology*, which measures an individual's inclination towards pupil control on a continuum from custodial to humanistic. The custodial teacher is an authoritarian who directs behavior and demands obedience from students (Willower et al., 1967). The humanitarian teacher is authoritative and seeks to foster an atmosphere of mutual trust and respect (Willower et al., 1967). Woolfolk and Hoy (1990) elaborated:

> The model of the humanistic perspective is the school as an educational community, which students learn through cooperative interaction and experience. Self-discipline is substituted for strict control. A humanistic orientation… indicates a perspective stressing the importance of the individuality of each student and the creation of a climate to meet a wide range of student needs. (p. 84)

These two orientations are extremes that represent pure ideological types and may rarely exist in the classroom (Hoy, 2001). Most teachers fall somewhere between these two extremes and take on characteristics of the humanistic and custodial teacher based on their beliefs (Hoy, 2001; Willower et al., 1967).

Impact of Contextual Variables on Pupil Control Ideology

Contextual variables are those features that influence pedagogical practice but are out of the immediate control of the teacher. Contextual variables may include influences such as time constraints, lack of resources, or mandates from external sources such as schools or districts. The teacher pedagogy literature has illustrated that contextual variables are one of many influences on teacher practice. In addition to influencing a teacher's practice, these contextual factors may also influence teachers' pupil control ideology. For example, as the classroom context or environment changes, an individual's pupil control ideology may change. In this current study, I am interested in examining the relations between contextual variables and individual pre-service teachers' pupil control ideology.

The influences between contextual factors and teachers' classroom practice has been well documented in the literature (e.g., Bourke, 1986; Breen & Littlejohn, 2000; Chen, 2008; Khader, 2012). There have been very few studies in which the direct relation between pupil control ideology and contextual variables was examined. There is, however, strong evidence that individuals' beliefs influence behavior, especially when the behavior and attitude are similarly directed (Ajzen, 1991; Ajzen & Fishbein, 1977; Sheppard, Hartwick, & Warshaw, 1988). Because both pupil control ideology

and contextual variables both influence teachers' classroom behaviors, it is logical to study relations between them.

The results of this study may provide evidence that participant pupil control ideology is an unchanging belief that is independent of the context. In contrast, the results may also indicate that contextual factors, like the availability of resources or time constraints, may influence pupil control ideology.

Impact of Teaching Efficacy on Pupil Control Ideology

Teaching efficacy is a self-judgment of an individual's capability to bring about desired classroom outcomes (Tschannen-Moran & Hoy, 2001). These efficacy beliefs influence how much effort an individual will put into a task and the extent to which they persist in the face of adversity (Wood & Bandura, 1989). Numerous studies have illustrated that an individual's perception of their efficacy for teaching influences the choices they make in their classrooms (e.g., Ashton, 1986; Charalambous & Philippou, 2010). As these individuals become more exposed to the classroom environment and the realities of teaching as a whole, their teaching efficacy may decline (Hoy, 2001; Rideout & Morton, 2007; Woolfolk & Hoy, 1990). Moreover, Woolfolk and Hoy (1990) found the same increased exposure to teaching environments that lead to decreases in teaching efficacy also lead to a shift in pupil control ideology, and this is especially true when individuals begin student teaching experiences (Hoy, 1967; Hoy & Rees, 1977).

With the exception of the Woolfolk & Hoy (1990) study, there have been few examinations of the influence of teaching efficacy on pupil control ideology. As the classroom context changes, efficacy beliefs may also change in response to new

challenges. Conversely, pupil control ideology may change as a result of changes in teaching efficacy, this has been illustrated in previous literature (Woolfolk & Hoy, 1990) A teacher with high efficacy may have shifts in their belief if placed into a condition outside of their comfort level. The approach taken in this study focuses on teaching efficacy beliefs as a mediator because as an individual gains more exposure to the classroom environment their ideology may change in response (Hoy, 2001). In this way teaching efficacy is the prism explaining how contextual variables influence pupil control ideology. This study represents an exploratory examination of these relations.

I chose teaching efficacy for this current study because pre-service teachers' perception of their own ability may influence their pupil control ideology and because the relations between efficacy, context and pupil control have received very little attention in pupil control ideology literature. As context changes, an individual's teaching efficacy beliefs may shift as the individuals assess the extent to which they believe they can positively influence the classroom environment. Teaching efficacy is also important to this current study because I am interested in examining the relations between contextual variables and pupil control ideology through teaching efficacy beliefs. In other words, do teaching efficacy beliefs mediate the effect of the relation between contextual variables and pupil control ideology? I seek to examine and fill in this gap in the literature because its answers may help explain pre-service teacher ideology formation and change.

Impact of Pupil Control Ideology

Ideology formation begins as young professionals assimilate into their chosen career (Popkewitz, 1985; Rideout & Morton, 2007). A thorough understanding of the

processes and influences behind teacher pupil control ideology is necessary to facilitate any discussion concerning the grooming of young teaching professionals. Teachers may begin this transformation in the beginning of their teacher education experiences (Hoy & Rees, 1977). This ideology formation also incorporates many aspects of the profession, including language, rituations and acceptual behaviors (Popkewitz,1985)

Teaching is inherently a decision making task in which individuals choose between activities to support learning and facilitating positive academic outcomes based on their beliefs and overall ideology (Galbraith, 2000; Hunter, 1979; Sergiovanni, 2004). This process happens as teachers weigh the positive and negative aspects of each possible course of action (Hunter, 1979; Tversky, 1972). A teacher's pupil control ideology influences his or her classroom management beliefs. For example, an individual with a more humanistic orientation will avoid using strict control measures in the classroom (i.e., requiring students to sit in assigned seats). The manifestation of a teacher's pupil control ideology can influence students' perceptions of the classroom (Bodine, Olivarez, & Ponticell, 2000; Lunenburg, 1990; Lunenburg & Schmidt, 1989; Lunenburg & Stouten, 1983; Multhauf, Willower, & Licata, 1978), their views of students (Bodine et al., 2000), student achievement (Traver, Perez, & Rule, 1990; Webb, 2010), and perceptions of their teaching efficacy (Barfield & Burlingame, 1974).

Past literature has illustrated how pupil control ideology can influence different student and teacher perceptions. By examining the mediated relation between contextual factors and pupil control ideology, we may better understand the processes of pre-service teacher ideology formation. Results of this current study may also facilitate a better understanding of the causes for change in pupil control ideology after

student-teaching experiences (Rideout & Morton, 2007). Because pre-service teachers' ideological beliefs change during their teacher education programs (Hoy, 2001; Rideout & Morton, 2007; Woolfolk & Hoy, 1990), understanding the influences on pupil control ideology is important to understanding change in orientation.

Problem

This study seeked to illimunate the mechanism through which pre-service teachers begin a change of pupil control ideology. Teacher education programs may be better equpited to provide meaningful experiences to students if they have a better understanding how ideology changes occurs in pre-service teachers.

Purpose

The purpose of this quantitative study was to examine the observed relations between contextual variables, pupil control ideology, and pre-service teachers' self-perceptions of teaching efficacy. Specifically, this study examined whether teaching efficacy mediates the relations between contextual variables and a pre-service teacher's pupil control ideology. Figure 1 illustrates a direct relation between contextual variables and pupil control ideology. This figure also illustrates an indirect relation between contextual variables and pupil control ideology through teaching efficacy. It is necessary to test these relations in this manner because the data may show associations between two of the variables and show no relation with the third. If this is the case, then a true mediated relation between pupil control ideology, contextual variables, and teaching efficacy cannot exist.

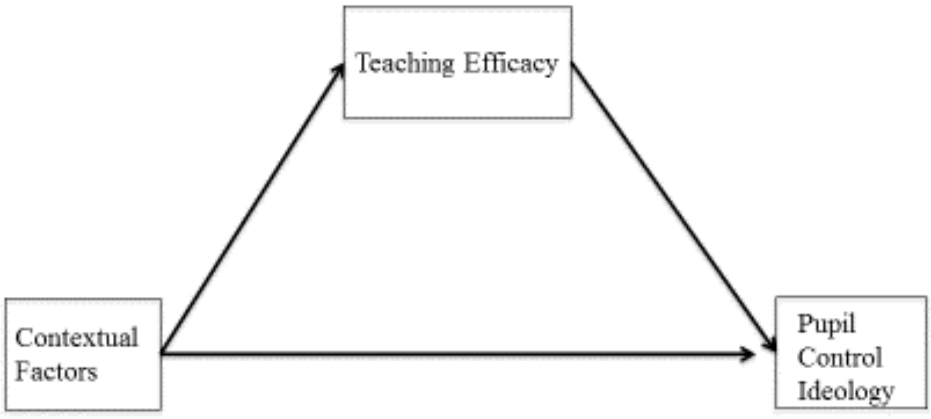

Figure 1. Mediation model for the current study.

This study is an extension of inquiries by Barfield and Burlingame (1974), Woolfolk and Hoy (1990) and Woolfolk, Rosoff, and Hoy (1990), who examined the relation between teaching efficacy and pupil control ideology. The results of this study may provide evidence about the nature of the relations between contextual variables and pupil control ideology as mediated by teaching efficacy beliefs. These results will also extend the findings of previous pupil control ideology studies by examining pupil control ideology in pre-service teachers who have not participated in student-teaching experiences. Alternatively, the results of this current may provide clarity in pupil control ideology literature by illustrating that teaching efficacy beliefs do not mediate the relations between contextual variables and pupil control ideology.

I have chosen this approach because there are few studies that have examined a mediated relationship between environmental influences and pupil control ideology. This study will fill a gap in the pupil control literature by illuminating the mechanism that influences the change of pre-service teacher pupil control ideology: the change from humanistic to custodial in the beginning of classroom practicum experiences (Rideout & Morton, 2007).

Throughout their experiences in practicums or observations, an individual's ideology may shift towards custodial beliefs, as seen in teacher ideology literature (Hoy, 2001; Rideout & Morton, 2007; Woolfolk & Hoy, 1990). The literature provides some evidence that shifts in pre-service teachers' ideology may correspond to their level of classroom exposure within their teacher education program (Hoy, 2001; Rideout & Morton, 2007; Woolfolk & Hoy, 1990). This change may be due to organizational socialization that happens during teacher education, where individual perceptions and expectations of teaching may be challenged or shattered (Hoy & Rees, 1977; Willower et al., 1967). The results of this study may help explain the cause of change in pre-service teacher control ideology, which may be due to differences in classroom contextual factors or a decrease in teaching efficacy beliefs during their teacher education.

Research Questions

The purpose of this quantitative study is to examine the mechanism(s) that underlie the observed relation between contextual variables and pupil control ideology through the inclusion of teaching efficacy. The outcome of this study will fill a gap in the pupil control ideology literature by examining the relations between pupil control

ideology, contextual variables, and teaching efficacy. To fulfill the purpose of this research, I have developed four research questions.

1. To what extent are contextual variables and pre-service teaching efficacy beliefs related?
2. To what extent are teaching efficacy beliefs and pupil control ideology related?
3. To what extent does participant's assignment to one of three conditions (a) control, (b) low resource, or (c) low time condition influence pupil control ideology?
4. To what extent does participant K-12 classroom exposure, as operationalized by field experience level, influence pupil control ideology?

Questions 1-3 represent the three paths of the mediation model.

Chapter 2: Literature Review

Theoretical Framework

The theoretical framework of a study provides the reader with its underlying philosophical basis (Crotty, 1998; Mertens, 1998). The purpose of this study is to examine the relation between perceptions of contextual variables, pupil control ideology, and teaching efficacy; therefore, this theoretical framework addresses two conceptual components, namely (a) sociocultural theory, and (b) Physicalistic Theory of Human Agency. These components make up this theoretical framework because of their importance to the overall conception of this current study. Sociocultural theory is important to this current study because it incorporates the belief that a teacher's ideology formation is viewed through the teacher's cultural lens. The Physicalistic Theory of Human Agency is important to this current study because it is the foundational belief that teachers actively make decisions about their classrooms based on their own ideology and beliefs. In the following sections, I will present each of these concepts and detail how each influences the current study. Following the theoretical framework I will present a review of literature beginning with pupil control ideology.

Sociocultural theory. The foundation of sociocultural theory is the belief that cognitive endeavors are inseparable from social context (Vygotsky, 1978; Wertsch, 1985). Because of my adherence to this theoretical framework, I view cognitive phenomena such as pupil control ideology, through a sociocultural lens. Adherence to this framework is important because a teacher's view of the effectiveness of instructional and classroom management techniques may be seen differently based on sociocultural influences. This view is supported by the agentic view that the nature of

experiences is linked to the construction of social environment/contexts (Bandura, 2001). Sociocultural theory is also important in this review because educators may use different methods or hold different ideological views based on beliefs that are influenced by culture (Mansour, 2008; O'Loughlin, 1992).

Physicalistic theory of human agency. Social cognitive theory asserts that knowledge acquisition is partially related to the observation of models within the context of social interactions and experiences (Bandura, 1986). Of particular interest to this current study is the concept of an agentic perspective, where individuals are active agents who use cognitive tools to complete actions and accomplish tasks for specific means (Abele & Wojciszke, 2014; Bandura, 2001). One of the complexities of human thought is the ability to plan and select decision alternatives based on an analysis of need. The concept of agency is important to this current study because teachers' ideological beliefs and methods they choose assume a systematic thought process, weighing different aspects and making decisions that will advance an individual cause or need.

Pupil Control Ideology

In this section I will present a historical account of the pupil control ideology literature. A historical context within a literature review is important in order to illustrate how a concept has evolved throughout time (Hart et al., 2009; Knopf, 2006). I will also present the conceptualization of pupil control ideology that will guide this study.

Introduction

A teacher's pupil control ideology describes the amount of control they believe they should exercise in order to influence students in a classroom setting (Malow-Iroff et al., 2004). Pupil control ideology has a direct lineage back to the control ideology proposed by Gilbert and Levinson (1957). Gilbert and Levinson examined the ideological beliefs of hospital staff in order to determine if their control orientations differed when working with mental patients to determine if ideological differences existed. Results indicated that staff members held ideological beliefs ranging along a continuum that represented the amount of control they believed necessary to maintain order and a positive practice. The staffs' ideology fell on a continuum from custodial to humanistic, where custodial represented more control over patients, and humanistic represented the least amount of control over patients. In the hospital context, a custodial orientation may manifest by staff members exerting more control over the participants, acting as authority figures. A humanistic orientation may be manifested by

staff members working in accordance with the patient in order to reach a common goal (Lippmann, 1979).

Gilbert and Levinson (1957) only examined control ideologies in the context of hospitals. Willower et al. (1967) worked to extend the conversation about control ideology to school contexts. This does not imply that teachers and hospital staff view "client" control the same way; instead, Willower et al. believed that control ideology plays an important role in the classroom. Willower et al.'s conceptualization of pupil control ideology rested on three important foundations: (a) Individuals in school attempt to protect and enhance their status in relation to others; (b) Teachers must interact directly with students, a source of threat to teacher status; and, (c) Control in schools is necessary due to the mandatory nature of participation (Adwere-Boamah, 2010; Carlson, 1964; Drabick, 1971; Rideout & Morton, 2007; Willower & Lawrence, 1979). This foundation is important because it forms the basis for pupil control ideology. For example, if all students were willing participants in school, there would be little threat to teacher status. In this case, learning could occur with little need for pupil control.

Like Gilbert and Levinson (1957), Willower et al. (1967) conceptualized a continuum to describe individual pupil control ideology. On one end of the continuum is the custodial orientation and on the other is the humanistic orientation. The custodial orientation is typified by a rigid and highly controlled atmosphere. Teachers who hold this type of orientation are very concerned with maintaining order and discipline. Rideout and Morton (2007) explain further:

> Maintenance of order was most important, and order was often judged based on stereotypes such as appearance, behavior, and SES. Well-dressed neatly groomed students who sat quietly were evidence of an orderly, well-run class. Custodial teachers understood schools to be autocratic, hierarchical organizations with the flow of power and communication downwards to students. Student misbehavior was taken personally and controlled through punishments, since students were generally perceived as irresponsible and undisciplined (p. 589).

In contrast to the custodial orientation, the humanistic teacher is described as authoritative, who facilitates an atmosphere of mutual respect and trust with students.

> Humanistic orientation was evident in an "educational community" atmosphere where students learned through interaction and cooperation with others. Psychology and sociology were prominent in understanding the processes of learning and behavior. Self-discipline replaced strict teacher control. A democratic atmosphere led to flexibility in status and rules, interpersonal sensitivity, open communication and an increase in student self-determination (Rideout & Morton, 2007, p. 589).

Most teachers tend to fall somewhere between these two ideological extremes; that is to say, individuals rarely exhibit pure pupil control ideology orientations (Hoy, 2001). A teacher's orientation may be influenced by his or her perception of the environment (Barfield & Burlingame, 1974), self-maturation (Hoy, 1967; Hoy & Rees, 1977), or change in the perception of teaching efficacy (Woolfolk et al., 1990). In the

following sections I will present studies that have examined pupil control ideology and the nature of ideological change.

Change in Pupil Control Ideology for Pre-Service Teachers

Student teaching is an important aspect of teacher education programs (Hoy & Rees, 1977). It allows potential teachers to experience important teaching concepts learned in a live teaching context (Greenberg, Pomerance, & Walsh, 2011). Although student teaching is important to the growth of young professionals in education, there are other important experiences in a teaching education program that influence pre-service teachers' progression as a future educator (Sutherland, Howard, & Markauskaite, 2010). Understanding how and why individuals shift pupil control ideology is important to this current study because I am examining the relations between contextual variables, teaching efficacy, and pupil control ideology. In this section I will present studies that examine pre-service teacher change with respect to their pupil control ideology.

Hoy (1967) examined the change of pupil control ideology in two samples of teachers: (a) elementary school student teachers (n = 180), and (b) secondary school student teachers (n = 152). He hypothesized that pre-service teachers would have an ideological shift from humanistic to custodial after initial teaching experiences. The researcher believed that participants might make this shift after student teaching experiences because student teaching may make them abandon naïve or unrealistic ideals about teaching. Participants were administered the Pupil Control Ideology scale (PCI; Willower et al., 1967) before and after their student teaching experience. The researcher conducted *t*-tests to determine if there were significant mean differences

between student teacher pupil control ideology after the student teaching experience. Results indicated a significant ($p < .001$) mean change in PCI scores between the beginning and end of participants' student teaching experience. Specifically, elementary student teachers mean pupil control scores increased from 42.254 to 44.262, and secondary student teacher mean scores increased from 46.770 to 51.329. This increase means that teacher's' ideology shifted to more of a custodial orientation. This shift may be due to socialization of student teachers during their formal education (Hoy, 1967; Hoy & Rees, 1977).

Hoy and Reese (1977) expanded the findings of Hoy (1967) by examining change in dogmatism and bureaucratic orientation in addition to pupil control ideology before and after student teaching. The participants were 112 pre-service teachers. Participants completed the Work Environment Preference Schedule (WEPS; Gordon, 1970), the PCI scale (Willower et al., 1967), and Rokeach's Dogmatism Scale (Troldahl & Powell, 1965). Participants were administered the battery of instruments at one time. Researchers conducted paired sample *t*-tests in order to determine if there were statistically significant mean differences between administrations on pupil control ideology, bureaucratic orientation, and dogmatism scores. Results indicated that participants scored significantly ($p < .05$) higher on custodialism and bureaucratic orientation on the PCI after completing student teaching, with no significant differences on dogmatism. These results indicate that the basic structure of participant beliefs (dogmatism) were not influenced, but the student teaching experiences had some influence on overall ideology. This may indicate that changes in dogmatism may take longer to change than the amount of time spent in a student teaching experience.

The studies presented in this section only focus on individuals in the student teaching phase of their teaching education program. During my search of literature, I found no studies examining shifts in pupil control ideology before student teaching experiences. This is unfortunate because there may be experiences aside from student teaching that influence a pre-service teacher's adoption or modification of their ideology.

That being said, the studies presented in this section are important to this current study because they provide evidence that pre-service teachers' pupil control ideologies change as they gain experience within the classroom setting. This may indicate that future teachers enter into teacher education programs with a different picture of the profession than what they experience after completing student teaching experiences.

