STUDENT TEACHER BELIEFS BEFORE AND AFTER THE INTERNSHIP

by

MEGAN ELISE SCHRAMM-POSSINGER

A dissertation submitted to the

Graduate School-New Brunswick

Rutgers, The State University of New Jersey

in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

Graduate Program in Educational Psychology

written under the direction of

Dr. Lorraine McCune

and approved by

New Brunswick, New Jersey

MAY, 2012
Teachers’ beliefs about pedagogical practices and disciplinary procedures as well as their perceptions of students powerfully influence the corresponding approaches they utilize. The student teaching experience is cited as one of the most critical facets of teachers’ professional development. That which is learned by student teachers during their apprenticeship shapes their core set of beliefs, priorities, and schemes of effective practice in an enduring manner. This makes the comparison of beliefs held by pre-service teachers immediately after having completed their core didactic coursework with those held immediately after the student teaching experience of great interest. This comparison provides clues to the effects of the didactic experience and the student teaching experience on students’ core beliefs.

Also noted within the academic research base are the striking disconnects between the poignant lessons learned in the field and theories of best pedagogical practice. Realities within “real classrooms” such as learner diversity, external mandates to cover a wide array of material, and the pressures of high stakes testing are just some of the factors influencing this discrepancy. This research reveals that student-teachers’ espouse humanistic beliefs upon completion of their didactic coursework. A belief in humanistic, in contrast to custodial orientations, was retained on behalf of participants...
after they student taught. Changes in reference to specific practices such as the use of external rewards to shape student behavior were more highly prioritized after immersion in the field, suggesting that even if discrete changes -- born of experience -- emerge, overall belief systems stay intact. The frequently positive evaluation of the student teaching experience on behalf of participants was noted, as was the relationship between the said perceptions and either having had an unequivocally negative apprenticeship or having confronted a surmountable challenge.
Acknowledgement

I would like to acknowledge the wisdom, insight and unwavering support of my dissertation chair, Dr. Lorraine McCune. Dr. McCune, words cannot express how thankful I am for the countless hours you dedicated to helping me refine my ability to write scholarly research and persist in the face frustration. I will carry the lessons I learned from you into my professional career and beyond.

I would also like to thank the members of my dissertation committee: Dr. Douglas Penfield, Dr. Maurice Elias and Dr. William Firestone, whose scholarship and exceptional standards helped me produce a document worthy of their commendation. Thank you again.

I would be remiss if I failed to thank the members of the Social Development Lab at the University of Virginia -- and in particular, Julia Thomas -- who graciously permitted me to use the Teacher Belief Q-Sort for my research. The faculty at Rutgers University who enabled me to recruit students from their classes were equally gracious and helpful.

Finally, I would like to thank my family. My daughters Maggie and Molly, my husband Chuck and my parents, Lynn and Pete Schramm, all put forth blood, sweat and tears to help me complete my dissertation. I am forever grateful for their love and support.
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Introduction

Teachers’ beliefs about teaching practices and disciplinary procedures as well as their beliefs about students powerfully influence the approaches they utilize in the classroom. The student teaching experience is cited as one of the most critical facets in the development of teachers’ professional practices. That which is learned by student teachers during their apprenticeship shapes their core set of beliefs, priorities, and schemes of effective practice in an enduring manner. This makes the comparison of beliefs held by pre-service teachers immediately after having completed their core didactic coursework with those held immediately after the student teaching experience of great interest. This comparison provides clues to the effects of the didactic experience and the student teaching experience on students’ core beliefs.

Also noted within the academic research base are the striking disconnects between the poignant lessons learned in the field and theories of best pedagogical practice. Realities within “real classrooms” such as learner diversity, external mandates to cover a wide array of material, and the pressures of high stakes testing are just some of the factors influencing this discrepancy. Consequently, it is important to examine whether belief systems espoused prior to student teaching endure or change after students have participated in this apprenticeship. This research will provide an empirical evaluation of student-teachers’ beliefs following immersion in substantive coursework, but prior to student-teaching. Comparison with a subsequent evaluation immediately following student-teaching will allow for the evaluation of student-teacher beliefs prior to and subsequent to the student-teaching experience.
Teacher Beliefs