Summary

Pupil control ideology is defined as the amount of control teachers believe they should exercise in order to manage students behavior (Malow-Iroff, O'Connor, & Bisland, 2004). A teacher's pupil control ideology represents their comprehension of the classroom context (Adwere-Boamah, 2010; Gutek, 2003). In the current study, I am interested in examining pupil control ideology of pre-service teachers. The studies presented illustrate that an individual's pupil control ideology may change based on changes in his or her perception, environment, or experience.

Teaching Efficacy

In this section I will discuss the concept of teaching efficacy by first discussing the historical view of teaching efficacy. I will then present a conceptual definition that will guide the rest of this study.

Historical View of Teaching Efficacy

Tschannen-Moran and Hoy (2001) defined teaching efficacy as a teacher's "[j]udgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated" (p. 783). There are two main conceptions of teaching efficacy presented in the literature (Henson, 2002). The first was presented by Barfield and Burlingame (1974) where teaching efficacy is considered to be a personality characteristic related to the belief of personal effectiveness. The second conception was presented in Bandura's (1977) social learning theory. Social learning theory asserts that motivation is influenced by both efficacy expectations and outcome expectations. Gibson and Dembo (1984) further explain the link.

> If we apply Bandura's theory to the construct of teaching efficacy, outcome expectancy would essentially reflect the degree to which teachers believed the environment could be controlled, that is, the extent to which students can be taught given such factors as family background, IQ, and school conditions. Self-efficacy beliefs would indicate teachers' evaluation of their abilities to bring about positive student change (Gibson & Dembo, 1984, p. 570).

Outcome expectations are judgments about likely consequences of behaviors. Efficacy expectations are an individual's belief that they are able to achieve a specific

level of performance (Bandura, 1977). Bandura (1997) also asserts that the importance of efficacy is not simply related to a teacher's skills, but the self-perception skill. Friedman & Kass (2002) explain further, "Teacher's effectiveness is, in part, determined also by their efficacy beliefs in maintaining classroom discipline that establishes an environment of learning, in using resources, and in supporting parental efforts to help their children learn" (p. 676).

For this study, I am relying on Bandura's (1977) conception of efficacy because I view it as a more representative interpretation of the construct, one that can change based on different facets of human life. For example, an individual may have beliefs about his or her ability to influence classroom achievement outcomes, but have a lesser degree of belief in his or her ability to influence behavioral outcomes. This is contrary to Barfield and Burlingame's (1974) personality view of efficacy, which suggests permanence of efficacy beliefs. In conclusion, a teacher's view of their teaching efficacy influences what they implement in their classroom practice and how these things are integrated.

Measurement Issues in Teaching Efficacy Literature

In this section I will discuss issues in measurement of teaching efficacy. Teaching efficacy in this study is defined as a teacher's confidence that they can bring about desired classroom outcomes (Henson, 2002; Hoy & Spero, 2005; Protheroe, 2008). Researches from the Rand organization are credited with the creation of the first measure of teaching efficacy (Tschannen-Moran, Hoy, & Hoy, 1998). In 1975, the Los Angeles Unified School district commissioned a study to identify school and classroom policies and other factors that have been successful in increasing reading scores of

inner-city children (Armor et al., 1976). The sample for their study consisted of 6th grade teachers (n = 83) in predominately minority schools. Armor et al. (1976) collected reading test scores for 6th grade students for four years (from 3rd grade to 6th). The Rand researchers created two items to measure teachers' sense of efficacy, which is now known as teaching efficacy (Item 1. *When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment."* Item 2. *"If I really try hard, I can get through to even the most difficult or unmotivated students"*). Armor et al. (1976) found that scores on these teaching efficacy items was strongly related to student reading achievement. Specifically, students whose teachers reported higher efficacy scored significantly higher in reading achievement than students whose teachers reported lower efficacy.

Following Armor et al. (1976), a debate began about the proper way to measure teaching efficacy. Teaching efficacy has been measured by some as an aspect of responsibility or locus of control (Armor et al., 1976; Guskey, 1982, 1987; Rose & Medway, 1981), where teaching efficacy is influenced by their perceptions of control in a teaching context. Other measures of teaching efficacy (Ashton, 1986; Gibson & Dembo, 1984; Woolfolk & Hoy, 1990) followed Bandura's (1977) conception that self-efficacy is the belief that a person has the capabilities to be successful at a particular task. Bandura chose this conception because he believed that locus of control is concerned with causal beliefs about outcomes, while efficacy is primarily concerned with an individual's belief that he or she can execute behavior to produce a specific outcome. Gibson and Dembo (1984) explain further.

> Outcome and efficacy expectations are differentiated because individuals can believe that certain behaviors will produce certain outcomes, but if they do not believe that they can perform the necessary activities, they will not initiate the relevant behaviors, or if they do, they will not persist (p. 570).

In this vein, Gibson & Dembo (1984) proposed a 30-item Teacher Efficacy Scale (TES) to measure efficacy in accordance with Bandura's (1977) two-factor model (Hoy & Spero, 2005). The original TES consisted of 30 Likert-type items that measured teaching efficacy. The two subscales that emerged from factor analysis are personal teaching efficacy and general teaching efficacy. I have chosen to use the TES in this current study because it focuses on measuring teachers' beliefs about their ability to influence outcomes. The TES is important to this study because it provides a mechanism for assessing the variability of efficacy beliefs relative to context.

Teaching Efficacy Relation to External Aspects of Teaching Practice

Many studies have shown that teaching efficacy is related to many important educational variables, such as teacher commitment and resiliency (Coladarci, 1992; Ware & Kitsantas, 2007), classroom management practices (Ashton, 1986), and student achievement (Brookover et al., 1978; Midgley, Feldlaufer, & Eccles, 1989).

> Once formed, self-efficacy beliefs continuously impact aspirations, behaviors, and beliefs regarding ability. These beliefs about abilities affect performance, despite variances in overall skills due to the mediating effect of effort. That is, increased efficacy beliefs will generally lead to increased effort and persistence and high levels of performance.…(Putman, 2012, p. 27)

Charalambous and Philippou (2010) illustrated the influence of teaching efficacy beliefs in relation to curriculum integration. The authors used structural equation modeling to analyze data from 151 mathematics teachers' concerns and efficacy beliefs about a mandatory curriculum reform. They presented participants with a 37-item questionnaire that measured efficacy beliefs and concerns about implementation of specific practices in the classroom. The results demonstrate that teaching efficacy beliefs influence implementation concerns. This finding has further implications when considering curriculum implementation. Charalambous and Philippou (2010) explain further:

> Teachers who were more comfortable with pre-reform approaches tended to be more critical of the reform, exhibited more intense concerns about their capacity to manage the reform, and were more worried about its consequences on student learning. Consequently, these findings suggest that reform initiatives might fail when ignoring teachers' beliefs about their capacity to use pre-reform approaches. This is because asking teachers to move beyond their comfort and safe zone—a zone they have probably reached after long effort and experimentation—requires investing time and effort, hence aggravating the already complex work of teaching. Without providing teachers with systematic and sustained support, teachers might resist the proposed reform, simply because of their comfort with already tested and tried approaches. (p. 14)

Doyle and Ponder (1977) agreed with Philippou's assertion, and stated that supports need to be provided to facilitate teacher implementation of reform-oriented practices and methods into the classroom.

Guskey (1988) examined the relationship between teacher perceptions related to teaching efficacy and attitudes towards implementation of instructional practices. Guskey (1988) relied on the conceptual framework presented by Doyle and Ponder (1977), where three criteria influence decision making regarding implementation of practices: (a) instrumentality of the practices presented, (b) congruence of the practices with the teacher's pedagogical philosophy, and (c) the teacher's perceived cost of the implementation. Data for this study was collected from 120 elementary and secondary school teachers. The participants first completed a professional development program that focused on learning instructional strategies. This program represented the implementation of new instructional practices in the classroom. Participants were then asked to complete a battery of instruments to measure their efficacy, affect towards teaching, and teaching self-concept. The results from this investigation indicated there is a moderate yet significant relationship between perceptions of teaching efficacy and openness to implementation of new practices. The results of this study are interesting because it focuses on the relationship between teachers' willingness to adopt new instructional strategies and their own perceptions of teaching efficacy.

While Guskey (1988) focused on practicing teachers, Woolfolk and Hoy (1990) found a link between the efficacy beliefs of pre-service teachers and attitudes toward student control. The authors used the Pupil Control Ideology Form (PCI) (Willower et al., 1967) to measure participant's perceptions of student control. Participants also completed the Teacher Efficacy Scale (Gibson & Dembo, 1984). They found that participants who scored higher on teaching efficacy tended to have an orientation towards humanistic/student-centered classroom control, meaning they were more

comfortable allowing the students to have more control within the classroom. Moreover, participants who scored lower in teaching efficacy were shown to have a high orientation for classroom control, meaning they relied on strict classroom regulation such as extrinsic rewards and the use of punishment to control student behaviors. This provides a link between a teacher's sense of control and pedagogical decision making.

Related to the findings of Woolfolk and Hoy (1990), Allinder (1994) addressed the extent to which there is a relation between efficacy and instructional components used by special education teachers. The authors administered the Teacher Efficacy Scale (TES) (Gibson & Dembo, 1984) and the Teacher Characteristics Scale (Fuchs, 1992) to 437 special educators. The results suggested that teachers who had higher levels of teaching efficacy were more likely to try different ways of teaching, and to be more organized and prepared when dealing with students. These two studies (i.e., Allinder, 1994; Woolfolk & Hoy, 1990) present interesting results. As teachers gain more experience, their perceptions of efficacy increase, allowing them more freedom to attempt different strategies (Wood & Bandura, 1989). Without a high perception of teaching efficacy, it is difficult to give up control within the classroom (Woolfolk & Hoy, 1990).

Teachers' Perceptions of Social Threat and its Influence on Pupil Control

Social threat, in the context of classroom teaching, is a teacher's perception that student actions may threaten their status as an authority figure (Willower & Lawrence, 1979). Willower et al. (1979) based their research on pupil control on the assumption that individuals attempt to maintain (or enhance) their status relative to others (Hoy,

2001). When this status is threatened, an individual's tendency is to protect himself from this threat by adopting a stance that he perceives will benefit him. In the case of teachers, a method of facing this threat is to adopt a custodial orientation (Barfield & Burlingame, 1974; Hoy, 2001; Willower & Lawrence, 1979).

The idea that schools are institutions where the "constituents" sometimes attend unwillingly underlies the concept of social threat (Carlson, 1964; Hoy, 2001; Willower & Lawrence, 1979). "Schools are organizations where neither the organization nor its clients have a choice about client participation in the organization" (Willower & Lawrence, 1979, p. 586). This forced relationship has the potential for conflict between students and teachers, and represents the theoretical foundation for literature examining student social threat (Carlson, 1964; Hoy, 2001; Willower & Lawrence, 1979).

Social threat is related to teaching efficacy. Teachers who have lower perceptions of teaching efficacy are more likely to feel their status is threatened by students (Willower & Lawrence, 1979). Barfield and Burlingame (1974) examined the relationship between pupil control and teaching efficacy. The researchers hypothesized that teachers' level of pupil control ideology differ with the level of teaching efficacy. The authors conceptualized pupil control as a function of the participants' perception of social threat. High, middle, and elementary school teachers (n = 275) completed the Pupil Control Ideology Scale (Willower et al., 1967) and the Teacher Efficacy Scale (Gibson & Dembo, 1984). The researchers categorized teaching efficacy into groups: (a) high efficacy, (b) medium efficacy, and (c) low efficacy. The researchers conducted analysis of variance in order to determine if there were significant differences between teachers with different levels of teaching efficacy. Results indicated a significant

difference in teacher pupil control ideology based on teaching efficacy of the teachers. Specifically, a pairwise comparison indicated there was a significant difference in pupil control ideology between teachers with high and low perceptions of teaching efficacy. Teachers with high perceptions of teaching efficacy held a more humanistic orientation. Teachers with a low perception of teaching efficacy held a more custodial orientation towards student control.

Woolfolk and Hoy (1990) extended the results of Barfield and Burlingame's (1974) study by examining the relations between perceptions of teaching efficacy and pupil control ideology held by pre-service teachers. The authors used the Pupil Control Ideology Form (PCI; Willower et al., 1967) to measure participants' perceptions of student control. Participants also completed the Teacher Efficacy Scale (Gibson & Dembo, 1984). The results mirrored those found in Barfield and Burlingame's (1974) study. Specifically, participants who scored higher on teaching efficacy also tended to have a humanistic orientation on the PCI. Participants who scored lower in teaching efficacy, also showed to have a high custodial orientation on the PCI. These results indicate that social threat is more salient for individuals with lower teaching efficacy beliefs.

These studies are important to this literature review because the results provide evidence that teaching efficacy beliefs are related to the pupil control ideology that a pre-service teacher adopts.

Summary

The concept of teaching efficacy is important to this current study because an individual's self-perception of teaching efficacy may mediate the relation between pupil

control ideology. The literature has demonstrated that teaching efficacy beliefs influence the methods used in the classroom, and this perception may also influence the classroom management strategies that teachers choose. Teachers' overall perceptions of their ability to positively influence academic outcomes will determine their proclivity to give up control in the classroom to students, and take risks with the curriculum (Goddard, Hoy, & Hoy, 2000; Morine-Dershimer, 1989; Wood & Bandura, 1989).

Contextual Variables that Influence Teacher Practice

Research into influences on teachers' classroom practice has identified that contextual factors also influence pedagogical practice. The purpose of this section of the literature review is to illustrate how contextual factors such as time constraints and the presence (or lack of) resources can influence pedagogical practice (Breen & Littlejohn, 2000; Chen, 2008; Khader, 2012).

A few studies have assessed the influence of contextual factors, such as time constraints and lack of resources, in relation to pedagogical practice. Khader (2012) illustrated how contextual factors influence teacher practice. The authors gave social studies teachers (n = 21) a measure of pedagogical beliefs and practice. Participants ranked items by personal importance in seven domains: organization, lesson presentation, control and discipline, dealing with students, evaluation, ethics, and personal characteristics. Results indicated that various types of contextual constraints cause inconsistencies between the participants' beliefs and their actual practices. Specifically, time pressures were found to have a negative impact on practice. For example, in the case of time constraints, the teacher was held responsible when he/she does not cover all the required material, so the teacher reverted to teacher-centered methods in order to meet deadlines. This example illustrates how time constraints may force teachers to change their practices to ones that are inconsistent with their ideology. This change may cause incongruences between teacher beliefs and practice. Khader (2012) adds,

> The possession of optimal beliefs by teachers requires at the same time the existence of optimal conditions to translate them into practical practice in the

> classroom. Yet, through the researcher's expertise in the field of education in the domain of teaching social studies, teachers felt many barriers, which prevented the translation of those beliefs into reality (p. 89).

Liu (2011) examined the factors related to pedagogical beliefs of teachers concerning technology integration. This study illustrates that contextual factors can influence classroom practice though both resources and time constraints. Technology integration requires resources, teacher knowledge, and time to be implemented correctly. The results indicated that teachers' beliefs about external requirements such influences their ability to integrate technology in the classroom. Resources and time concerns influenced teacher integration of technology. Additionally the study found that teachers who held learner-centered beliefs considered external expectations more than teachers who held teacher-centered beliefs. In other words teachers who held constructionist beliefs integrated technology more into their practice because of influences by external forces. This study is important to this review because it provides an example of contextual factors, resources, time and external requirements influencing classroom practice.

Bourke (1986) examined how contextual factors as operationalized by class size influenced teacher practice. Although class size is not directly used in this current study, it does influence the time and resources available for classroom activities. Bourke's study provides evidence that contextual factors can influence teaching practice. Bourke conducted classroom observations in 33 schools in Melbourne Australia, to determine how teacher to student ratio influenced teacher practices used. The results indicated that participants teaching practices were influenced by class size.

Specifically the authors found that teachers in smaller classes taught the class as a whole and in larger classes the teachers formed more groups for students to interact within. In this case teachers would interact with the groups more than the individual students. The authors noted an additional influence of class size, in larger classes students made more requests for help or clarification compared to smaller classes. The authors attributed this to the lack of clarity in instruction in the larger classrooms. The authors also interpreted these represents as a requirement for more management in large classes by the teacher. In other words the teacher with a larger class has a larger responsible for management, which ultimately affects the amount of time left for instruction. This study provides evidence that teacher to student ratio influences teacher practice.

As a whole, the literature does indicate that contextual factors indeed influence pedagogical practice. Specifically, in this review of literature I have identified two salient contextual factors that may influence individual pupil control ideology: time constraints and availability/lack of resources. Contextual variables are important to this current study because an individual's pupil control ideology may be situational or tied to a specific context. In other words, in certain contexts an individual may hold a more custodial orientation, while shifting to a more humanistic orientation in other contexts. I am using contextual variables in this current study because I am interested in examining the extent to which individual pupil control ideology changes as a function of contextual variables. I chose to focus on two contextual variables, availability/lack of resources and time constraints, because they can be easily understood by participants and easily described in a fictional classroom scenario.

Conclusion

In this literature review I have (a) provided a theoretical base for this study, (b) defined the key terms and ideas associated with pupil control ideology, teaching efficacy, and contextual variables, and (c) described the gaps in the literature related to the aforementioned topics (Hart, 1999).

In the beginning of this chapter, I provided a review of pupil control ideology literature. Pupil control ideology refers to the amount of control teachers believe they should exercise in order to influence students (Malow-Iroff et al., 2004). A teacher's pupil control ideology influences the amount of control that is used in the classroom, and is conceptualized on a continuum that ranges from custodial to humanistic. Pupil control ideology represents the dependent variable for this current study. It is the driving force behind teachers' practices in the classroom, and it is important to investigate the influences that may change pre-service teachers' ideological outlooks.

Next, I explored teaching efficacy. Teaching efficacy is an individual's perception that he or she has the ability to positively influence academic outcomes. (Bandura, 1977; Friedman & Kass, 2002; Gibson & Dembo, 1984). Teaching efficacy literature has shown that individuals who have high efficacy beliefs will be more likely to share classroom control with the students and be more willing to try out new things in the classroom than individuals with low efficacy beliefs (Goddard et al., 2000; Morine-Dershimer, 1989; Tschannen-Moran et al., 1998). This concept is very important to this current study because the literature suggests there are the relations between teaching efficacy beliefs, contextual variables, and pupil control ideology.

Finally, at the end of this literature review, I presented contextual variables that influence teacher practice. In this part of the review I focused on two specific contextual influences: (a) time constraints and (b) availability of resources. These variables influence teacher pedagogy because a teacher has to account for these various states when planning instruction. For example, a teacher may have to alter instructional methods if faced with a time constraint. In this example, the teacher may have to give additional homework or use a more expository method to compensate for this constraint.

The purpose of this current study is to examine the relation between contextual variables and pre-service teacher pupil control ideology, while accounting for their perceptions of teaching efficacy. The pedagogical decision making literature has illustrated that contextual variables may influence a teacher practice (Bourke, 1986; Breen & Littlejohn, 2000; Chen, 2008; Khader, 2012). However, there have been few examinations to determine whether or not contextual variables influence pupil control ideology. The literature has also shown there are relations between teaching efficacy and pupil control ideology in individuals who have had student teaching experiences (Hoy, 1967; Hoy & Rees, 1977). The results of this current study will help the research community to understand the process of pupil control ideology formation in pre-service teachers. To reach the stated purpose of this study I have created four research questions:

1. To what extent are contextual variables and pre-service teaching efficacy beliefs related?
2. To what extent are teaching efficacy beliefs and pupil control ideology related?

3. To what extent does participant's assignment to one of three conditions (a) control, (b) low resource, or (c) low time condition influence pupil control ideology?
4. To what extent does participant K-12 classroom exposure, as operationalized by field experience level, influence pupil control ideology?

Chapter 3. Methods

In this chapter, I will detail the methods used to fulfill the purpose of this current study, which is to examine the observed relations between contextual variables, pupil control ideology, and pre-service teachers' perceptions of teaching efficacy. This chapter begins by describing the participants and sampling methods and is followed by a description of the instrumentation and variables. I will then describe the procedures used to collect data and execute the study protocol. Finally, I will describe the data analysis methods and assumptions for the analytic procedures used in this study.

Research Questions

The purpose of this study is to examine the mechanism(s) that underlie the relationship between contextual variables and pupil control ideology through the inclusion of teaching efficacy. The outcome of this study will also fill a gap in the pupil control ideology literature by examining relations that have garnered little attention from researchers. To reach the research purpose, four research questions will be investigated.

1. To what extent are contextual variables and pre-service teaching efficacy beliefs related?
2. To what extent are teaching efficacy beliefs and pupil control ideology related?
3. To what extent does participant's assignment to one of three conditions (a) control, (b) low resource, or (c) low time condition influence pupil control ideology?
4. To what extent does participant K-12 classroom exposure, as operationalized by course level, influence pupil control ideology?

Participant Demographics

Eighty-three undergraduate pre-service teachers participated in this study (Table 1). An *a priori* power analysis was conducted in order to ensure that statistical test would have enough power to detect effects (Faul, Erdfelder, Lang, & Buchner, 2007). Based on the power analysis, a minimum of 81 participants were needed for this study. The power analysis assumed an effect size of .10 ($F = 3.96$), 0.05 alpha level, and a power of 0.80. A moderate effect size was chosen because past studies have shown large effect sizes when comparing the variables presented in this study (Barfield & Burlingame, 1974; Hoy, 2001; Rideout & Morton, 2007; Woolfolk & Hoy, 1990). A large effect size was not assumed because this study focused on participants who have not completed student teaching experiences unlike many of the studies that have proceeded this current examination. Based on the results of the *a priori* power analysis, the sample size is sufficient for detecting the assumed effects of the treatment (Cohen, 1988).

Table 1. *Participant Demographics (n = 83)*

Characteristic	#	%	Missing
Male	6	7.2	
Female	77	92.8	
Year in school			1
Sophomore	35	42.2	
Junior	32	38.6	
Senior	13	15.7	
Other	2	2.4	
Major			
Early childhood	2	2.4	
Elementary education	48	57.8	
Secondary education	26	31.3	

Special education	4	4.8
Other	3	3.6
Racial Identity		
Asian	2	2.4
Hispanic	4	4.8
Latino/a	1	1.2
Native American	1	1.2
White, Non-Hispanic	71	85.5
Other	4	4.8
Field Experience		
Rural	43	51.8
Urban	23	27.7
Suburban	17	20.5

The sample consisted mainly of females (n = 77) and a few males (n = 6). A majority of participants were sophomores (n = 35), 32 participants were juniors, and 13 were seniors. Hispanics constituted 4.8% of participants while white, non-Hispanic participants made up 85.5% of the sample. Asians made up 2.4% of the sample, while Latino/a and Native American each make up 1.2% of the sample. The age range of participants was 19 to 40 (M = 20.86, SD = 2.326) years old. The majority (57.8%) of participants reported elementary education to be their major. Secondary education was the second most often represented major (31.2%), followed by special education (4.8%), other (3.6%) and early childhood (2.4%). The most prominent field experience group represented in this study is the rural experience (Level 1) (51.8%), followed by urban (Level 2) (27.7%). The final field experience group represented was suburban (Level 3) (20.5%). Additional demographics are presented in Tables 2 through 4.

Table 2. *Participant Demographics by Field Experience Level (n = 83)*

Characteristic	Rural	Urban	Suburban	Missing
Year				1
Sophomore	27	7	1	
Junior	8	6	18	
Senior	6	4	3	
Other	1	0	1	
Major	Rural	Urban	Suburban	
Early childhood	0	2	0	
Elementary education	24	11	13	
Secondary education	14	4	8	
Special Education	4	0	0	
Other	1	0	2	
Concentration	Rural	Urban	Suburban	
Foreign language	2	0	1	
Music Education	1	0	4	
Science education	7	1	1	
Social studies	5	3	1	
Special education	5	1	1	
Other	19	12	12	

Participants and Sampling

Participants for this study consist of pre-service teachers at a large research-based university in the Southwestern United States. This study focuses on pre-service teachers because at the beginning, these future teachers may have a different conception of their possible teaching environment from more experienced teachers. By using pre-service teachers, I have the opportunity to examine their conception of the ideal classroom and see how individuals at various course academic status (e.g. freshman, sophomore, junior, senior), and field experience level differ in pupil control ideology and teaching efficacy.

The participants for this study are students enrolled in Level 1, 2, or 3 classes in the College of Education. These levels represent different experiences that students receive during the teacher education program (Table 3). At the different levels, the students have classroom observation experiences in rural, suburban, and urban schools.

Within the teacher education program, there is a fourth level that corresponds with a teaching internship. This current study is focused on individuals at the first three levels because past studies have focused on pupil control ideology change after student teaching experiences (Hoy, 1967; Hoy & Rees, 1977). Compared with individuals who are completing student teaching experiences, there has been very little examination of pupil control ideology of pre-service teachers earlier in their educational careers.

Table 3. *Levels Corresponding to Teacher Education Program*

Level	Setting	Corresponding course(s)	Description
1	Rural	EIPT 3473	Level 1 corresponds to the rural field experience. Students at this level can work one on one with students or with small groups, but they do not participate in any instruction.
2	Urban	EDSP 3054	Level 2 corresponds to the urban field experience. Students spend the majority of their time in the community focusing on the cultural environment. Students do not participate in instruction.
3	Suburban	EDS 4003	Level 3 corresponds to the suburban field experience. Students at this level begin limited classroom instruction.

Participants were recruited using a direct contact method from three areas within the teacher education program: (a) an educational psychology participation pool (Level 1), (b) educational literacy courses (Level 2), and (c) an educational studies course (Level 3). These areas represent the three course levels described above. I recruited participants at these levels because they may show differences in teaching efficacy or

pupil control ideology, which may be due to differences in classroom exposure (Hoy, 2001; Rideout & Morton, 2007; Woolfolk & Hoy, 1990). These differences may manifest themselves depending on the level that participants have reached in the teacher education program.

Participant recruitment consisted of providing potential participants with the URL of the questionnaires to be completed at their own convenience. Participants were compensated for their participation with either course credit or extra credit in accordance with their individual course syllabi.

Participants were selected using a criterion sampling method. The screening criteria for participation in this study is undergraduate enrollment in a teacher education program, enrolled in one of the Level 1, 2, or 3 courses. I used criterion sampling method because I wanted the participants to be similar in order to minimize differences between group members, which maximizes my ability to make comparisons between participants at different time periods (Teddlie & Yu, 2007). It is also important that the participants to meet these criteria because I am interested in examining the influence (or lack of influence) of efficacy on pre-service teacher pupil control ideology. Because all of the participants are from the same program, their educational experiences will be similar, which may single out the influence of individual efficacy beliefs. If I used a broader sample of pre-service teachers, then group differences in performance could be due to other factors not related to efficacy.

Instrumentation

Teacher Efficacy Scale. Participants were adminstratered a modified version of the Teacher Efficacy Scale (TES) (Gibson & Dembo, 1984; Appendix B). The TES

was based on the original work of Armor and colleagues (1976), who created a two-item measure of teaching efficacy known as the Rand Measure. The original TES consisted of 30 Likert-type items that measured general teaching efficacy based on the conception of teaching efficacy presented by Bandura (1977; Gibson & Dembo, 1984; Tschannen-Moran et al., 1998). Gibson and Dembo (1984) conducted a factor analysis and found acceptable factor loadings for only 16 of the 30 original items. Woolfolk and Hoy (1990) kept the 16 items from Gibson and Dembo's factor analysis and added four additional items to the original TES to address the perceived teaching efficacy of pre-service teachers.

Woolfolk and Hoy (1990) subjected the original TES to a two-factor confirmatory factor analysis (CFA). The analysis confirmed the original two-factor structure (i.e., personal teaching efficacy and general teaching efficacy) presented by Gibson and Dembo (1984) using a varimax rotation method. Following the CFA, Woolfolk and Hoy (1990) performed a principal axis factor analysis to examine the basis of Guskey's (1988) findings that personal efficacy may be composed of two components: responsibility for positive and negative outcomes. Like previous factor analysis the authors found that a two-factor solution best fit the data. Additionally, the analysis confirmed Guskey's findings that the personal efficacy factor was composed of two separate factors that reflect the teachers' sense of responsibility for positive and negative classroom outcomes.

In total, the TES administered in this study consists of 22 items (including the original items from Gibson and Dembo, (1984), the original items from Rand, four items that address pre-service teaching efficacy from the original measure proposed by

Gibson and Dembo, and the two teaching efficacy items from Woolfolk and Hoy's (1990) investigation. The addition of the four items addressing pre-service teaching efficacy is important because very few measures of teaching efficacy incorporate items to address this population. The following are examples of items on the TES: (a) *When a student does better than usually, many times it is because I exert a little extra effort*; (b) *Teachers are not a very powerful influence on student achievement when all factors are considered*; (c) *If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly*.

In this current study I will be using both the teaching efficacy and personal efficacy subscales in analysis. These scales will be used because they both represent different aspects of efficacy and potentially allow for different effects when entered as the mediator variable. For the remainder of this study I will use the term Teacher Efficacy Scale when referring to the instrument as a whole. I will refer to the two subscales as teaching efficacy and personal efficacy.

The Pupil Control Ideology Scale. The Pupil Control Ideology Scale (PCI) is a measure of a teacher's orientation for student control (Hoy, 2001) (Appendix C). I used this instrument because classroom control, as conceptualized in the PCI, is the dependent variable of this current study. The theoretical underpinning for the PCI comes from Carlson's (1964) assertion that institutions like public schools, prisons, and mental hospitals serve individuals who have little say in their participation. In addition to mandating participation, these institutions have little say in the selection of "clients"; in other words, they must select all students, prisoners, or patients with little input.

Carlson (1964) stated that in these institutions, control is a central problem because of the requirement for mandatory participation.

Willower et al. (1967) developed the PCI using a two-factor framework. The authors conceptualized control as either custodial or humanistic. *Custodial* describes tightly controlled environments. Hoy (2001) described further:

> The model for custodial orientation is the traditional school in which behavior is rigid and tightly controlled; maintenance of order is a primary concern… Teachers conceive of the school as an autocratic organization with rigid pupil-status hierarchy… The model for the humanistic orientation is the school as a learning community in which members learn by cooperative interactions and experience… Teachers conceive of the school as a democratic organization with two-way communication between students and teachers and increased self-determination of students (p. 426).

The PCI scores teachers on a continuum of custodial to humanistic ideology. The PCI has 20 items, and each is scored on a 5-point Likert-type scale. All items are summed in order to calculate overall PCI scores. Higher scores represent a custodial orientation. In contrast, lower scores indicate that the participant holds a humanistic orientation. The reliability of this measure has been consistently high with Cronbach's alpha values between .81 to .90 (Hoy, 1967, 2001), and the assessment has been validated for use with samples of teachers, pre-service teachers, and student teachers. Examples of items on the PCI include the following: (a) *It is desirable to require pupils to sit in assigned seats during assemblies*; (b) *Beginning teachers are not likely to*

maintain strict enough control over their pupils; (c) *Pupils often misbehave in order to make the teacher look bad.*

Contextual Variables

In this study, I presented contextual factors in the form of scenarios in order to examine the relationship between contextual variables, pupil control ideology, and participants' self-perception of teaching efficacy. Each participant was given one of three randomly selected scenarios presenting the participant with a view of a hypothetical classroom (appendix G). Each fictional classroom consisted of two variables that facilitated the participants' creation of a mental representation of the classroom: (a) availability of resources and (b) time constraints. I included these two variables because: (a) the literature indicates that these variables influence teacher pedagogical practice (Breen & Littlejohn, 2000; Chen, 2008; Khader, 2012; Liu, 2011), and (b) pre-service participants are likely to easily understand these variables . For example, pre-service teachers may not understand complex contextual factors related to interpersonal relations between teachers and other school stakeholders (Friedman & Kass, 2002) due to the lack of experience in the classroom. These individuals likely understand the influence of having little to no resources provided schools or the effect that heavy time constraints may have on their future practice. The control condition assigns the participant a fictional classroom with high resources and high time allocations. The low resource condition assigns the participants a classroom with low resources and high time allocations. The low time condition assigns participants into a fictional classroom that that includes high resources and low time allocation.

Procedures

In this section, I will outline the procedures used for this current study. All procedures have been approved by University of Oklahoma Institutional Review Board (IRB number 5095) (Appendix C).

Recruitment. I conducted participation recruitment using a direct contact method. Participants were recruited from classes within College of Education (Table 3). In accordance with University of Oklahoma Institutional Review Board, I used a script during recruitment activities (Appendix D). The use of a script ensured consistency between classroom recruitment experiences. First, I explained the nature of the study and answered questions from that potential participants. Next, the course instructors sent the study URL to their class so potential participants to click on the URL at their convenience to take part in the study.

Online survey. All data were collected electronically using Qualtrics (2013). When individuals clicked on the URL to participate in the study, they were presented with an IRB-approved information sheet (Appendix E). The information sheet contained all the important information about the study, including contact information for the primary investigator and advisor. Participants were required to read the information sheet and provide consent in order to continue in the study. Participants who agreed to continue in the study were taken to additional screening to ensure that they are at least 18 years of age. Individuals who did not wish to participate or who are not 18 years of age or older were removed from the survey in accordance with the requirements of the University of Oklahoma's Institutional Review Board.

After completing the information sheet, participants completed a basic demographic information questionnaire (Appendix F). The participants then indicated the for which course they are completing the study to determine the appropriate incentive for participation. Next, participants were randomly assigned to one of three conditions: (a) control condition with high resources and time, (b) low resource condition, or (c) low time condition (Table 4). Participants were assigned to one of these conditions by the Qualtrics program. The software assigned individuals to conditions randomly to ensure that each condition includes an approximately equal number of individuals from each course level.

Table 4. *Study Conditions*

Condition	Resources	Time
Control	High	High
Low Resource Condition	Low	High
Low Time Condition	High	Low

Each individual was presented one scenario corresponding to the condition to which they were assigned (Appendix G). Each scenario contained two variables: (a) availability of resources, and (b) time constraints (Table 4). In the control scenario, participants have high resources and high time allocated to them. In the low resource condition, participants have low classroom resources and high time. In the low time condition, participants have access to high classroom resources and low time. The prompts were deliberately left vague so in order to allow the participant to mentally fill in information gaps with their own beliefs. For example, for each prompt, there is no mention of grade level or content taught. This is done to allow the participant read the

scenario and then fill in those details based on the content area and grade level they prefer to teach at the time of participation.

Each participant was asked to reflect on how his or her classroom would look and feel (Appendix G). Participants then described his or her fictional classroom by providing a reflection in a short answer box within the survey. Qualtrics provided a time stamp not visible to the participant that I used to validate the reflection of participants. The survey asked participants to describe their conceptions of their classrooms in this manner to ensure they had sufficiently internalized the scenario about which they were responding while completing the teaching efficacy scale (TES) (Gibson & Dembo, 1984) and the pupil control ideology scale (PCI) (Willower et al. 1967; Flavell, 1979).

Next, each participant completed the TES and the PCI. Qualtrics randomized the presentation of these two surveys in order to minimize ordering effects (Cohen, 1995). The raw data pulled from qualitrics, however, did not differentiate the order that these scales were presented to each participant so formal analysis for ordered effects could not be conducted. Participants completed these two scales while reflecting on the scenario that they were assigned. The survey prompts overtly asked participants to pretend that they are teachers in the fictional classroom presented in the scenario. I used this method to ensure that survey responses are related to participants' beliefs as teachers of this fictional classroom.

Participation took approximately 15 minutes. At the completion of the survey, participants were asked to provide their names in order to receive the incentive specified in accordance with their course syllabus.

Participant incentives. Individuals received incentives to participate in the study based on their class syllabi. Incentives for participation fell into one of three categories: (a) class credit, (b) bonus credit, and (c) and tangible rewards. Participants in Level 1 classes were given course credit or bonus credit for participation based on details recorded in their class syllabi. Individuals in Level 2 and level 3 classes received a $5 Amazon gift card for participation in the study. At the end of the study, participants were directed to a second survey not connected with the initial survey to input their name so they could receive the incentives. This created an electronic list of all participants. Lists of names of students from Level 1 courses were forwarded to instructors so they could allocate class or bonus credit for research participation. This method was used to keep personally identifiable information separate from participant responses (Corti, Day, & Backhouse, 2000).

Participants not eligible for class credit or bonus credit were provided an incentive for participation in this study. These individuals were asked to provide a mailing address and email address to receive their incentives. These individuals received a $5 Amazon gift card for their participation.

Data Analysis

In this section, I will detail the analytic techniques for the current study. The proposed analyses tested the relationships between teaching efficacy, contextual variables, and pupil control ideology (Figure 2). Mediation was tested through regression analysis using the Process Macro for SPSS (Hayes & Preacher, 2014). This section is organized by research question (Table 5) to facilitate the readers' comprehension of the relationships between analyses and the underling questions that guide the study.

Table 5. *Research Question and Related Analytic Technique*

Research Question	Method	IV	DV
RQ 1	Direct-effect/Regression	Condition	PCI
RQ 2	Direct-effect/Regression	TES	PCI
RQ 3	Direct-effect/Regression	Condition/TES	TES/PCI
RQ 4	One-way ANOVA	Course Level	PCI

Note. Research questions: (1) To what extent are contextual variables and pre-service teaching efficacy beliefs related? (2) To what extent are teaching efficacy beliefs and pupil control ideology related? (3) To what extent does participant's assignment to one of three conditions (a) control, (b) low resource, or (c) low time condition influence pupil control ideology? (4) To what extent does participant K-12 classroom exposure, as operationalized by course level, influence pupil control ideology?

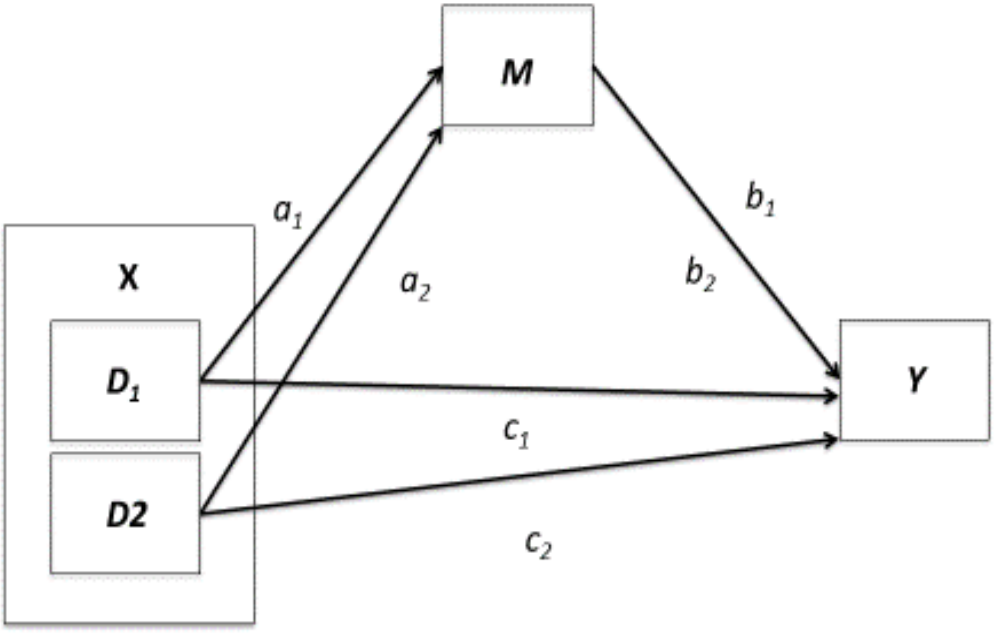

Figure 2. Mediation model. *X* is contextual factors, *M* is teaching efficacy, *Y* is pupil control ideology. D_1 represents contrast between low resources and control conditions. D_2 represents contrast between low time and control conditions.