Beliefs guide corresponding teaching practices and are enduring. Teachers, when required to teach different subjects or on different grade levels, frequently retain their core pedagogical priorities. Types of beliefs have been operationalized on various continuaums, of which one is particularly illustrative of these frameworks: espousing a custodial versus a humanistic approach. Educators who endorse a custodial classroom management and pedagogical approach believe that students cannot be trusted, necessitating the use of top-down, teacher-directed control. Differentiation of instruction according to students’ personalities and strengths as well as fostering their self-regulatory capabilities is frowned upon. Thus, teachers who believe in this dogma do not tolerate being challenged by students. On the other end of the spectrum, educators who espouse a humanistic pedagogical orientation highly value creating a classroom community and wish to foster their students’ self-discipline. Reciprocal communication from students to their teachers and vice versa is embraced. Thus, teacher-directed beliefs stand in contrast with progressive, student-centered practices, providing a spectrum of exemplars from which beliefs can be linked (Hoy, 1967; Hoy, 1968; Hoy & Woolfolk, 1990).

Teachers’ are unlikely to change their beliefs when confronted with dissonant information, making clear the stability of these mental schemes. It is therefore reasonable to assume that if pedagogical practices are strongly driven by teacher beliefs, which are generally resistant to change, then altering practice can be a formidable task, in part due to the challenges associated with belief change. This makes studying teacher beliefs throughout pivotal junctures in teacher training, of great relevance in revealing whether certain learning experiences influence teacher priorities more than others as well as the
quality and quantity of these influences (Kagan, 1992; Stipek, Givvin, Salmon & MacGyvers, 2001).

Accordingly, the goals of the proposed study are as follows: First, to assess what beliefs pre-service teachers who have completed their coursework hold with respect to classroom management, best pedagogical practices and perceptions of students? Second, after having participated in their apprenticeships do pre-service teachers’ beliefs in these dimensions change?

The academic literature included in this review is derived from theorists who illustrate the nature of teacher beliefs and why studying such constructs is important. In addition, teacher competence, inextricably linked to beliefs, will be described explicitly. Finally, the definition of the student teaching experience, as well as exemplars characterizing what facets of this learning experience influence belief change, will be presented.

Teacher beliefs have been operationalized in many ways, but most define these as that which teachers implicitly assumed to be true of students, the classroom environment, the course content, and the process of learning in general (Kagan, 1992). The implicit nature of such cognitions sometimes renders teachers unable to articulate their beliefs in an explicit, public manner, even though this information comprises their professional knowledge and influences attendant behaviors (Abu-Jaber, Al-Shawareb, Gheith, 2010; Kagan, 1992). This is putatively why checklists, journals, and responses to Likert-scale queries are frequently used methodological tools.

Implicit episodic memories develop throughout one’s lifespan and influence both beliefs and behaviors. Among teachers, these memories necessarily include events
experienced as both a student and a professional (Raths, 2000). Some episodes, as well as other forms of implicit long-term memories, have been repeatedly reinforced and are thus, less subject to change than others. In addition, beliefs based on episodes are unbounded and therefore less malleable in the face of reason, such as considerations of best pedagogical practice (Thomas, Pederson & Finson, 2001). Other beliefs however, are more peripheral and can be altered, particularly when challenged by respected authorities such as educational experts (Ertmer, 2005).

Consequently, even the theoretical tenets of “best pedagogical practice” explicitly taught to pre-service teachers in numerous schools of higher education can and are sometimes trumped by models of good teaching internalized several years prior, during the pre-service teacher’s own experience as an elementary or high school student. New information, even if assimilated and accommodated, is an addition to that which was already known and endorsed. For example, educators taught inquiry-based pedagogical techniques were found to “tack-on” those practices to their pre-existing, traditional beliefs (Stipek, Givvin, Salmon & Mac Gyvers, 2001).

The reasons for this discrepancy can be explained by noting the difference between possessing propositional knowledge and actually believing such information. Students studying education may be able to describe facts germane to inquiry-based teaching but if they don’t believe in an emphasis on fostering understanding, student autonomy, and related ideas, then such knowledge is moot (Ertmer, 2005).

Leatham asserts (2006) that to understand teachers’ beliefs, one has to understand the coherence systematically integrating them. That is to say, how do beliefs coalesce and prop up one another? If there are anomalies within these schemes, then such
perturbations reflect either another discrete system or an instance where an alternate factor overrode that which was normative in that circumstance. Such factors include scant resources, stressors associated with preparation for standardized testing, time constraints or behavioral norms on behalf of learners that render student-directed work chaotic.