Research Questions 1-3: Using Regression

In order to address research questions 1 through 3, (1) *To what extent are contextual variables and pre-service teaching efficacy beliefs related? ?, (2) To what extent are teaching efficacy beliefs and pupil control ideology related?, and (3) To what extent does participant's assignment to one of three conditions (a) control, (b) low resource, or (c) low time condition influence pupil control ideology?*, I conducted a series of regression to examine if teaching efficacy mediates the relation between contextual variables and pupil control ideology. These relationships were examined using Process Macro for SPSS (Hayes & Preacher, 2014). Data for the grouping

variable (i.e., classroom resource and time resource) were dummy coded, in which 0 represents a lack of treatment and 1 represents treatment (Wendorf, 2004). For example, individuals in the control group were assigned the dummy code 00 and the two dummy variables to represent a lack of treatment on the classroom resources and time resources variables. In other words, individuals in this condition were presented a scenario where both classroom resources and time resources are high. Individuals in the limited-resources condition were assigned the code 10 and the two dummy variables, where classroom resources is low and time resources is high. Participants in the limited-time condition were coded 01 and the two dummy variables, where classroom resources were high and time resources are low. The process macros models a series of regression (Figure 2). Model 1, a direct effect, represents a simple regression between the condition and participants' PCI score. Model 2, a direct effect, represents a simple regression between participants' teaching efficacy score (mediator) and the condition. Model 3, a direct effect, represents a simple regression between the TES score (mediator) and the PCI score. Model 4, an indirect effect, represents a multiple regression between participant condition and TES score with PCI score. Models 1-3 are necessary to establish that a zero-order relationship between variables exists. If a non-significant relationship occurs between these variables, then it is unlikely that a mediated relation exists. The Process Macro do not produce a *p*-value for the indirect effect (Hayes & Preacher, 2014). Rather, Process Macro uses nonparametric bootstrapping of the indirect effect and produce a 95% confidence interval. If a 0 value falls within the confidence interval, then the indirect effect is said to be non-significant.

Simple regression is a statistical technique that parallels ANOVA techniques in the general linear model (Lovie, 1981). Regression and ANOVA techniques are used to estimate relationships among variables. Unlike ANOVA techniques, regression analysis may be done between a continuous predictor and a dependent variable, making it appropriate for use in this current study. In the following sections, I will describe the procedures I will use to assess the assumptions for regression analysis. All assumptions will be tested before data analysis begins.

Assumptions of simple regression. The assumptions for simple regression are similar to some of the other statistical techniques outlined in the data analysis section. There are four major assumptions for regression analysis: (a) independence of observation, (b) homogeneity of variance, (c) normality, and (d) linearity (Poole & O'Farrell, 1971).

Assumption 1: Independence of observation. The independence of observation assumption states that errors should be random, or that there should be no systematic errors in the data. Systematic research design is one of a few ways to minimize the correlation of scores. In this study, participants were recruited from one institution, so there are some correlations between scores because participants have gone through similar teaching education experiences. To minimize correlations, participants were asked to complete the measures associated with the study independently. Participants were also assigned into scenario conditions randomly, which helped to minimize correlations. The assumption of independence will be assessed by examination of scatter plots (Hahs-Vaughn & Lomax, 2012).

Assumption 2: Homogeneity of variance. This assumption is that the variance within each population is equal. If this assumption is met, then the pattern of residuals will have a similar spread. If the assumption of homogeneity of variance is violated, then the validity of significance tests will be affected, as estimates of standard errors will be inflated. In other words, a violation of the assumption of homogeneity of variance will increase the probability of type II errors. I will conduct Levene's test of Equality of Variances to test the consistency of the pattern of residuals. If this assumption is violated, I will transform the data using a weighted least squares method.

Assumption 3: Normality. The normality of regression analysis is related to the shape of prediction errors. Regression analysis is sensitive to outliers, as any major departure from normality can pull the regression line towards the outlier. I consider data falling three standard errors from the mean to be outliers (Hahs-Vaughn & Lomax, 2012). I will assess normality by conducting a test of skewness and kurtosis in SPSS (IBM, 2013). If the data contains outliers, I will examine the data for entry errors. If there are no entry errors, I will conduct two parallel analyses with the outlier(s) included and removed in order to determine their impact on the results.

Assumption 4: Linearity. Regression analysis assumes a linear relationship between variables (Hahs-Vaughn & Lomax, 2012). If a straight line does not provide the best fit, then the linearity assumption is violated, and the strength of the relationship displayed will be reduced. In order to assess linearity, I will examine a scatterplot with a line of fit, in which PCI and TES scales (personal efficacy and teaching efficacy) will be entered as the two factors. If the data fails to meet the assumption of linearity, then I will either conduct a data transformation or conduct a non-parametric technique.

Research Question 4: Using a One-Way ANOVA

To address research question 4 (*To what extent does participant K-12 classroom exposure, as operationalized by field experience level, influence pupil control ideology?)* I will analyze the data using a one-way analysis of variance (ANOVA) to test the extent to which there are significant mean differences in PCI scores between individuals at different levels in the teaching education program. This method is appropriate because I want to determine if participants' perceptions of the dependent variables (i.e., conception of pupil ideology) differ based on their classroom experiences as they move through their teacher education program.

The one-way ANOVA is in the family of other ANOVA statistical techniques. ANOVA techniques have their lineage in experimental psychology (Lovie, 1981) in a parallel branch to regression techniques on the general linear model tree (Cohen, 1968). In this section, will describe the procedures to conduct the ANOVA, and in the following section, I will detail assumptions fundamental to one-way ANOVA design.

In order to conduct the one-way ANOVA, I will enter participant course level as the independent variable and PCI total score as a dependent variable. I will assess whether there are mean differences in PCI scores based on participant course level. If there are significant differences on the omnibus test, I will then conduct a Bonferroni post hoc test in order to determine superficially were differences lie. This analysis will tell me if significant differences between PCI scores exist between participants at different levels of their teaching education program.

Assumptions of one-way ANOVA. The appropriateness of ANOVA depends on a data meeting prescribed assumptions. The one-way ANOVA has three

assumptions that must be accounted for: (a) data normality, (b) independence of observations, and (c) homogeneity of variance. In the following sections, I will detail how I will check the data for each assumption.

Assumption 1: Normality. The test of normality is a basic prerequisite for most statistical tests because normality is an underlying assumption in parametric testing (Hahs-Vaughn & Lomax, 2012). Significant outliers, or data points that do not follow a general pattern, may influence normality. These outliers may have a negative influence on analysis because they can skew the differences between related groups. In order to assess normality, I will conduct a Shapiro-Wilks Test of Normality, where scores on the PCI will be entered as the dependent variables and group membership (class level) will be entered as the independent variable. If $p > .05$, then I will assume data normality. Failure to meet this assumption will mean a small reduction to Type I error rate because the one-way ANOVA is robust to the assumption of normality based on the proposed sample size ($n = 81$) for this current study (Hahs-Vaughn & Lomax, 2012).

Assumption 2: Independence of observations. The independence of observation assumption states that scores in the data should be independent of each other. Because this study will be analyzed using a between-subjects method, it is important that observations are independent of each other. Hierarchical statistical methods (use of classrooms or institutions rather than individual students) in some cases may be used to avoid independence issues (Raudenbush & Bryk, 2001). In this study, participants will self-administer the battery of instruments on their own time, thereby reducing the chances that their responses will systematically violate the independence assumption..

Assumption 3: Homogeneity of variance. Like regression analytic techniques, one-way ANOVA has an assumption of homogeneity of variance. This assumption means that variance within each population is equal. If this assumption is met, then the pattern of residuals will have a similar spread. If the assumption of homogeneity of variance is violated, then the validity of significance tests will be affected because estimates of standard errors will be inflated. I will conduct Levene's Test of Equality of Variance to test the consistency of the pattern of residuals. If this assumption is violated, I will transform the data using a weighted least squares method.

Chapter 4. Results

The purpose of this study was to examine the observed relations between contextual variables, pupil control ideology, and pre-service teachers' self-perceptions of teaching efficacy. Specifically, this study examined whether pre-service teachers' reported efficacy, operationalized as general teaching efficacy and personal teaching efficacy, mediates the relations between contextual variables and their pupil control ideology. This study extends the findings of Barfield and Burlingame (1974) and Woolfolk and colleagues (1990), who found that as teaching efficacy increases, pre-service teachers adopt a more humanistic pupil control ideology. These past studies, with the exception of Woolfolk and Hoy (1990) focused on teachers who have completed student teaching experiences, whereas the current study focuses on individuals who have not completed student teaching.

Four research questions were fashioned in order to reach this research purpose:

1. To what extent are contextual variables and pre-service teaching efficacy beliefs related?
2. To what extent are teaching efficacy beliefs and pupil control ideology related?
3. To what extent does a participant's assignment to one of three conditions, (a) control, (b) low resource, or (c) low time condition, influence pupil control ideology?
4. To what extent does participant K-12 classroom exposure, as operationalized by field experience level, influence pupil control ideology?

Results for this study are described and presented beginning with the description of student time data, followed by assessments of data normality. Next, reliability

information for the assessments used in this study will be presented. Finally, results will be presented by research question: (a) mediation analysis for Research Questions 1-3 and one-way ANOVA for Research Question 4.

Time Stamp Data

The amount of time participants (n = 83) took to read and think about the scenarios was also measured to ensure they internalized the scenarios before completing the PCI and TES. Participants were presented one of three scenarios based on the condition they were randomly assigned. The timer began when the participant is first presented with their assigned condition. Participants were not aware that they were beig timed. The amount of time participants spent reading and writing a response to the scenario prompt provides evidence of cognitive engagement (Miller, 2015). This indicates that participants seemed to put a lot of thought into their qualitative response as well as the responses to the TES and PCI. Participants in the control group spent an average of 6 minutes and 20 seconds thinking about, and providing a qualitative response about their fictional classroom. Participants in the low resource condition spent an average of five minutes and five seconds while individuals in the low time condition spent five minutes and 27 seconds. Participants in the control group wrote on average 99.200 (SD = 62.78) words, participants in the resources group wrote on average 95.041 (SD = 53.036) words, while participants in the time condition wrote on average 75.260 (SD = 40.822) words. This timed data may indicate that participants took more time to respond to the control condition because they had more resources and time to consider.

Assessing the Assumptions of Independence of Observations and Linearity

The independence of observation assumption states that errors should be random, or that there should be no systematic errors in the data. Violation of the assumption of independence of observation indicates systematic patterns of residuals. This assumption was assessed by observing scatter plots for patterns of residuals for the two TES scales and the PCI (Figure 3; Figure 4) (Hahs-Vaughn & Lomax, 2012) because no meaningful linear relations can exist between the categorical contextual variable and the continuous variables used in this study (MacKinnon, 2008). The data for this analysis used data from 83 participants. The scatterplots indicated that there are random displays of data points. This result suggests that observations of scores on the TES and PCI are independent of each other and maintain a linear relationship.

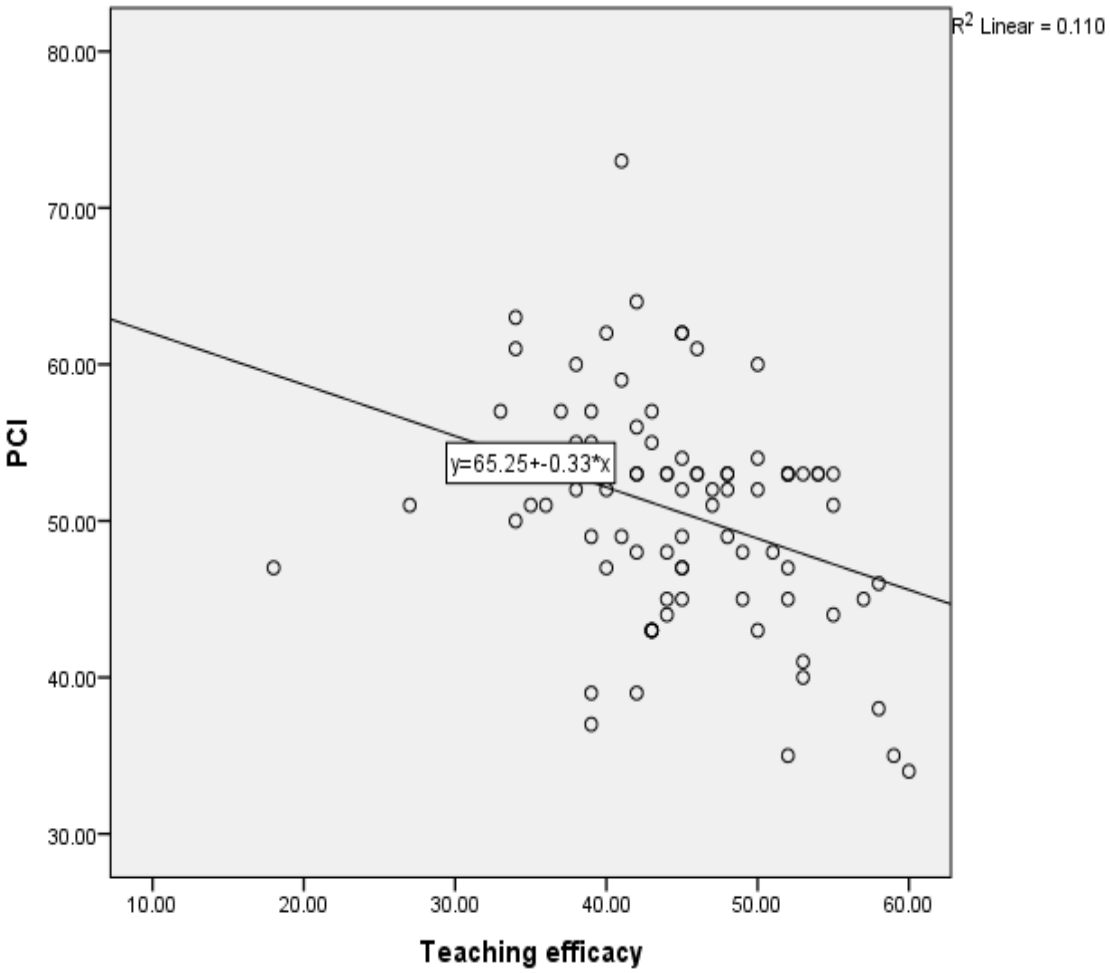

Figure 3. Scatter plot of teaching efficacy and pupil control ideology scores.

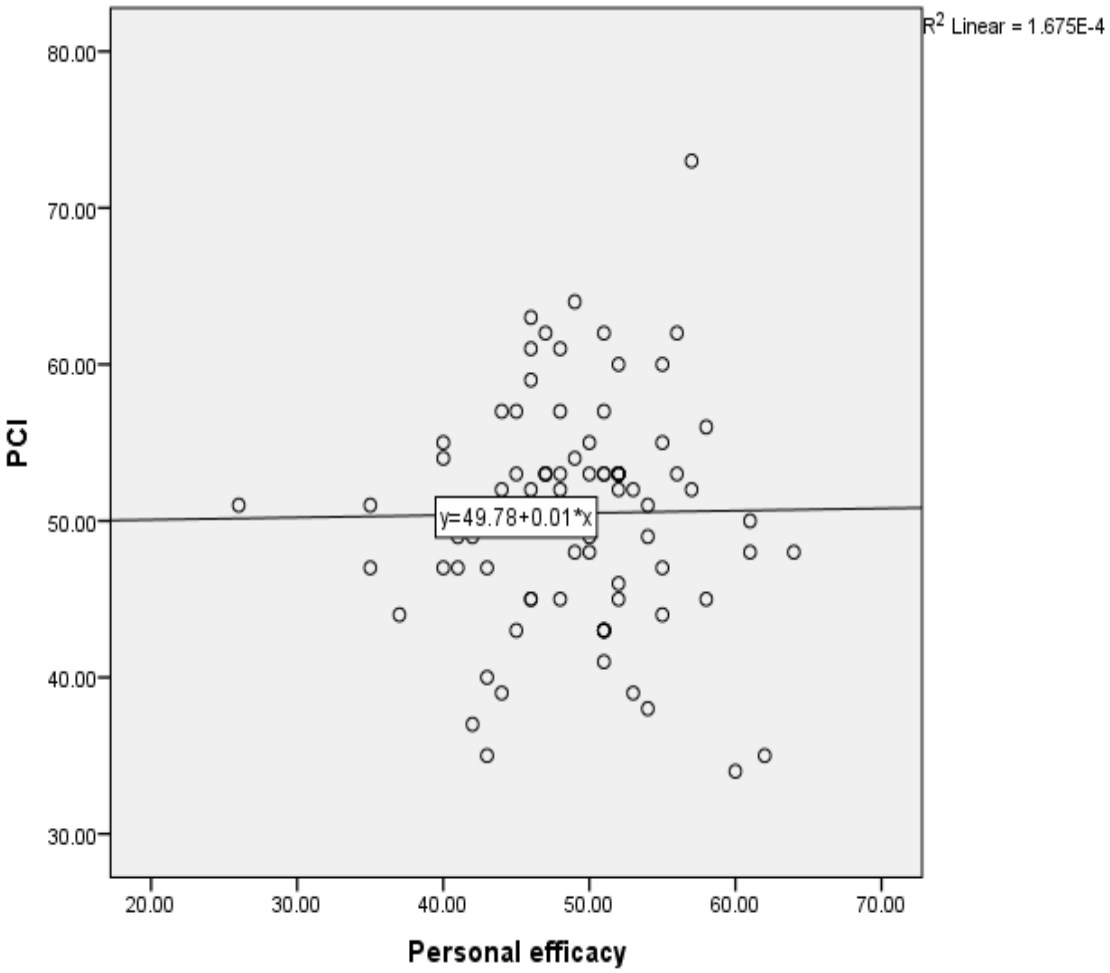

Figure 4. Scatter plot of personal efficacy and pupil control ideology scores

Assessing the Homogeneity of Variance Assumption

The assumption of homogeneity of variance states that the variance within each population is equal. To assess this assumption I conducted Levene's test of Equality of Variances to test the consistency of the pattern of residuals. I conducted this test twice the once with field experience group as the independent variable and once with participant condition entered as the independent variable. PCI scores were entered as the dependent variable for both tests. The non-significant result obtained for field

experience group ($F(2, 80) = 1.264$, $p = .288$), and condition ($F(2, 80) = .581$, $p = .562$) indicated there were no differences in the variances across groups.

Assessing the Data Normality Assumption

Data normality was assessed in this study because normality is a prerequisite for regression and ANOVA techniques. Normality was assessed using two techniques: (a) the Shapiro-Wilk test of normality and (b) analysis of skewness and kurtosis.). The data for this analysis was based off of the input from 83 participants. The Shapiro-Wilk test of normality (1965) was first conducted using SPSS version 22 (IBM, 2013) to compare the shape of the data distribution to that of a normal curve. The null hypothesis for the Shapiro-Wilk test assumes that the data is normally distributed. This means that a significant result indicates that the data is not normally distributed. The Shapiro-Wilk values for teaching efficacy (Shapiro-Wilk = .972 (1, 83), $p = .063$), personal efficacy (Shapiro-Wilk = .975 (1, 83), $p = .109$), and pupil control ideology (Shapiro-Wilk = .975 (1, 83), $p = .103$) indicate that the distributions of data collected from these three measures approximate the normal distribution. Measures of skewness and kurtosis provide additional measures to illustrate the shape of the distribution. Neither of these descriptive measures indicated a significant deviation from normality for any of the measures used in this study (Table 6).

Table 6. *Scale Skewness, Kurtosis, and Cronbach's Alpha Values (n = 83)*

Scale	Skewness	Kurtosis	α[a]	Mean	SD
Teaching efficacy	-.500 (.264)	1.359 (.523)	.749	40.89	6.430
Personal efficacy	-.515 (.264)	1.377 (.523)	.778	49.17	6.415
Pupil control ideology	.290 (.264)	1.186 (.523)	.748	50.25	7.534

Note. Values in parentheses are standard errors.

Reliability Analysis

Cronbach's alpha coefficients were calculated for the two Teacher Efficacy Scale (TES) subscales (i.e., teaching efficacy and personal efficacy) and the PCI. Cronbach's alpha is a coefficient of reliability, a measure of scale internal consistency (Cronbach, 1951). Cronbach's alpha values for the teaching efficacy, personal efficacy, and PCI scales were .749, .778, and .748, respectively. The Cronbach's alpha values indicate that each of the three scales have acceptable internal consistency (George & Mallery, 2003). The data for this analysis was based off of the input from 83 participants.

Table 7. *Descriptive Statistics by Condition (n = 83)*

Condition (X)	Teaching Efficacy (M)		Personal Efficacy (M)		Pupil Control Ideology (Y)	
	Mean	SD	Mean	SD	Mean	SD
Control	43.862	8.692	48.379	8.221	48.643	7.509
Resources	47.071	6.497	49.500	5.343	52.357	7.399
Time	44.500	6.534	49.500	5.587	50.560	7.511
Total	45.160	7.415	49.098	6.524	50.519	7.540

Zero-Order relations Between Variables

To examine whether teaching efficacy and personal efficacy are related to pupil control ideology, zero-order correlations were conducted. The data indicate a moderate but significant (r (84) = .307, p = .005) correlation between teaching efficacy and personal efficacy, and a negative but significant (r (83) = -.332, p = .002) correlation

between teaching efficacy and pupil control ideology. The data also indicate no relation (r (84) = .013, p = .908) between personal efficacy and pupil control ideology.

Table 8. *Pearson Correlations Between Study Variables*

	Teaching efficacy	Personal efficacy	Pupil control
Teaching efficacy	-		
Personal efficacy	.307*	-	
Pupil control	-.332**	.013	-

Note. Significance test is 2-tailed
*Statistically significant at the .05 level
** Statically significant at the .01 level

Direct Effect Analysis

I used mediation analysis to address the first three research questions 1 through 3, (a) *To what extent are contextual variables and pre-service teaching efficacy beliefs related?, (b) To what extent are teaching efficacy beliefs and pupil control ideology related?, and (c) To what extent does participant's assignment to one of three conditions (1) control, (2) low resource, or (3) low time condition influence pupil control ideology?* Eighty-three data points were entered in this analysis because 11 participants failed to complete the study. Mediation analysis consists of a series of regression testing theoretical paths between an independent variable, mediator, and dependent variable. Each relation is illustrated by either the letter *a*, *b*, or *c* (Figure 5). In Figure 3, *X* represents the independent variable (i.e., contextual scenario condition), *Y* represents the dependent variable (i.e., pupil control ideology), and *M* represents the mediator (e.g., teaching efficacy or personal efficacy). If the independent variable in this study were continuous, then the *X* variable would suffice. However, the independent variable in this current study is multi-categorical, so the *X* variable must

account for these categories by comparing a condition with the control condition. In this figure, D_1 and D_2 represent a condition of the independent variable compared to the control condition.

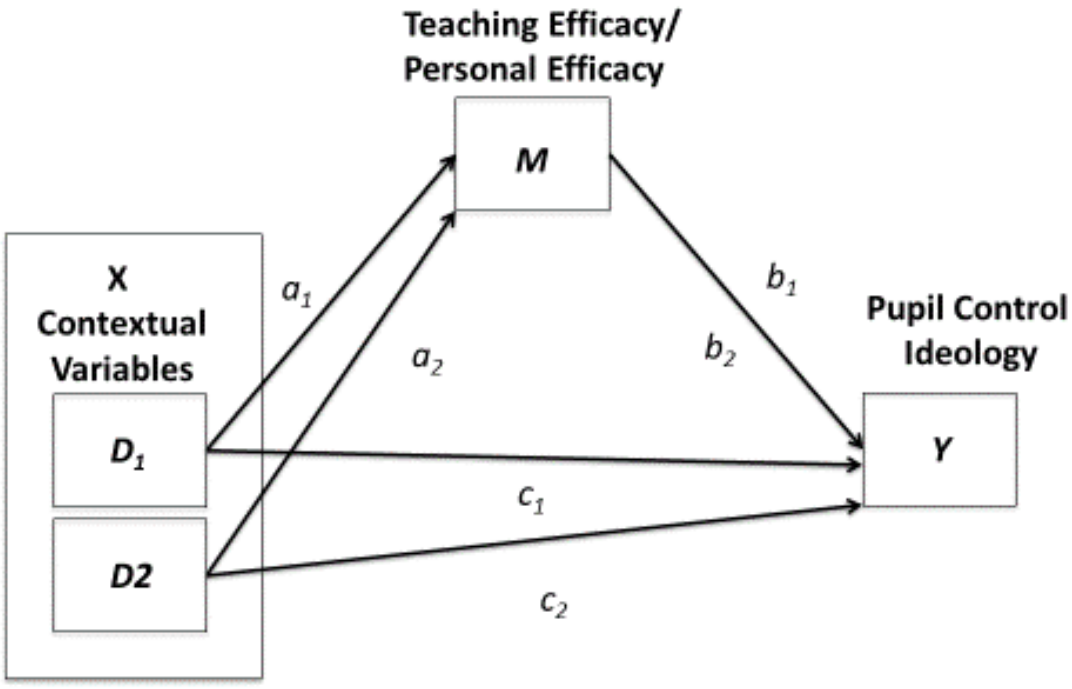

Figure 5. Mediation model with multi-categorical "Y" variable.

A test of indirect effects is carried out using bootstratping in order to examine the relations between contextual variables, pupil control ideology, and teaching efficacy (Figure7). The bootstrapping method involves randomly sampling observations 1000 times with replacement from the data collected in the study to compute the regression statistic in each resample. This is done in order to create an empirical sample distribution which samples are generated from the original sample of participants. One thousand bootstrapping models were used in this study because there is little theoretical

benefit for running more than 1000 samples in a mediation analysis (Efron & Tibishirani, 1994). The bootstrapping method of mediation analysis is an alternative to the Sobel test of mediation (Sobel, 1982). The Sobel test is a large-sample series of regression to test for mediation in which the standard errors and unstandardized beta coefficients are used to estimate the indirect path of *a* and *b*. The Sobel test can be run without raw data because the input consists of standard errors and regression coefficients. Of the two alternatives for mediation analysis, the bootstrapping method was chosen over the Sobel test because the Sobel test is not appropriate for small sample sizes.

In this study, the mediation analysis was conducted twice. In model 1, teaching efficacy is entered as the mediator variable, and in model 2, personal efficacy is entered as the mediator.

Table 9. *Mediation Models (n = 83)*

Model	Independent Variable (X)	Mediator (M)	Dependent Variable (Y)
Model 1	Condition	Teaching Efficacy	Pupil Control Ideology
Model 2	Condition	Personal Efficacy	Pupil Control Ideology

Each path represents a regression analysis between variables within the study. The *a* path examines at the relation between participant condition and efficacy beliefs (i.e., teaching efficacy in model 1 and personal efficacy in model 2). This path tests Research Question 1 (*To what extent are contextual variables and pre-service teacher pupil control ideology related?*). A significant result for this path would indicate that the condition to which the participant was assigned significantly influences scores on

the measure of teaching efficacy, and a non-significant result indicates that participant condition fails to influence participants' reported efficacy beliefs. Path *b* examines the relation between participant efficacy (i.e., teaching efficacy in model 1 and personal efficacy in model 2) and participants' pupil control ideology, or Research Question 2 (*To what extent are teaching efficacy beliefs and pupil control ideology related?*). A significant result for this path would indicate that either teaching or personal efficacy beliefs significantly influence scores on pupil control ideology, depending on the model in question, and a non-significant result would indicate that efficacy beliefs do not have a meaningful influence on participants' reported pupil control ideology. The *c* path examines the influence of participant condition on pupil control ideology. A significant result would indicate that participants' assigned condition influenced the way that they conceptualized pupil control ideology. A non-significant result would indicate that pupil control ideology scores between groups are not different in a meaningful way. .

I assigned dummy codes to each of the three conditions due to the categorical nature of the independent variable (Hayes & Preacher, 2014). In other words, the analysis must be conducted *k*-1 times in order to have comparisons between each condition relative to the control. In this current study, there are three conditions (i.e., control, low resource, and low time conditions), so there must be two dummy codes. The control condition is coded 00, the low resource condition is coded 10, and the low time condition is coded 01. In the analysis, I refer to each comparison as D_1 and D_2. D_1 represents the comparison between the low resource condition and the control. Code D_2 represents the comparison between the low time condition and the control condition. Participants in the low resource condition received a scenario where the assigned

classroom had low physical resources and high time resources. Individuals in the control condition were assigned a fictional classroom with high physical resources and high time resources.

The contrasts are important to the mediation analysis because they represent the path coefficients. For example, the beta coefficient presented in the analysis is a contrast with the control group. A beta coefficient of 5.000 for D_1 means that individuals in the low resource condition scored 5.000 units higher than the control group on the teaching efficacy subscale. These participants were more efficacious than the control group.

Mediation pre-analysis. Before beginning mediation analysis, it is customary to conduct an one-way ANOVA in order to assess the relations between the independent and dependent variable (Rucker, Preacher, Tormala, & Petty, 2011). Traditionally it is believed that if there is no effect between these variables, then no mediation can occur (Baron & Kenny, 1986). In this study, the participants' assigned condition was entered as the independent variable, and PCI scores were entered as the dependent variable. Results indicate no significant effect of condition on PCI scores ($F(1, 78) = 1.730$, $p = .184$, effect size = .042, power = .353). This result means that there is likely no mediated relation to be examined. In many cases, analysis would likely end due to the non-significant ANOVA result; however, the results in this study may be due either to sample size or the use of positive variables in the control condition (i.e., participants in the control condition were assigned a fictional classroom with adequate resources and time as opposed to low resources and time). These limitations are examined in further detail in Chapter 5. In this study, the results of the direct-effect

analysis will be examined because the exploratory nature of this study may uncover interesting results about these relations that have gone previously untested.

Model 1: teaching efficacy as the mediator. The purpose of Model 1 is to examine the mediated relations between participant condition, teaching efficacy, and pupil control ideology. Because the data is categorical in nature, each path was tested twice, once comparing individuals in the low resource condition to the control condition (D_1) and once comparing the individuals in the low time condition to participants in the control condition (D_2).

D_1 contrast: low resource condition vs. control. In accordance with the mediation approach detailed by Hayes and Preacher (2014), the a_1 path (Figure 5), between the independent variable and the mediator, was assessed first. This path represents a partial indirect effect (the full indirect effect = path *a* * path *b*) and was tested to partially answer the first research question (*To what extent are contextual variables and pre-service teaching efficacy beliefs related?*). Path *a* represents the effect of the participant condition on teaching efficacy. A significant result for this path would indicate that the condition to which the participant was assigned significantly influences scores on the measure of teaching efficacy. The path coefficients obtained indicate that individuals in the low resource condition scored higher on the teaching efficacy scale than individuals in the control group ($b = 2.894$, $t(1, 81) = 1.736$, $p = .086$). Although participants in the low resource condition reported higher scores on the teaching efficacy measure, which corresponds to reports of higher efficacy, this result was non-significant. Path coefficients for path a_1 indicate a non-significant difference between individuals' scores on teaching efficacy as influenced by participant

condition. Because both groups of participants in this part of the mediation analysis were given scenarios where the amount of teaching time was held constant, the small, observed differences in teaching efficacy scores are likely due to variations on the resources variable.

The b_1 path was assessed next to partially answer the second research question (*To what extent are teaching efficacy beliefs and pupil control ideology related?*). The purpose of path *b* is to examine the effect of teaching efficacy on pupil control ideology. A significant result for this path would indicate that teaching efficacy significantly influences scores on pupil control ideology. Holding condition constant in the b_1 path, those who had higher teaching efficacy also had significantly lower (b = -.380, $t(1, 81)$ = -3.912, $p < .001$) pupil control ideology scores. As previously discussed, lower scores on the pupil control ideology measure correspond to holding a more humanistic ideology.

Following the indirect effect, I assessed the c_1 path to partially answer the third research question (*To what extent does participant's assigned assignment to one of three conditions (a) control, (b) low resource, or (c) low time condition influence pupil control ideology??*). The purpose of this path is to examine the relative direct effect of the resource condition on pupil control ideology. A significant result would indicate that pupil control ideology scores are influenced by the condition to which participants are assigned. Results of this analysis indicated that participants in the low resource condition scored significantly higher (b = 3.331, $t(1, 81) = 2.244$, p =.027) on pupil control ideology than participants in the control group. This difference indicates that the variation in PCI scores is due to individuals' difference in conceptualization of their

assigned fictional scenario. Put in terms of the operationalization of these variables, participants who were assigned to fictional classrooms with low resources (i.e., the low resource condition) scored higher on the PCI, where higher scores represent a more custodial pupil control ideology.

D_2 contrast: low time condition vs. control. In the next step of the analysis, I completed the same methods as detailed above for the low time condition. In this portion of the analysis, the low time condition, where participants were assigned to fictional classrooms given low amounts of time, was compared to the control (D_2). Both conditions were conceptualized as having the same, adequate level of resources. Assessing the a_2 path for the low time condition indicated that participants in the low time condition scored slightly (b = -.870, t(1, 81) = -.494, p =.626) lower than individuals in the control group on the teaching efficacy scale (b = -.870, t(1, 81) = -.494, p =.626). This result means that individuals who were assigned fictional classrooms with high resources and low time held similar perceptions of teaching efficacy as those in the control classrooms having high resources and time, meaning that this condition had little effect on efficacy.

Holding condition constant in the b_2 path, those who reported higher teaching efficacy also reported significantly lower (b = -.337, t(1, 81) = -3.429, p =.001) pupil control ideology scores. This result mirrors the b_2 path of the low resources condition/control contrast. This path illustrates that as participants' teaching efficacy increases, participants hold a more humanistic pupil control orientation.

Next, I assessed the c_2 path to examine the relative direct effect of participant condition (time or control) on pupil control ideology. The results indicated that there is

no meaningful influence of condition on participants' reported pupil control ideology (b = .324, $t(1, 81) = .207$, p =.835).

Model 1 summary. In total, few of the paths illustrated significant relations between variables. The results showed that the contextual variables as operationalized by fictional scenarios had little effect on participant teaching efficacy. When examining the pupil control ideology variable, the results mirror those of previous studies (Hoy, 2001; Rideout & Morton, 2007; Woolfolk & Hoy, 1990), in which an increase of teaching efficacy increased the participants' likelihood to adopt humanistic orientation. This was the case for individuals in both the low resource and low time conditions. There was a significant difference between pupil control ideology of individuals assigned to the resource condition relative to the control.

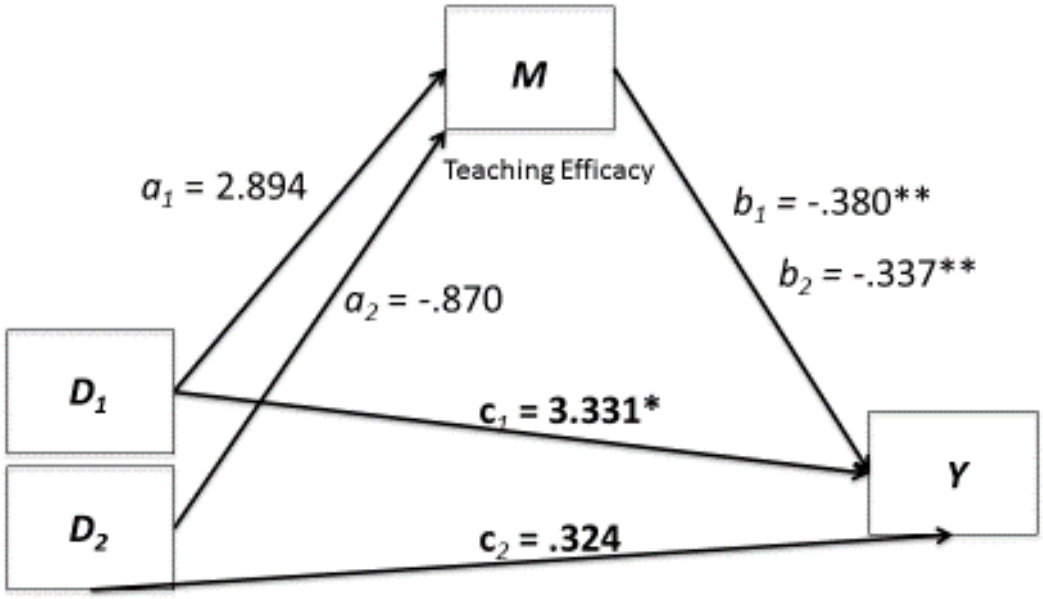

Figure 6. Model 1: Multi-categorical mediation model with teaching efficacy as mediator. D_1 represents a contrst between low-time and conteol conditions. D_2 represents a contrast between low-time and control conditions. * = $p < .05$, ** = $p <$ .001

Model 2: personal efficacy as the mediator. Model 2 is the same as the previous model with the exception that personal efficacy is inserted as the mediator variable. I am using both teaching efficacy and personal efficacy as mediators because each mediator may account for effects that may not be observed in the other. Specifically, personal efficacy beliefs may be more resilient in the face of contextual differences (Guskey, 1988).

D_1 contrast: low resource condition vs. control. Like Model 1, I first assessed the a_1 path between the independent variable and the mediator (Figure 7). This path was tested to partially answer the first research question (*To what extent are contextual variables and pre-service teaching efficacy beliefs related?*) Path a_1 represents the influence of the contrast of the resource condition relative to the control condition on participants' reported personal efficacy. A significant result for this path would indicate that there is a strong difference on the personal efficacy scale based on the participants' condition. Path coefficients indicate no significant difference in the scores on the personal efficacy scale based on participant condition ($b = .607$, $t(1, 81) = .407$, $p = .685$). In other words, condition failed to influence personal efficacy for these participants.

Next, I assessed the b_1 path. This path was tested to partially answer the second research question (*To what extent are teaching efficacy beliefs and pupil control ideology related?*). The purpose of Path *b* is to examine the effect of personal efficacy on pupil control ideology. A significant result for this path would indicate that personal efficacy significantly influences scores on pupil control ideology. Holding participant

condition constant in the b_1 path indicated that teaching efficacy had no meaningful influence on participants' reported pupil control ideology (b = .006, $t(1, 81)$ = .053, p = .957). This result is the opposite effect of the b path in model 1, meaning that personal efficacy and teaching efficacy are conceptualized differently in this sample of participants.

Next, I assessed the c_1 path. The purpose of this path is to examine the relative direct effect of the resource condition on pupil control ideology. A significant result would indicate that pupil control ideology scores are heavily influenced by the lack of resources presented in the low resource condition. The c_1 path indicated that participants in the low resource condition scored slightly higher on pupil control ideology than participants in the control group (b = 2.363, $t(1, 81)$ = 1.417, p =.160). In other words, participants who were assigned a fictional classroom with low resources adopted a slightly more custodial orientation than their counterparts who were assigned a fictional classroom with high resources, but these differences were not significant, likely due to sample size.

D_2 contrast: low time condition vs. control. In the next step of analysis, I completed the same methods as detailed above for the low time condition. Regression coefficients for the a_2 path for the time condition (D_2) indicate no significant difference between scores on the personal efficacy scale between the control and low time conditions (b = .577, $t(1, 81)$ = -.371, p =.710). This means that participants assigned to the low time condition and control condition had no meaningful difference in personal efficacy. This indicates that the low time condition had no influence on personal efficacy in this sample of pre-service teachers.

Holding condition constant in the b_2 path indicated that there were no significant differences in the relations between participants' scores on the personal efficacy subscale and their pupil control ideology scores (b = .012, t(1, 81) = .096, p =.923).

Last, I assessed the c_2 path. The purpose of this path is to examine the relative direct effect of participant condition on pupil control ideology. The results indicated that there are no significant relations between participants' assigned condition and adopted ideological orientation (b = .324, t(1, 81) = .207, p = .835).

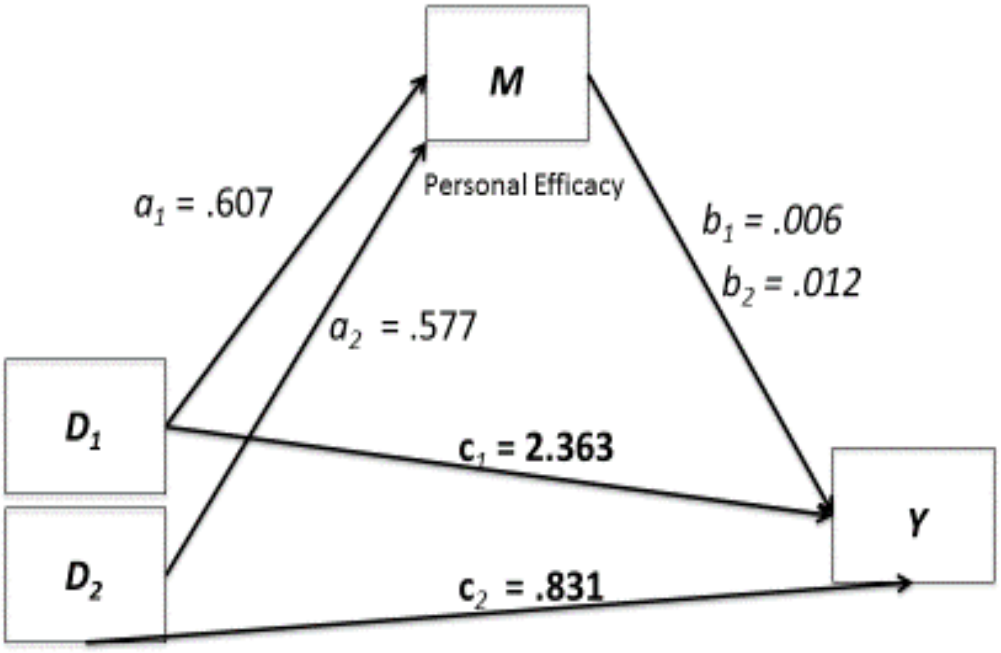

Figure 7. Multi-categorical mediation model with personal efficacy as mediator. D_1 represents a contrst between low-time and conteol conditions. D_2 represents a contrast between low-time and control conditions.