This may explain why implicit memories, however amorphous and hard to articulate, remain conceptually substantive and personally salient. Educators who, for example, facilitate student learning through an inquiry-based approach do so according to a strongly held, guiding epistemology, such as the belief that mathematics is a discipline that is pliant and recursive. The only perennial “truth” to mathematics, in their view, is its applicability in problem solving. This stands in contrast to a more common perception of mathematics as a body of intractable truths reflected by a set of corresponding rules and procedures that can always lead one to the correct answer (Stipek, Givvin, Salmon & Mac Gyvers, 2001). The more common view just described would prompt a teacher to predominantly employ a didactic pedagogical approach.

Theories of what is motivating to students can be an outgrowth of early established core beliefs as well. Those who feel the presentation of challenging tasks motivates learners stand in contrast with traditionalists who are more likely to attribute interest to the degree to which students seek rewards and avoid punishment (Kagan, 1992). It is these guiding epistemological and theoretical standpoints that ground pedagogical practices, which are an outgrowth of related beliefs (Stipek, Givvin, Salmon & Mac Gyvers, 2001).
There are instances however, where teachers espoused one consistent set of beliefs and subsequently endorsed another after explicit training. For example, teachers in training explicitly taught Developmentally Appropriate Practices (DAP) were more adept at scaffolding their students’ learning in contrast with their peers in a control group, who were not disabused of their Developmentally Inappropriate Practices (DIP), demonstrating the value of this intervention (Abu-Jaber, Al-Shawareb & Gheith, 2010; Cassidy, Buell, Pugh-Hoese, Russell, 1995).

Tacit beliefs can also draw teachers closer to “trying out” novel practices that their colleagues, who prioritize different ideas, may not embrace. Windschitl and Sahl (2002) reported that a teacher, dissatisfied with traditional pedagogical approaches, was taught how to effectively use technology in her teaching. Upon completion of this training she frequently utilized technology when teaching and also facilitated student learning through the use of constructivist techniques. (The robust integration of technology on behalf of teachers has been cited to be positively related to more frequent use of constructivist teaching practices, however this does not mean that teachers who are less technologically savvy cannot be exemplary facilitators of student directed learning.) Those who were not dissatisfied with using traditional teaching techniques however, and who were provided with the same training on the effective use of technology and constructivist pedagogical practices, retained their traditional teaching approaches and did not utilize the new knowledge and technological tools they recently learned. This reveals the way in which beliefs serve as a filter through which knowledge is integrated and applied and knowledge can reciprocally expand ideas and replace practices and dogma from the past (Windschitl & Sahl, 2002).
In relation to the tacit priorities teachers hold is their sense of personal efficacy with respect to performing their craft. Specifically, praising students, enthusiastically accepting their opinions, tenaciously supporting the growth of struggling learners, and facilitating student achievement in math and literacy are strategies strongly and positively associated with high levels of professional efficacy. This stands in contrast with educators who often chastise their students and dismiss their opinions, while believing that offering their struggling learners help is futile. These behaviors are strongly and positively related to low professional efficacy. Thus, priorities espoused by educators are not a function of their self-efficacy, yet the two are strongly and positively related (Kagan, 1992).

**Disparities Between “Stated Beliefs” and Practice**

King, Shumow, & Lietz (2001) compared the pedagogical beliefs of four teachers with their actual practice. One teacher taught second grade for over 25 years, the second taught fourth and fifth grade science for over 30 years, the third taught sixth and seventh science for one year. All three were educated at the same teacher training college. The fourth, currently teaching eighth grade has ten years’ experience, including one year teaching seventh grade science. All four described their lessons to be hands-on and inquiry based. An expert science educator, an educational psychologist, and a science education specialist all viewed the said lessons and unanimously noted the four teachers’ use of expository pedagogy.

What accounts for this disparity? King, Shumon & Lietz (2001) reported numerous acts on behalf of the teachers that precluded them from facilitating students’ ability to construct higher order schemes of scientific knowledge. First, three of the four
teachers studied were highly compromised in their ability to manage the classroom. Second, these teachers had an amorphous understanding of what “hands-on” learning is and/or “looks like.” One teacher stated, “[hands-on/minds-on] meant you not only can do it with your hands, but you also do it with your mind.” Third, all of these educators were patently unaware of what their students knew and understood about the subject matter. In short, these were teachers who lacked the knowledge required to facilitate hands-on student learning yet described themselves as those who enact “best practices” consistent with the “talk” surrounding effective science teaching (King, Shumon & Lietz, 2001).
Teacher Competence

“Best practices” are couched with the constellation of skills teachers should possess. This can be conceptualized by a triadic framework for understanding teaching and learning which includes: (1) knowledge of learners and their developmental and social contexts (including knowledge of how people learn); (2) human development and the cultivation of language as well as knowledge of teaching (including teaching specific subject matter, teaching diverse learners, assessment and classroom management); and (3) knowledge of subject matter and curricular goals (including education goals and purposes for skills, content and subject matter) as well as the intersection of all three (Darling-Hammond & Bransford, 2005). This triadic framework includes those aspects of the highly skilled teachers’ knowledge base previously identified by Shulman (1987).