In total, the data indicates no significant paths for this model, which includes personal efficacy as the mediator. Many relative direct and total effects in this mediation analysis were not statistically different from zero. Regardless of whether

personal efficacy is controlled, participant assignment into the contextual groups fails to engender significant effects on participant pupil control ideology.

One-way ANOVA

Group mean differences were assessed to answer the fourth research question (*To what extent does participant K-12 classroom exposure, as operationalized by field experience level, influence pupil control ideology?*). As described in the beginning of this chapter, the assumptions of data normality, independence of observations, and homogeneity of variance were all assessed before this analysis. I entered participant field experience levels as the independent variable and PCI scores as the dependent variable. The main effect of the between-subjects test indicated no significant mean differences between participants' scores on PCI based on field experience level ($F(2, 81) = 1.006$, $p = .370$, $\eta^2 = .024$, power = .220; (Table 9). In other words, there are no differences in the means of participants' pupil control ideology based on the level of field experience.

Table 10. *Pupil Control Ideology Means by Field Experience Group (n =83)*

Field Experience	Mean	SD
Level 1	51.209	6.902
Level 2	50.000	9.695
Level 3	48.176	5.210
Total	50.250	7.534

Note. Level 1 = rural, level 2 = urban, level 3 = suburban.

Conclusion

In this current study, the main analytic procedures consisted of mediation analysis and one-way ANOVA. Mediation analysis was used to address research

questions 1-3 (1) *To what extent are contextual variables and pre-service teaching efficacy beliefs related? ?, (2) To what extent are teaching efficacy beliefs and pupil control ideology related?, and (3) To what extent does participant's assignment to one of three conditions (a) control, (b) low resource, or (c) low time condition influence pupil control ideology?* This analysis was conducted twice in order to incorporate two different mediators (i.e., teaching efficacy and personal efficacy subscales from the TES) into the analysis. Each model consisted of contrasts between both the low resource and low time conditions and the control. The results indicated that participants adopted more humanistic orientations as teaching efficacy increased. This was not the case for the personal efficacy mediator, as it showed no meaningful relations between pupil control ideology and personal efficacy. The contextual variable was operationalized as one of three conditions. The control condition represented a fictional scenario where both resources and time variables were abundant. Mediation results indicated that neither time nor resources influenced efficacy beliefs. The low resource condition influenced participants' observed pupil control ideology. This was not the case for participants in the low time condition. ANOVA results also demonstrated no significant mean difference between participants' pupil control ideology based on field experience level. This means that individuals in the rural, urban, and suburban field experiences groups reported similar pupil control ideology scores. Further conclusions will be made based on these results in the next chapter.

Chapter 5. Discussion

In this study I examined the extent to which teaching efficacy mediates the relation between contextual variables and pre-service teachers' pupil control ideology. In this chapter I will describe the major findings and implications of the current study by research question. I will then discuss limitations of this study, followed by the conclusion.

Research Question 1 Implications

To address the research question, *To what extent are contextual variables and pre-service teaching efficacy beliefs related?* I conducted a direct effect analysis. This question addressed path *a* of the model. Path *a* represents the effect of the participant condition on teaching efficacy. The data indicates no significant relation between the contextual variable (condition) and teaching efficacy scale scores. This result means the condition to which participants were assigned was unable to predict their efficacy scores when either teaching efficacy or personal efficacy was the mediator.

This non-significant result could indicate the contextual variables were not powerful enough to elicit a change in participant efficacy. However, this possibility may be unlikely. In the course of this study, participants were asked to reflect on the scenario they were given (Appendix G; Appendix H) and describe their conception of the fictional classroom in the scenario. These responses were collected to help ensure that participants internalized the fictional scenario before completing the TES and PCI, but they are useful in making a determination about whether or not participants' conceptions of the scenario differed across condition. In their qualitative responses, participants in the resource and time conditions described those aspects of their

classrooms as limited. For example, a participant that was enrolled as a rural field experience participant in the low resource condition wrote, *"My classroom does not have much in it. Just desks and chairs for the students to sit at. The room is not very welcoming since I have very few resources in it for students. Since we have a lot of time for instructional activities but few resources, we would probably be completing many worksheets and out loud activities."* This participant not only focused on the missing resources, but also focused on the second factor, the abundance of time.

Participants in the low time condition also thought deeply about the fictional scenario. As an example, a participant enrolled in the rural field experience in the low time condition wrote, *"As the teacher for this classroom I would probably have the students do a lot of group work activities or self-learning, because the teacher doesn't have enough time available for instructional activities. I could provide notes and textbooks that allow students to work together to help them solve problems together. I would imagine that the classroom would be busy and kind of chaotic."* This participant discussed how the abundance of resources would facilitate his or her practice, but focused on the problems that are associated with having limited time resources. The majority of these quotes from participants illustrate the depth that participants used to describe how each condition would influence their classroom practice. This depth is showed even though the participants do not fully understand the classroom environment. The internalization of the scenarios presented by the participants in conjunction with the non-significant results suggests the construction of the scenarios was not the primary reason participants did not report that contextual variables influenced their reported efficacy beliefs.

A second, and more likely, explanation for these non-significant results could be that efficacy beliefs do not change with modification of environmental variables in this sample of participants. It may be that pre-service participants hold a belief that their abilities are enough to overcome the environmental difficulties presented in this study. Because pre-service teachers are familiar with the classroom environment as students, they may underestimate the influence of classroom dynamics such as the contextual variables presented in this study. This insider knowledge may lead participants to adopt higher efficacy beliefs that fail to match the level of their skills (Pajares, 1996). For example, if faced with a time constraint, the participants may believe they are able to facilitate "positive" classroom outcomes due to their own skills. Although these non-significant results are disappointing in one respect, they are important, because very little research has focused on the incremental growth of pre-service teachers before reaching their student teaching experiences. These results may provide teacher education programs a moment of pause to determine if the experiences they are providing their students before student teaching adequately facilitate their professional development as teachers. These programs may need to reconsider the level of familiarity with the classroom that pre-service teachers have before reaching the student teaching phase of their training. This change may need to be made because these individuals believe they are more familiar with the classroom environment than they actually are. Those who design teacher education programs may also need to consider the extent to which a lack of classroom experience degrades the pre-service teachers' educational experience. In other words, if pre-service teachers hold naive insider

beliefs, the course work in their teaching education program may be ineffective to some extent because they fail to appreciate the complexities of the classroom (Pajares, 1996).

Research Question 2 Implications

To address the research question, *To what extent are teaching efficacy beliefs and pupil control ideology related?,* I conducted a direct effect analysis analysis. This question addressed the *b* path of the model. The purpose of path *b* was to examine the effect of pre-service teachers' efficacy beliefs on their pupil control ideologies. Results indicated that holding contextual variables constant resulted in a significant *b* path only when teaching efficacy was entered as the mediator. This result means that participants' teaching efficacy predicted their interpretation of pupil control. As participants' teaching efficacy increased, their pupil control decreased significantly, showing a more humanistic orientation.

This effect is supported by Woolfolk and Hoy's (1990) study that illustrated pre-service teachers' reported level of pupil control ideology differed with their reported level of teaching efficacy. Specifically, there was a significant difference in pupil control ideology between individuals with high and low perceptions of teaching efficacy. In their study and in the current investigation, pre-service teachers with high perceptions of teaching efficacy held a more humanistic orientation and those having a low perception of teaching efficacy held a more custodial orientation towards student control.

Research Question 3 Implications

I conducted a direct effect analysis between participant condition (low resource condition vs control and low time condition vs control) and reported pupil control

ideology, in order to address research question 3 (*To what extent does participant's assignment to one of three conditions (a) control, (b) low resource, or (c) low time condition influence pupil control ideology?*) The purpose of the c path is to examine the relative direct effect of participant condition on pupil control ideology. In model 1, the low resource condition influenced participant observed pupil control ideology. This was not the case for participants in the low time condition. These contextual factors were tested in this analysis because previous literature has illustrated that contextual factors may influence a teacher's practice (e.g., Bourke, 1986; Breen & Littlejohn, 2000; Chen, 2008; Khader, 2012). Although these relations are found in the literature, the results of this study show there is not enough evidence to make the claim that contextual factors directly influence pre-service teachers' pupil control ideologies underlying their perceptions of those practices. These results inspire another question: are pupil control ideology and teaching efficacy beliefs dynamic relative to the classroom context? There has been little examination this question in the teacher education literature. The results indicate the sample of pre-service teachers in this study report control ideology and efficacy beliefs that fail to show meaningful differences based on manipulation of contextual variables. Future examination should include both negative and positive control conditions with samples who hold a wide variety of experiences. This inclusion of extreme contrasts between control and experimental conditions may make condition related differences more noticeable. Future studies should also present participants with multiple scenarios in order to determine the within subjects effect of contextual variables.

The non-significant results of path *c* may be due to the way the control condition was stated to the participant. Both the resources and time condition contained a variable that indicated a lack of either time or resources, and a variable that indicated a high level of time or resources. The control condition, however, indicated high levels of time and resources. If control condition variables were presented as a low level of both variables then results may have been more extreme. This means that individuals may have an easier time conceptualizing classrooms with low resources and low time resources than classrooms that represent abundance of resources. Future studies should include the low conditions on both time and resources for the control condition or at least include a fourth condition group, which indicates low time and resources in addition to the high resources and time.

Research Question 4 Implications

To address the research question, *To what extent does participant K-12 classroom exposure, as operationalized by field experience level, influence pupil control ideology?,* I conducted a one-way ANOVA. The results indicated a non-significant main effect between pupil control ideology mean scores by field experience level (i.e., rural, urban, and suburban). This result contradicts literature that had demonstrated the more classroom experience that pre-service teachers receive, the more custodial the belief they tend to hold (Hoy, 2001; Rideout & Morton, 2007; Hoy, 1967). This relation, as illustrated by Hoy and Woolfolk (1990), indicates that as pre-service teachers receive more exposure to the classroom, their efficacy drops. Although this current study was designed as an extension of Woolfolk and Hoy's research, the effects described earlier were not replicated in this current study. Participants' efficacy scores

show no significant mean differences between individuals at all three levels. This difference is surprising because the sample of participants in Woolfolk and Hoy's study was very similar to the sample of this current study, namely pre-service teacher candidates who were mainly sophomore and juniors. Woolfolk and Hoy administered the TES and PCI in a similar way to what was done in this current study; however, no fictional scenarios were presented to the students to attempt a manipulation of contextual factors that could influence participants' ideologies. If the results of Woolfolk and Hoy (1990) were replicated in this current study, then efficacy scores would differ based upon participant level of field experience (i.e., rural, urban, suburban). This may also be an indicator that introductory field experiences produce change in teaching efficacy at a lower level than student teaching experiences, which have been shown to influence efficacy beliefs.

The superficial changes in pupil control ideology exposed in this study may be a precursor to changes that may take place once participants begin student teaching. This is not to say the observational experiences students gain in pre-student teaching courses are not important. These experiences allow pre-service teachers to experience complex classroom scenarios in an observer role without the expectations and responsibilities that come with student teaching (Goldstein & Lake, 2003). However, this security may also cause the pre-service teacher to be lulled into a belief that classroom experiences are less complex than they are in reality (Brownlee, Dart, Boulton-Lewis, & McCrindle, 1998).

Limitations and Future Research

As with any research study, this current investigation is not without limitations. Three basic limitations can be forwarded here: (a) the actual vs proposed effect size of relations, (b) the lack of negative extremes for the control condition, and (c) the possible moderated effect of teaching efficacy.

Small effect size. The power analysis for this study assumed a moderate effect size. Because of the small sample size of participants recruited in this study, the significant tests may have still been underpowered, and thus even medium effects may have been non-significant. I chose to assume a moderate effect size because past studies have shown large effect sizes between the variables presented in this study (Barfield & Burlingame, 1974; Hoy, 2001; Rideout & Morton, 2007; Woolfolk & Hoy, 1990). This assumption may have been inaccurate because, with the exception of Woolfolk and Hoy (1990), the approach taken in this study relied on a different sample of participants than studies mentioned above (students in this study have not completed student teaching experiences), and the differences in the development of pre-service teachers' pupil control ideologies was assumed to span their entire pre-service career, instead of being primarily confined to student teaching experiences. Individuals who have completed student teaching experiences were not recruited for participation because the focus of this current study was on pre-service teachers who have not completed student teaching experiences. These pre-service teachers may conceptualize the classroom differently than pre-service teachers who have completed student teaching. Individuals who have completed student teaching experiences were also excluded from this study because of the difficulty getting access to this sample.

If assuming a small effect size, the appropriate sample size increases to 395. A sample size of 395 would provide adequate power in the analysis to detect a small effect, but the larger sample size would have been unattainable in this study. It should be noted that a larger sample size in this current study would not change the results, rather a larger sample size would facilitate the detection of small effects. Future studies should have a sample size of no less than 395 pre-service teachers. These participants should consist of individuals who are completing field experiences.

Magnitude and direction of control condition variables. One limitation mentioned earlier in this chapter is related to the lack of a low resources, low time control group. This study consisted of three groups: (a) a control group, which consisted of high resources and high time, (b) a low resource condition, which consisted of low resources and high time, and (c) a low time condition, which consisted of high resources and low time. By including a control condition that provides both low resource and low time, more extreme effects between groups may have been found. Future studies should include both the extreme negative control and the extreme positive control condition (high resources, high time). Including both of these conditions may allow for extreme effects in both directions. It should be noted that the inclusion of a fourth condition would necessitate an increase in sample size. For a moderate effect size, 400 participants would need to be recruited. According to a power analysis, the required sample size would expand to 2,448 if a small effect size is assumed for future studies.

No examination of moderated relation. I proposed a mediated relation between context, pupil control ideology, and teaching efficacy to examine the

mechanism that influences the change of pre-service teacher pupil control ideology. Previous literature has shown that efficacy beliefs influence individual conception of pupil control ideology (Barfield & Burlingame, 1974; Woolfolk & Hoy, 1990; Woolfolk, Rosoff, & Hoy 1990). The results of this current study indicated that teaching efficacy does not mediate the relation between contextual variables and pupil control ideology beliefs of pre-service teachers. Future studies should examine if these variables indicate a moderated relationship. A moderator is a variable that influences the strength or direction of a relationship between two other variables (Baron & Kenney, 1986). In this current study, teaching efficacy was entered as a mediator that would explain the relation between environmental factors and pupil control ideology. When thinking in the framework of moderation, the interaction between contextual variables and pupil control ideology may be greater for individuals who have reported high teaching efficacy, or lower (or nonexistent) for participants who have lower reported teaching efficacy. Future exploratory moderator designs should present the TES before the criterion variable. The participants should be presented contextual variables in the same manner as this current study. At the end of the study, pupil control ideology should be measured using the PCI. The moderated effects should then be measured. This approach is appropriate because reported efficacy beliefs may moderate the relation between contextual variables and pupil control ideology.

Limitation and future research conclusion. I have presented three limitations for this current study: (a) the actual vs proposed effect size of relations, (b) the lack of negative extremes for control condition, and (c) the possible moderated effect of teaching efficacy. As with all studies, these factors have limited the effectiveness of

this examination. First, the sample size of 81 participants for this study produced analysis that was not powerful enough to detect a small effect size. A larger sample size of 395 participants is needed to have enough power in order to detect a small effect. Secondly, the lack of negative extremes for the control condition has limited the range of comparisons between the control group and the low resources and low time conditions. Participants in the control group may have reported a different conceptualization of their teaching efficacy and pupil control ideology if presented with negative and positive resource and time variables. In this case, the contrasts between participants in the control, low resource, and low time conditions may have been different. Lastly, the variables presented in this current study may have a moderated relation. The failure to examine this possible relation may be a case of a missed opportunity to explore alternative relations. I presented a possible exploratory study to examine possible moderation effects of reported teaching efficacy beliefs.

Conclusion

The basis of this study lies in the assertion that teaching practice is influenced by ideology (Bodine, Olivarez, & Ponticell, 2000; Lunenburg, 1990; Lunenburg & Schmidt, 1989; Lunenburg & Stouten, 1983; Multhauf, Willower, & Licata, 1978) and context (Bourke, 1986; Breen & Littlejohn, 2000; Chen, 2008; Khader, 2012). Analysis of data for this current study has presented non-significant results in places where significant results were expected, but these non-significant results are interesting in the ways they both mirrored and differed from previous research. The pre-service teachers in this sample showed little difference in pupil control ideology and teaching efficacy based on exposure to the classroom as operatized by field experiences (i.e., rural, urban,

suburban). Past literature have shown student teaching experiences facilitate changes in pupil control ideology (Hoy, 2001; Rideout & Morton, 2007; Woolfolk & Hoy, 1990). However, the results of this current study come from a sample of participants who have only completed field experiences consisting of mainly observational activities. This type and amount of classroom exposure did not influence pre-service teachers' control orientations. This study illustrates that pre-service teachers may not be fully aware of all the complexities of the classroom environment even after completing their first field experiences (Goldstein & Lake, 2003).

At the macro level, these results are important because they provide evidence that pupil control ideology is not necessarily influenced by pre-service personal efficacy beliefs or contextual variables. Participants reported pupil control ideology was influenced by their reported teaching efficacy beliefs. This provides clarity in regards to understanding the influences on teacher ideology formation. By understanding what influences changes in the ideological orientations that a teacher adopts, we may be able to provide interventions that support teacher development early in their teacher education program. The results of this current study may also indicate that observational field experiences, although important, may not produce effects that are as powerful as student teaching experiences. In other words, if pre-service teachers are reaching the student teaching phase of their education and they do not have a good understanding of the complexities of the classroom, adjustments may need to be made in their teacher education program to ensure these individuals have a more effective experience. Those who design teacher education programs may need to look at the aspects of student teaching that change pre-service teachers' ideology. Some of these

aspects may need to be incorporated into the field experiences to shift student beliefs before reaching the student teaching phase. The question that will need to be asked is, will slowly integrating the pre-service teacher into the classroom in this manner alleviate the "shock" of reality, or does this sudden shock serve a separate function that is beneficial to the student in the long run. These are questions that should be addressed in future research.

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Appendix A. Pupil Control Ideology

Form PCI

Directions: Following are twenty statements about schools, teachers, and pupils. Please indicate your personal opinion about each statement from **strongly disagree** to **strongly agree**. Your answers are confidential.	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1. It is desirable to require pupils to sit in assigned seats during assemblies.	①	②	③	④	⑤
2. Pupils are usually not capable of solving their problems through logical reasoning.	①	②	③	④	⑤
3. Directing sarcastic remarks toward a defiant pupil is a good disciplinary technique.	①	②	③	④	⑤
4. Beginning teachers are not likely to maintain strict enough control over their pupils.	①	②	③	④	⑤
5. Teachers should consider revision of their teaching methods if these are criticized by their pupils.	①	②	③	④	⑤
6. The best principals give unquestioning support to teachers in disciplining pupils.	①	②	③	④	⑤
7. Pupils should not be permitted to contradict the statements of a teacher in class.	①	②	③	④	⑤
8. It is justifiable to have pupils learn many facts about a subject even if they have no immediate application.	①	②	③	④	⑤
9. Too much pupil time is spent on guidance and activities and too little on academic preparation.	①	②	③	④	⑤
10. Being friendly with pupils often leads them to become too familiar.	①	②	③	④	⑤
11. It is more important for pupils to learn to obey rules than that they make their own decisions.	①	②	③	④	⑤
12. Student governments are a good "safety valve" but should not have much influence on school policy.	①	②	③	④	⑤
13. Pupils can be trusted to work together without supervision.	①	②	③	④	⑤
14. If a pupil uses obscene or profane language in school, it must be considered a moral offense.	①	②	③	④	⑤
15. If pupils are allowed to u se the lavatory without getting permission, this privilege will be abused.	①	②	③	④	⑤
16. A few pupils are just young hoodlums and should be treated accordingly.	①	②	③	④	⑤
17. It is often necessary to remind pupils that their status in school differs from that of teachers.	①	②	③	④	⑤
18. A pupil who destroys school material or property should be severely punished.	①	②	③	④	⑤
19. Pupils cannot perceive the difference between democracy and anarchy in the classroom.	①	②	③	④	⑤
20. Pupils often misbehave in order to make the teacher look bad.	①	②	③	④	⑤

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From Willower, D. J., Eidell, T. L., & Hoy, W. K. (1967). *The school and pupil control*. University Park, PA: The Pennsylvania State University.

Appendix B. Teacher Efficacy Scale

Teacher Efficacy

A number of statements about organizations, people, and teaching are presented below. The purpose is to gather information regarding the actual attitudes of educators concerning these statements. There are no correct or incorrect answers. We are interested only in your frank opinions. Your responses will remain confidential. INSTRUCTIONS: Please indicate your personal opinion about each statement by circling the appropriate response at the right of each statement.

KEY: 1=Strongly Agree 2=Moderately Agree 3=Agree slightly more than disagree 4=Disagree slightly more than agree 4=Moderately Disagree 6=Strongly Disagree

1. When a student does better than usually, many times it is because I exert a little extra effort.	1	2	3	4	5	6
2. The hours in my class have little influence on students compared to the influence of their home environment	1	2	3	4	5	6
3. The amount a student can learn is primarily related to family background.	1	2	3	4	5	6
4. If students aren't disciplined at home, they aren't likely to accept any discipline.	1	2	3	4	5	6
5. I have enough training to deal with almost any learning problem.	1	2	3	4	5	6
6. When a student is having difficulty with an assignment, I am usually able to adjust it his/her level.	1	2	3	4	5	6
7. When a student gets a better grade than he/she usually gets, it is usually because I found better ways of teaching that student.	1	2	3	4	5	6
8. When I really try, I can get through to most difficult students.	1	2	3	4	5	6
9. A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her achievement.	1	2	3	4	5	6
10. Teachers are not a very powerful influence on student achievement when all factors are considered.	1	2	3	4	5	6
11. When the grades of my students improve, it is usually because I found more effective approaches.	1	2	3	4	5	6
12. If a student masters a new concept quickly, this might be because I knew the necessary steps in teaching that concept.	1	2	3	4	5	6
13. If parents would do more for their children, I could do more.	1	2	3	4	5	6
14. If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson.	1	2	3	4	5	6

15. The influences of a student's home experiences can be overcome by good teaching.	1	2	3	4	5	6
16. If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly.	1	2	3	4	5	6
17. Even a teacher with good teaching abilities may not reach many students.	1	2	3	4	5	6
18. If one of my students couldn't do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.	1	2	3	4	5	6
19. If I really try hard, I can get through to even the most difficult or unmotivated students.	1	2	3	4	5	6
20. When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment.	1	2	3	4	5	6
21. Some students need to be placed in slower groups so they are not subjected to unrealistic expectations	1	2	3	4	5	6
22. My teacher training program and/or experience has given me the necessary skills to be an effective teacher.	1	2	3	4	5	6

From Woolfolk, & Hoy (1990). Prospective teachers' sense of efficacy and beliefs about control. Journal of Educational Psychology, 82, 81-91. Originally based on the Teacher Efficacy Scale developed by S. Gibson & M. Dembo (1984). Teacher Efficacy: a construct validation. Journal of Educational Psychology, 76, 569-582.

Appendix C. University of Oklahoma IRB

The UNIVERSITY of OKLAHOMA

Institutional Review Board for the Protection of Human Subjects

Approval of Initial Submission – Exempt from IRB Review – AP01

Date: January 21, 2015 **IRB#:** 5095

Principal Investigator: Jason Philip Herron, M.Ed. **Approval Date:** 01/21/2015

Exempt Category: 2

Study Title: The Influence of Teaching Efficacy on Teacher Pedagogical Decision-making

On behalf of the Institutional Review Board (IRB), I have reviewed the above-referenced research study and determined that it meets the criteria for exemption from IRB review. To view the documents approved for this submission, open this study from the *My Studies* option, go to *Submission History*, go to *Completed Submissions* tab and then click the *Details* icon.

As principal investigator of this research study, you are responsible to:

- Conduct the research study in a manner consistent with the requirements of the IRB and federal regulations 45 CFR 46.
- Request approval from the IRB prior to implementing any/all modifications as changes could affect the exempt status determination.
- Maintain accurate and complete study records for evaluation by the HRPP Quality Improvement Program and, if applicable, inspection by regulatory agencies and/or the study sponsor.
- Notify the IRB at the completion of the project.

If you have questions about this notification or using iRIS, contact the IRB @ 405-325-8110 or irb@ou.edu.

Cordially,

Lara Mayeux

Lara Mayeux, Ph.D.
Vice Chair, Institutional Review Board

Appendix D. Recruitment Script

Hello. My name is Jason Herron I am a Doctoral Candidate in the Educational Psychology department. My Advisor Dr. Maeghan Hennessey and I are interested in the relation between teaching efficacy, environmental variables, and pupil control ideology. You have been selected for this study because you are a pre-service or in-service student in the college of education. You will be compensated for you time in the form of <extra credit, class credit or a gift card> in accordance with your course syllabus. At the end of the survey, you will be directed to a link to validate your participation. You will be asked to provide your name in order to receive your extra credit. Your name will not be linked to your responses in any way. If you withdraw from the study you will be given the opportunity to receive credit from your instructor by doing an alternative activity, in accordance with the course syllabus. There are no anticipated risks associated with participating this in study. If at any time you feel that you do not want to participate anymore you can decline participation without any penalty or repercussions.

If you chose to participate in this study, you will be asked to complete a survey. The survey is will take approximately 15 minutes to complete. If you wish to participate in this study you can access the survey at the following address https://ousurvey.qualtrics.com/SE/?SID=SV_0BZr5VH9Lp2bEfr
I will pass out slips of paper with the address and the url will be posted on the class d2l site.

Confidentially of the information you provide to me is extremely important. Only authorized research personnel will have accesses to this information. All records will be kept private; all responses will be stored securely in password protected computer. No personal identifiable information will be collected.

Participation in this research study is completely voluntary and you must be at least 18 years old to participate. If you have questions about this study, you may ask now or contact me or Jason at any time.

Jason Herron
Email: sooner1906@ou.edu
Cell: 618-830-5559
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Dr. Maeghan Hennessey
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Appendix E. IRB Approved Information Sheet

University of Oklahoma
Institutional Review Board
Information Sheet to Participate in a Research Study

Project Title: The Influence of Teaching Efficacy on Teacher Pupil Control Ideology
Principal Investigator: Jason Herron
Department: Educational Psychology

You are being asked to volunteer for this research study about teacher pedagogical decision making. This study is being conducted at the University of Oklahoma. You were selected as a possible participant because you are a student in a teacher education program.

Please read this form and ask any questions that you may have before agreeing to take part in this study.

Purpose of the Research Study

The purpose of this study is to examine the influence of contextual values and teaching efficacy on pupil control ideology

Number of Participants

About 385 people will take part in this study.

Procedures

If you agree to be in this study, you will be asked to complete a short demographic survey and a series of surveys that measure teaching efficacy and your conception of pupil control.

Length of Participation

Participation will take approximately 15 minutes. You will be able to complete the survey on your own convenience.

Risks of being in the study are

None anticipated

Benefits of being in the study are

None anticipated

Compensation

You will be compensated for your participation with bonus or class credit in accordance with your class syllabi.

Confidentiality

In published reports, there will be no information included that will make it possible to identify you. Research records will be stored securely and only approved researchers will have access to the records.

There are organizations that may inspect and/or copy your research records for quality assurance and data analysis. These organizations include the OU Institutional Review Board.

Voluntary Nature of the Study

Participation in this study is voluntary. If you withdraw or decline participation, you will not be penalized or lose benefits or services unrelated to the study. If you decide to participate, you may decline to answer any question and may choose to withdraw at any time.

Contacts and Questions

If you have concerns or complaints about the research, the researcher(s) conducting this study can be contacted at Jason Herron sooner1906@ou.edu, 405-325-8951 or

Dr. Maeghan Hennessey, maeghan@ou.edu, 405-325-3574

Contact the researcher(s) if you have questions, or if you have experienced a research-related injury.

If you have any questions about your rights as a research participant, concerns, or complaints about the research and wish to talk to someone other than individuals on the research team or if you cannot reach the research team, you may contact the University of Oklahoma – Norman Campus Institutional Review Board (OU-NC IRB) at 405-325-8110 or irb@ou.edu.

Please keep this information sheet for your records. By providing information to the researcher(s), I am agreeing to participate in this study.

- ○ I agree to participate

- ○ I decline

This study has been approved by the University of Oklahoma, Norman Campus IRB.

IRB Number: _5059_____ **Approval date:** 15 Mar 15_____

Appendix F. Demographic Survey

What is your racial identity?

- Black or African American
- Asian
- Hispanic
- Latino/a
- Native American
- White, Non-Hispanic
- Other (please specify)

What is your age?

Currently what is your status?

- Freshman
- Sophomore
- Junior
- Senior
- Graduate Student
- Other (please specify)

What is your academic Major?

- Early childhood
- Elementary education
- Secondary education
- Other (please specify)

What is your current academic concentration?

- Art education
-

Foreign language

- Music Education
- Science education
- Social studies
- Special education
- Other (please specify)

Appendix G. Participant Prompts

Control Condition

Please complete the following questionnaire based on your beliefs as if you were the teacher in the scenario below. There are no right or wrong answers.

You are teacher at Hilldale. You have been teaching at the school for 4 years now. The following represents the characteristics your classroom

Resources: **High** (you have all of the resources necessary for instructional activities)
Time for instruction: **High** (you have lots of time available for instructional activities)

Based on this scenario, please answer the following questions about your conception of classroom control.

Please think deeply about the scenario. Pretend that this scenario represents your classroom. In the space provided, describe your classroom. How does it look and feel. What type of activities would your students do? Please provide as much detail as possible.

Low Resource Condition

Please complete the following questionnaire based on your beliefs as if you were the teacher in the scenario below. There are no right or wrong answers.

You are teacher at Hilldale. You have been teaching at the school for 4 years now. The following represents the characteristics your classroom

Resources: **Low** (you have very few resources to complete instructional activities)

Time for instruction: **High** (you have lots of time available for instructional activities)

Based on this scenario, please answer the following questions about your conception of classroom control.

Please think deeply about the scenario. Pretend that this scenario represents your classroom. In the space provided, describe your classroom. How does it look and feel. What type of activities would your students do? Please provide as much detail as possible.

Low Time Condition

Please complete the following questionnaire based on your beliefs as if you were the teacher in the scenario below. There are no right or wrong answers.

You are teacher at Hilldale. You have been teaching at the school for 4 years now. The following represents the characteristics your classroom

Resources: **High** (you have all of the resources necessary for instructional activities)

Time for instruction: **Low** (you have little time available for instructional activities)

Based on this scenario, please answer the following questions about your conception of classroom control.

Please think deeply about the scenario. Pretend that this scenario represents your classroom. In the space provided, describe your classroom. How does it look and feel. What type of activities would your students do? Please provide as much detail as possible.

Appendix H. Participant Qualitative Responses to Fictional Classroom

Condition	Level	Quote
Control	1	*What is done depends heavily on the students. There could be discussions, but if the students get nothing from them then why bother? Supposing the students engaged in whatever activity was presented, there would likely be switching between lecture days an activity days. Lectures are not useless, but too many of them consecutively can be overwhelming. The lectures would usually have accompanying PowerPoint presentations with concise summaries of the lesson and visual aids. On activity days, the students would do something engaging. "Fun" is the ideal, but what that exactly is and how to sustain it varies widely between people. If learning about urban planning in the Industrial Revolution, they might be given a preindustrial city and told to somehow design t to accommodate quadruple its previous population. If learning about architecture, the students could design small-scale buildings of toothpicks or similar materials, then watch their buildings survive or be destroyed by outside forces. Thinking of activities for all topics would be extremely difficult, so this plan would likely not work in many situations. There would also be periodic tests, of course. They would be almost exclusively short-answer or essay prompts.*
Control	1	*The classroom would be well organized and we would do a lot of hands on experimentation as well as lecture. There would be enough lab tables and equipment for every group to be able to have the hands on experience. I would prefer to have only a couple people to each group for the maximum opportunity for hands on. If the content was not available in physical form I would use technology to present the information. There would be some form of internet option in my room (ipads, Chromebook, etc.) so that they could perform the work in class, just in case they did not have any way to access internet at home. We would use apps and watch videos and then we would discuss what we have covered to make sure that all students understand the concepts. I would also try to have a field trip for students to be able to see the information and gather data outside the classroom. I would try to cover as much material as I could to avoid as much work outside of class as possible. I would also record the lecture and any other needed information to post to my website for those students who were absent. I would also encourage students to record the information or the labs that we do so that they can review. I would also offer a bonus for producing a good review video or collage to help them study.*

Control	1	*The classroom is wide and spacious. Students sit at tables (rather than desks) to encourage that they build camaraderie. It a clean, welcoming, invigorating space. The walls have informative posters on cultures around the world, and exemplary examples of student work are pinned on a corkboard. We would have a big globe in the corner that the kids would use to point out what area of the world we're studying that day/week. At the front, there are healthy snacks provided for my students if they ever nee it- granola bars, fruits, cereal. I don't want my students to ever be distracted because they are hungry. My students have textbooks issued by the school, but I would make them create their own "textbooks". They each would be given an empty composition notebook. Every day, I print out worksheets for them. The students will cut up maps, fold pop-out quotes, etc. and paste these into their personal textbook. That way, they can think "Oh, I remember what year Columbus landed in the Americas- we pasted that picture of him on the blue piece of paper!" I also want their learning to be hands-on. This would also allow us to pursue new information that the students find interesting and put it in our personal textbooks. I would like to have a projector screen and laptop. My class would Skype a classroom in another country- I'd like them to be able to do this at least once during the semester. I'd like to have a whiteboard so I can write notes out rather than having the students copy them. The students would be able to play with different kinds of technology- iPads, PC laptops, etc. every now and then. They would hopefully develop proficiency with these technologies they may not get to use at home.*
Control	2	*The classroom is big, with a lot of windows. We have a lot or book shelves with a lot of books on them, enough for a small library. There is carpet in the room and bean bag chairs lining the walls and in between the book shelves for the students to relax o when we have silent reading time. The desks and in small groups of 5 desks. The room feels cozy and inviting, comfortable and safe. The students do engaging English activities and take Fridays off to read. The students are all excited and learning and the engage in the topic.*
Control	1	*Since the students have all the resources they need for their education; the students should have every opportunity to reach academic success (not thinking about the effects of individual students' home life or personal lives). The classroom will have many books and any supplies the students will need. If the teacher has a lot of time in the classroom the teacher will be able to go over terms and other learning instructions thoroughly until the students comprehend. Students with the*

		proper supplies and time to complete and comprehend activities, there is numerous activities the students could do in the classroom. They have an endless amount of books to read and we can use many different types of props and supplies for hands on learning. The classroom will be fled with books, bookshelves, colorful walls with many posters, and should feel like a room with endless opportunities.
Control	2	*My students would be seated in groups of 3-4, the walls are decorated and there are designated areas for student supplies and homework. I would be very project centered, and would encourage students to take their time by displaying the student work around the classroom and hallways. They would make posters, skits, and write papers over the topics being discussed. I would encourage a combination of group and individual work so that the students can learn the skills necessary to work with others in a group ad to be able to rely on their own knowledge for tests. At the start of each class the students would have a bell work assignment which would be either individual or group, I would then lecture, and then we would do a group activity over the topic being discussed. I would designate the last 5-10 minutes of class to assign homework and allow the students time to work on it and ask questions*
Control	2	*My classroom would have at theme to it such as Pixar. There will be a reading area with a possible couch (if allowed), desks set up in groups, posters, books, and games are everywhere. I would focus on doing a lot of hands-on activities.*
Control	1	*My classroom would be warm and inviting. I would decorate with inspirational sayings to promote learning. Also, I would use many different types of strategies like four corners or think pair share to mix up my teaching style.*
Control	2	*My classroom would be very warm and inviting with fun math posters and bulletin boards around the room. I would have lots of math manipulatives that we used in many different lessons. I would have my students doing many explore activities with the many resources available to me.*
Control	1	*My classroom would be filled with posters of dates and famous quotes from famous people in history to help with visual aid. I would have a mini library filled with interesting history books available for anyone who choose to dig deeper into the history education. The walls would also be filled with classroom projects such as timelines and posters to let students look at and recall what they made. My classroom would be very student centered, allowing many conversations and debates be ran by them with few interruptions by me to help students stay on track. I would also have days of lecture where students can also interact. I would try to take my students to historical movies,*

		plays, and museums so they could see live interpretations and get a feel for the time era. I would always give choices to help students with their autonomy. I would give after school study sessions for those interested in improving their scores on AP test and EOIs.
Control	1	*My classroom will be a very bright and welcoming place. There will be a lot of centers with plenty of hands on things for my students to be engaged in.*
Control	1	*My classroom walls will be filled with various posters outlining biological concepts. I will have a few classroom animals, such as a snake and/or a lizard, perhaps a rodent of some sort like a rabbit. These can be used as great examples of biological concepts, and they will function to make the biological concepts relatable and real that we discuss. In addition to these, I will have lab equipment for each concept we cover, and I will have my students do a lab at the very least once a week. I will have students use discovery as a means of learning, and I will try to use raw lecturing as little as possible.*
Control	2	*My classroom is very inviting and open. My students' desks are arranged in small groups of four or five. I have two desktop computers in the corner, and about five ipads available for use. There is a smart board on the wall next to the dry erase board. My students are able to participate in a number of activities involving technology. I also have an extensive supply of books that are available for my students to check out and borrow. The activities that I conduct with my students are very interactive and applicable to their lives and futures. I like to do real-life simulations and plenty of hands-on activities to stimulate creativity and problem-solving.*
Control	1	*My classroom is big. There are all kinds of decor on the walls. From education posters to motivation posters. I have a calendar up in the front of the room. I also have a clock at the front of the room. I would have the lunch menu posted by the door for all the students to see. Students desk are arranged facing the front of the room with my desk on the side of the room where I have visibility of every student. The class feel fun, warm, and caring. I have an environment that provides space for everyone to learn and succeed. My students would do activities to encourage and increase their self-efficacy.*
Control	3	*My classroom at Hilldale would be very hands-on. Because of the high amount of resources I would be able to come up with a lot of projects that allowed students to use discovery-based learning. Students would see science lessons take place rather than rea about them hypothetically in a textbook. Additionally, there would be many different books from a variety of genres and ability levels that would allow students to find books both*