Knowledge of Students

Based on knowledge of students, highly skilled teachers are able to effectively manage their classroom so that classes are run smoothly, with brief, efficient transitions that function according to a well-ordered, flowing environment. Special education teachers frequently shape the behaviors of exceptional learners in their class through the use of behaviorist practices such as frequent reinforcement, reinforcement removal, cues and prompts. Enhancing classroom management, particularly among regular education teachers often involves the utilization of lessons that present students with an appropriate level of challenge, where clarity is provided when needed so that student self-efficacy, motivation, and achievement remain high (Jere, 1986).
Pedagogical Knowledge

Students also benefit due to a highly effective teachers’ propensity, and capacity, to explain concepts in a comprehensive, elaborative manner. For example, skilled math teachers have been known to present three different representations of a problem before they reveal the solution. These representations were conceptually sound, and rendered comprehensible through the use of examples and analogies that were familiar to the students (Lienhardt & Greeno, 1986).

In addition, research demonstrates that important definitions were provided at appropriate times by highly skilled teachers, whereas those lacking experience often forgot to reveal key definitions and sometimes failed to connect class exercises to the concepts they represented (Schauble, Glaser, Duschl, Schulze & John, 1995). This occurred, in part, because the inexperienced teachers did not know the subject matter content well. Consequently, in addition to omitting key conceptual ideas, they often created lengthy script-like lesson plans that were hard for the teachers themselves to recall (Ball, 1990). If the lesson itself was difficult for an inexperienced teacher to remember, then extemporaneous calibration of the content according to a students’ prior knowledge or misconceptions, would be impossible to execute (Meyer, 2004).

As the lead dancer of a well-functioning troupe, an effective teacher expects students to master the curricula (Jere, Glaser & Takanishi, 1986). Therefore, on the whole, academic teacher talk is limited to brief time frames and the presentation during such times is clear, well-structured, well-sequenced, and delivered with enthusiasm. For example, when teaching Huck Finn a highly skilled teacher gave the students more autonomy and led a student-directed whole-class discussion, yet engaged in expository
instruction when teaching a more complicated text, Moby Dick (Shulman, 1987). As students reciprocated by presenting their ideas, scaffolds in the form of cues or questions were deftly provided – all of which guided the students so they could construct accurate, elaborated schemas.

**Pedagogical Content Knowledge**

Pedagogical content knowledge is the capacity to transform domain specific information into powerful and adaptive versions that facilitate student growth and understanding (Shulman, 1987; Ball, 1990). Therefore, teachers who demonstrate such capabilities know the representation and organization of the content and they understand how learners with various ability levels learn that information (Mapolelo, 1998).

Accordingly, Hill, Rowan & Ball (2005) conducted a study to explore whether teachers’ specialized mathematical knowledge used to teach first and third grade math was significantly correlated with student achievement after controlling for salient teacher and student covariates such as race, culture and SES. They found pedagogical content knowledge on behalf of these teachers to be a significant predictor of student gains for first and third grade students.

The difference between subject area understanding alone and pedagogical content knowledge is illustrated by this passage: “Although some teachers have important understandings of the content, they often do not know it in ways that help them hear students, select good tasks, or help all of their students learn” (Ball, 1990, p. 243). In other words, many teachers understand concepts but cannot explain them to their younger, less experienced pupils. Also potentially problematic is the subject savvy teacher who cannot adapt textbook information to meet students’ needs, who may omit
salient conceptual ideas, who passes over teachable moments, or who modifies ideas in a manner that distorts the true meaning of each (Ball, 1990; Jere, Glaser & Takanishi, 1986).
The Importance of Training Highly Skilled Teachers

The skills just operationalized are important to identify and understand due to the important role teaching skill plays in affecting learner outcomes. Highly skilled teachers critically impact their students’ success, as class size and other salient variables do not impact students’ learning trajectories as much as the quality of their teachers (Kane, Rockoff, & Staiger, 1997). The said effects are not short-lived: teachers impact their students’ performances throughout a significant span of their educational careers (Sanders & Rivers, 1996). In sum, highly skilled teachers facilitate the process whereby students cultivate habits of mind and knowledge schemes that are prerequisites for success, meaningful contributions and prosperity in an open, technological world (Darling-Hammond, 1997).