		interesting to them and on their reading level. My students would feel at home in my room and know that they each have a place. They would understand that I care about them and would do anything for them and their future. The parents of these students would also understand that I am available and willing to help them out no matter their circumstances.
Control	1	*My class room will be very well oriented, students come in and know what they are supposed to be doing. I will probably be very layback, and as long as students get their work done and behave well, we all get along very well. I will have my student do a lot of group work.*
Control	2	*It would be bright and inviting with enough supplies for all students. With this type of classroom I would be able to integrate lots of art into different subjects to help students learn better. This type of classroom would be great and I would be able to go more in depth with different subjects since I would have more time.*
Control	1	*Individual desks for each student organized in groups, each student has an iPad or computer of some sort, there are several different types of activities designed for each class period-teach the lesson, dissections, vocal work, worksheets, interactive online resources, textbooks online, individual and group work both provided.*
Control	1	*If I were teaching a science class or 5th graders, I would have tables with chairs. The students would have many hands on projects since the resources are available to them. Since there is a lot of time for instruction, the students should have ample time to learn the rules of the classroom so they shouldn't have any questions regarding the rules. The walls will be full of science posters and vocabulary. There may be a shelf full of science notebook/journals, books, etc.*
Control	3	*If I were given a lot of resources and time with my students, I would have iPads (each student would to take home) for everyone to do homework, so we could all have the same resources. I'd have colorful walls with bean-bags on the floor for reading. I'd have a TV so we could stream stuff from the iPad to the TV, so the students can show what they have worked on to everyone (for example a video they make in a group acting out Shakespeare). We'd research a lot, because that is what is practical and the most un, because students can learn about what they are interested in. My students would write papers, but I would give them a lot of options, or allow them to choose and have me approve.*
Control	3	*If I had a lot of resources and time, I would decorate my classroom fully. I would have posters, interactive activities, and any extras I can afford. The students should be constantly*

		engaged, and I would love to do a lot of student-centered activities, like small groups or presentations.
Control	3	*I would have classroom with up to date technology such as a new computer and a SMART board. I would have nice furniture in the classroom such as nice desks or tables for the students and a large desk for myself. I would have enough textbooks for the students to have their own book. I would have any additional supplies such as markers, pencils, and paper. The classroom is bright and welcoming. The students would be doing hands on class work and projects.*
Control	3	*I would have bright bulletin boards on the walls with student work and helpful information, most of the back wall would be full of bookshelves because I would have an extensive classroom library. I would have my students read classic novels from a diverse group of authors and analyze the texts. I would also have my students write every day, in journals or for narratives or essays- just some kind of writing. I would have a lot of reading for pleasure time as well to encourage kids to read.*
Control	3	*I think having high resources would allow me to do more things in the classroom and create a more interactive class community because I could incorporate more things into it. My classroom would be very welcoming and every student will have all the supplies needed to complete all classwork. My classroom would include all the technology and some extra technology that benefits the students in certain areas. My students would not just work on test practice but learn useful skills that they can take with them for the rest of their life. My students would do a lot of group activities and will have multiple opportunities for interaction. I would plan fun brain breaks and make sure that all the kids are taken care of.*
Control	3	*I feel good and excited to teach my students. I would like to provide a variety of different activities and instruction that cater to all students and their learning styles.*
Control	1	*I am a secondary teacher in high school that teaches only 11th and 12th graders. My area of expertise would be a social studies. Current subject matter surrounds constitutional law (not only the processes of becoming a law but implications). The class room is a traditional setting, however the student desks are much more ergonomically appropriate and fitted with an appropriate seat and ample desk space. For the teacher, the classroom is equipped with smart technology (i.e. interactive white board, projectors, internet access, etc.) At this level, I would be presenting legal dilemmas and asking the students to apply various principles associated with reasoning, morality, and justice. In addition, I would be asking the students to write*

		thoughtful arguments for or against. The combination would, hopefully, present a diversification of thought and application. In addition, the writing requirement would not only to serve as a tool to improve their skill set; but combine critical thinking and writing as an exercise for preparation for their future (i.e. in college or whatever professional position their future holds.) The activities would be an introduction to thoughtful reasoning and application, thereof.
Control	2	*Because I have a lot of resources and time for instruction I will be able to create a classroom that is warm and inviting with lots of colors and posters and kids' art and work hanging on the walls. We would have activities with different forms of technology as well as great text books and workbooks for students to work from.*
Time	1	*Since I have a lot of resources it is pivotal to make sure that I spread those resources so everyone gets a fair chance to use them. I would spilt the classroom up in 2 groups and alternate between them so I know they are both getting to use the resources that are provided. Since time is limited it will be hard to make sure everyone gets a fair chance, but I will make sure that after they split into the groups, we would come back together and talk about what we learned*
Time	1	*My classroom is neat and organized. I also will have colorful decorations set up around my room to make it a fun looking environment. I will have certain areas on the walls set out for student work to be hung at. I think it's important to have student work hung up to show off their work. I want the room to feel warm and welcoming, like the students can feel comfortable in it. I think instructional actives are very important, however I want to make sure I have a balance of fun and instructional activities. Would love to incorporate the arts in our activities. This could mean art, music, or even dancing. Movement will keep the students excited and engaged.*
Time	1	*In this scenario, my classroom would be filled with educational posters and drawers for all the supplies I would have to teach lessons in the classroom. It feels very fun yet educational, there are lots of pictures in my classroom associated with lesson plans for the future. For instance if we are doing measurements, there will be pictures of fake dollars, nickels, quarters, pennies and dimes. My students would do a lot of group work like working together on worksheets/activities that allow students to work together, such as a gold fish or board game that helps them create real words with vowels or matching pictures with words. Also, individually they will do assignments such as those games but on a worksheet in which I can analyze how well they are doing o each subject. My*

		classroom is very open minded to new ideas but also arranged in a fashionable manner, such as grouped desks or rows when convenient.
Time	1	*If I had a classroom with high resources and little time for instruction, I feel that my students would spend a lot of time figuring out things on their own, with help from myself and their classmates. Since there is a limited amount of time for instructional actives, the students may be lost, confused, and unsure of how to do the given lessons. Although they have necessary resources for the actives, it would be unfair to the students to give them an activity and let them figure it out on their own. At times it is important for students to learn for themselves, but that is definitely not the case in all situations because they need guidance.*
Time	1	*As the teacher for this classroom I would probably have the students do a lot of group work activities or self-learning because the teacher doesn't have enough time available for instructional activities. I could provide notes and textbooks that allow students to work together to help them solve problems together. I would imagine that the classroom would be busy and kind of chaotic.*
Time	1	*I would have my room set up to have centers all around the perimeter and then have the desks in the middle of the classroom. The students would take the time given to participate in centers. Each center would be different but connect to the same subject. The students would switch centers every day.*
Time	2	*I would have a lot of books in the classroom. Both reading and textbooks. Computers lining the back wall for students to work on during stations or when they finish their assignments. My classroom feels like an affluent classroom. My students would do a lot of one their own activities or group work since my instructional time is limited.*
Time	1	*The classroom in this scenario would be really nice. There would be enough desks for the all the students and there would probably be available technology for the students to use. Each student would have an adequate amount of supplies available to them and it would be a great working classroom. Since there is low time for instructional activities, the students would probably do a lot of work alone with little to no help from the teacher.*
Time	1	*I would have different stations. At each station there is a specific activity and has all the resources for it. Throughout the week the students would go to each station. One station per day because of the little time.*

Time	3	*If I had all the resources, but little time for instruction I would just do my best with what I had. That seems generic, but it's true. If I have all the recourses I wanted, I would come up with things that allow the students to achieve the same level of education in a smaller amount of time. My classroom would be based on efficiency as the time isn't as available to me as it may be for other classrooms. The students may not get the same amount of "fun" work to do, but they will still be in track with the ours goals.*
Time	2	*My classroom feels open and bright. The desks are not arranged in straight rows, they are in groupings of four or six all around the room. There are lots of posters and student work displayed on the walls. The students will do a lot of exploratory learning when possible and work in groups on projects that can lead to student teaching student experiences.*
Time	1	*The classroom would be very energetic, as I would focus on using our language skills and practicing aloud the concepts and vocabulary of the week. There would be maps and flags around the room making it bright rather than dull to, hopefully, encourage the students' energy. A lot of the activities would be in groups as to maximize the activation of the current vocabulary and grammar. There would also be a lot of presentations (skits, traditional presentations) that were being developed during class and performed (quickly) at the end. This helps them stay focused during classroom activities; if you are presenting before the class you want to stay focused so you don't look too silly!*
Time	1	*My classroom must be controlled well. Time management will be very important. My students will understand our schedule very early on. We will have various activities including group work, partners, and individual work. There will be classroom discussion frequently.*
Time	1	*I would have a warm and welcoming looking classroom. There would be students' projects on the wall and their desks would be arranged in groups. I would have them do a lot of group projects and learning since there is not a lot of time for instruction.*
Time	3	*My classroom would be set up so that all students are in groups of four to five. This will allow for group work and discussions. The classroom itself is fun and colorful. On the walls, there are signs about money, days of the week, weather, a calendar, a board wall, a color behavior chart, and many fun pictures. My room also has a Disney theme to it. At the beginning of each year, I will have established what type of behavior I am expecting as well as what their transitions should look like. The type of activities I would do would be centers. This would allow*

		for students to learn content in more meaningful ways as well as provide time for students to practice the content or area of study. Also, it kind of sets a pace that is quicker and requires less instruction. For reading, I would have reading groups based off of students' reading levels. I would also make the material more relatable because then students will be more engaged and motivated to learn.
Time	2	*My classroom would be bright and open filled with all things necessary for instructional activities and learning. I am a generally happy teacher with generally happy students, but the day is often rushed through and hectic due to little instructional time I really like my students to learn through various games and activities, but we all too often do not have time for that and so we mainly do worksheets.*
Time	1	*My classroom may be a little crammed. I would try to keep everything organized to maximize the instruction time. I would make sure my students knew the rules and regulations of the class room as to keep things running smoothly to allow for my instructional time. We would participate in activities using the high amount of resources to allow the maximum amount of learning in the little amount of time. To do this, I would try to implement many different concepts into one activity.*
Time	3	*The classroom is nice. There are computers to work with for the students and a white board. However, it looks too sterile, because there is no time for decoration. The students would to a lot of group work where they explain things to each other, since there is not a lot of time for instructions.*
Time	1	*We would have to do a lot of multitasking and fast paced so that they can get the learning time they need. There would be a lot of centers so we could spread out the resources and there could be a teacher directed center so that I could also get time with the students.*
Time	3	*If I had as many resources as possible and a small amount of instructional time, I would carefully use that small amount of instructional time to do activities that would create the most meaningful learning with my resources. I would not use textbooks except for reference and I would try to do as much hands-on activity as possible.*
Time	2	*This is a very high paced class. Since, there is not a lot of time for instruction the success of the students will come from them getting in their work on time and being prepared for class each day. If they are not prepared the class will suffer.*
Time	1	*In this scenario, I would imagine a classroom with desks that are not facing one direction and move often. The teacher is not the center of attention. On the walls are texts and pictures describing classroom policy, including reminders of respect, no*

		fearing being wrong, and asking questions. Models and similar learning resources lay on tabletops that make up the lecture/laboratory room. At the beginning of class, students are expected to listen to the day's objective questions that address a problem or concept and possible strategies to answer them. If time permits, a short project activity to address the questions will be performed. If allowed the same time as resources, these projects would be a majority of the class. Control over the class as a whole would be minimized to individuals that show a lack of motivation or extreme disequilibrium.
Time	3	*I feel as if I had little time to teach then I would have to have good classroom management in order to get everything done. If I had good resources I would probably do a lot of centers so I could maximize student learning through independent centers as well as teacher directed.*
Time	1	*My classroom will be a very bright place with a lot of hands On activities for my students to participate in*
Time	2	*My classroom would be divided into different sections and areas where the students would do different activities. It would be organized and I would use the different resources to engage my children and motivate them to learn more.*
Resource	3	*To the outsider looking in my classroom would probably look like chaos. To me my classroom would look like it is functioning fairly well. My students would be doing a lot of hands on activities even though my resources were low, I would not let my students know that we don't have all of the resources that some schools have.*
Resource	3	*In my classroom, the desks are either in a circle or facing each other in some other format depending on space. The chalkboard is at the front of the room for all students to see and my desk is in the back. In this classroom, we have a lot of discussions and presentations. Presuming that we all have access to the reading material, students are to come to class with prepared questions or thoughts that they will share with the class. Instead of providing paper or hand out quizzes, students will keep a journal/notebook that they use every day in the class. They will not tear out pages from the journal, instead they will hand them into me at the end of the week. In these journals, there will be creative writing journals, quiz answers, essays, and their discussion questions. There will also be bonus opportunities that will be written inside of the journal. Essentially, the only two resources that the students will need each day for class are their journal and whatever book we are reading at the time.*
Resource	3	*We would do a lot of singing and dancing (with accommodations, of course). Without much money we couldn't get instruments or anything, but I have a guitar and ukulele. We*

		would learn songs about intervals and carpet squares for sitting.
Resource	1	*My classroom feels like everything but a classroom. There is student work hung up around the class to try and give the classroom a better feel. A bookshelf with 3 books available. There are students working together for book work since there aren't enough books for everyone in the class. I, the teacher will present the instructions for 10 minutes then students will reflect and share for two minutes. An activity they would do is, they will all be given a letter in the alphabet and will have to select a word from their book starting with that letter, that is related to the topic and present it.*
Resource	3	*In this type of classroom you would need to be incredibly creative. With a long amount of instruction time and minimal resources provides a great challenge for any teacher, but since in this scenario the teacher has had a lot of experience it will be easier to combine past instructions to make a successful lesson. The kids in the classroom would have a strong grasp of the tools in the room, since there are few tools to work with. The students would also have a strong sense of autonomy due to the long instruction time. With the long instruction time, a teacher cannot expect to lecture for the full time, so they must also have an even amount of time to let the students work on their own.*
Resource	3	*Let's say that Hilldale is a high school. My band room would be an organized and welcoming space that is conducive to ensemble rehearsals and group activities. The rehearsal set up will be arcs, provided that chairs and music stands are available. I the students are not provided with instruments or instrument lockers, a rental program will be established and there will be an organized storage room for all instruments. Extra space will be used for group rhythm and improvisation exercises. Body percussion and some activity that can be done with 0 funds and a lot of time.*
Resource	1	*Even though I have low resources I will use my time wisely to in operate the low amount of resources and use other psychical activities to keep the instructional activities drown out thought the time I have. Time management skills will be necessary to keep a good class room environment*
Resource	1	*I would make sure to create a sense of community within my classroom through bonding activities with my class. The classroom provides students with a welcoming feeling and a safe place. I would fill my instructional time with activities that require very few materials and would buy materials if they are not supplied for me.*
Resource	3	*My classroom would have a lot of teacher-made activities, not the ones bought from a book because of having few resources. I*

		would take advantage of community and family partnerships, allowing parents to come into the classroom to help with activities, red to the kids, and even describe their careers. I would see what community resources I can find for my children that are free such as the public library, smaller museums, etc. I believe that it is very valuable to have a lot of time for instructional activities, even if that means less resources. I would plan activities where students would make things such as their own books, and then add those to a classroom library, where they can read each other's books, and students that come in after them have those books to read. It is all about what you make of the situation.
Resource	2	*Although we may not have very many resources, the internet is a great resource for games that require easy to access/cheap materials. If there is a lot of time for instruction, we can do more activities and games than a class without time for instructional activities. My class would include hands on activities that do not cost a lot or are free.*
Resource	1	*My classroom has few resources, but there is plenty of time available for teaching. My students are excited to learn, even if we do not have computers or activities available at all times. My classroom looks like a warm, inviting place for the students to learn because their homes aren't so warm and inviting. I would like to do activities with my students that engage each of them and encourage them to continue learning, like writing short stories to get their creativity flowing or math games. I would like to do fun things with my students that make them excited to be at school.*
Resource	3	*This would be difficult because the desire to be creative and the time to do so would be there, but the resources would not. Depending on the lesson, I would have to get creative with what I already had/ what I could afford myself. I would try to incorporate as much hands on/ active learning that I could so that they students were not confined to the desk at all times. In some cases this might just mean playing a spelling or math game that gets the students out of their seats and still applies to the lesson being taught.*
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Resource	1	*My classroom does not have much in it. Just desks and chairs for the students to sit at. The room is not very welcoming since I have very few resources in it for students. Since we have a lot of time for instructional actives but few resources then we would probably be completing many worksheets and out loud activities.*
Resource	1	*My class room is tiny with 25 desk in it. It's a special education classroom so we work on one topic at a time then take a test on the material from that on Friday. There are not many students in each class but they are very warm and welcoming and I feel very comfortable at my school.*
Resource	2	*My classroom would have stations set up. At the beginning of class, students would have an assigned seat, however after I take attendance they are sent to their assigned group. Their group would go to their first station of the day. Say there are 24 students, there will be 4 groups of 6 students. And there'll be four stations. Say I have 90 minutes of class time then each group would spend 20 minutes at each station. If I don't have enough resources for a whole class I should have at least enough for five stations. Say that week we are learning about Native American tribes. Each station would be given a textbook, an encyclopedia, and if accessible, an iPad/computer. Each station would be given a region of America, or if we have to go more in depth, a specific tribe of the region of the school I'm teaching at. The kids will get the chance to explore each tribe at their station. I would set up each class with stations since I have ample time but not a lot of resources for each student to work on their own.*
Resource	1	*I would try to make the classroom look as inviting as possible. Because I would have a lot of time and not a lot of resources, the classroom would be very active--participating in energized activities that are both educational and energetic. I would allow the students to help facilitate classroom discussions, and would allow the students to be very relational, yet not out of hand.*
Resource	1	*Resources being low would mean a lot of conceptual, hopefully individualized work. Since labs with real chemicals aren't an option, helping students to understand would involve them attaining a deep level of understanding of the underlying principles. I would hope to assign unique mysteries to each group and ask them to try and find out why, based on the concepts we've covered. For example, why does bread rise when you add baking soda? I'd then go around and discuss with the groups to make sure they're on the right track and understanding the meaning. Then I'd have them present to the class and add to their ideas or correct if still necessary.*

Resource	3	*In the classroom, I would have the students work in groups most of the time to preserve the low resources. I would have the students do moving activities so that the classroom doesn't have to rely on resources. The classroom would feel as a whole because they will do so many class building activities.*
Resource	2	*My classroom would have the class rules posted so that all students will see them. My students will have math centers, literature circles, and small lab units. For social studies they would role play. Given a picture of the signing of the Declaration of Independence, my students would identify who is in the picture and who is not such as women or anybody that is not white. They will then be in sections and given a role. These roles would be white women, northern bankers, southern plantation owners, Native Americans, freed African Americans, and enslaved African Americans. They will then see how different our history would have been if everybody was represented in the decisions made.*
Resource	3	*I would use many guiding questions in our lessons. Since we do not have many resources and lots of time, I can spend more time in discussion rather than experiments.*
Resource	3	*The classroom is very open and students all work together. As a class we learn things together rather than I stand at the front and lecture. Based on our lack of resources we use a lot of articles from the internet to help us learn.*
Resource	1	*My classroom has as much posters and educational decorations on the wall as available. The room has a calm and relaxing feel to it. The floors are carpeted and the lighting is not harsh. My students will do many educational activities, such as learning centers, group work, science projects, etc.*
Resource	1	*I would try to have an intricate classroom and try to provide as many materials for my classroom, myself that I could. It is inviting and fun because I want my students to feel like they want to come to school even when materials may be scarce. My students would participate in group activities and also individual activities. I would try for activities that I could have them do with materials that I do have.*
Resource	2	*My classroom would probably be cold and not inviting. A way to make the classroom more welcoming and inviting is that I would hang student's art work and academic work. The rows would be in pods rather than rows. As a future teacher, I am already expecting to buy materials out of my pocket, so I may need to buy a few more than expected.ci am excited to make a fun, colorful, and exciting environment for the students to learn. Although, resources are limited I do have a lot of instructional time. I would take advantage of this opportunity to make fun*

		group and individual tasks. I will make fun games that way the students are motivated and having fun all while learning. Since there is plenty of time to have instruction, I would try and do all of the subjects (math, reading, social studies, and science). I would end up writing a lot of grants and asking for donations for my classroom. I would like my class to be as hands-n as possible, since children learn the best from this. I would like to think that my classroom would look exciting and feel warm and welcoming. A teacher does not need a lot of fancy items in order to make his or her students comfortable. Some of the best lessons can be done with next to no supplies.
Resource	3	*My biggest fear in this classroom would be that my students felt like they were undeserving or not "good" enough, because we do not have resources that other schools or classrooms may have. The activities we would do would be a lot of hands-on things. We could do science experiments with just Mentos and coke. We could have a couple of students read a chapter book and discuss it. I could get one copy of the book and read it aloud then have students discuss it groups. At the end of the day, if my classroom had next to no resources, I would try my hardest to use organizations that would donate those resources. If this did not work out, I would take up a second or third job to pay for these resources.*

Note. Participant responses are in relation to their assigned condition. They were asked to describe how condition would influence their practice.