The highest performing countries in educational achievement -- Finland, Sweden, Singapore, Hong Kong and Korea -- have all made extensive teacher training a priority. This illustrates the strong, positive relationship between well-executed teacher training and high-level student learning. In these countries tuition and stipends for living expenses are provided for those in multiyear teacher-preparation programs. Salaries for new teachers are, relatively speaking, substantial. In addition, a full fifteen to twenty hours per week is allocated for collaborative planning and professional development. This practice stands in stark contrast to the three to four hours of planning time per week typically allocated to educators working in the United States.

Traditional teacher training in the United States is often viewed as flawed (Darling-Hammond, 1997; Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009). Specifically, such training is characterized as inconsistent, conceptually loose,
poorly evaluated, and designed in an arbitrary manner. For example, field experiences, deemed to be one of the most important facets of teacher training, can range from a total of thirty hours to three hundred hours. The reasons for high and low hourly requirements, as well as all those in-between, remain unexplained (Levine, 2006).

**Core Elements of Teacher Training**

Core elements central in effective teacher training include the following: (1) content area understanding; (2) knowledge of the texts, materials and settings in the professional educational sphere; (3) research on education, social organizational dynamics, pedagogy, learning and development; and (4) the experiential knowledge gained from practice (Shulman, 1987). The information just listed invariably overlaps and the consolidation of these schemes is accomplished, in large part, by pre-service teachers during their participation in the student teaching experience (Mayer, 2006).

Consistent with this is the recognition of “supervised teaching in a preK-12 school setting, as one of the most critical elements in the development of a pre-service teacher’s pedagogical skills and his or her socialization into the teaching profession” (Spooner, Flowers, Lambert & Algozzine, 2008, p. 254). This is because effective teaching involves more than planning and content area expertise. Diversification of lessons to meet student needs, re-teaching, classroom management, record keeping, organization, procedural efficiency, and communication with parents, are all important tasks intrinsic to the job and are fleshed out and explicitly understood during the intern experience (Spooner, Flowers, Lambert & Algozzine, 2008). Furthermore, these capabilities can be applied more flexibly and with automaticity as schemes of organized actions become
increasingly well-developed through repeated practice in the classroom (Leinhardt & Greeno, 1986).

Teacher beliefs and practices tend to be strongly aligned (Lombaerts, De Backer, Engels, van Braak & Athanasou, 2009). Research on teacher training indicates the lasting effects derived from the student teaching experience on new teachers’ beliefs and future practices. School culture, characteristics, and practices either compel student teachers to espouse views consistent therein, or do the opposite. Beliefs are of paramount importance, as “teachers’ beliefs lie at the very heart of teaching” (Buehl & Fives, 2009, p. 367).

**Connecting Theory and Practice**

Theory of “best” practices often sits unevenly with dynamics experienced in the real world. The latter include policies and procedures within schools that are consistent with local social norms and the ideology therein. Many are derived from parents, school leaders, and the pre-existing teaching staff and all, to some degree, affect what students’ learn. The qualitatively unique information learned in the field reflects how the said factors can be woven into a realistic and workable framework of practice. Specifically, those who have had more varied field placements enter the profession with much more accurate perceptions of the challenges faced by teachers of middle school students (Moore & Leonard, 1990). This may serve to explain, in part, why teachers who student taught reported higher levels of job satisfaction, in comparison to their peer with no such experience. In addition, those who student taught were also more confident in their capacity to positively alter student learning. Finally, higher levels of student teaching supervision were associated with a greater wish to remain in teaching, revealing the
degree to which those who miss multiple opportunities to work in the field commence their new roles at a disadvantage (Oh, Ankers, Llamas, & Tomyoy, 2005).
The Student Teaching Experience

The information just stated reveals that the teacher training process and the cultivation of concomitant beliefs cannot be understood by examining coursework alone. The culminating apprenticeship, cited as the student teaching experience is an inextricably important facet of this process. The State of New Jersey describes the student teaching experience in the following manner:

School districts have a responsibility, as part of the continuum of professional education and development, for accepting and placing student teachers. This shall be the equivalent of a full-time experience of one semester’s duration and shall be included within the professional component. The student teacher shall be under the direct and continuous personal supervision of an appropriately certified cooperating teacher (http://www.nj.gov/education/code/current/title6a/chap9.pdf).

The National Certification Agency for Teacher Education (NCATE), describes the practicum as:

A prearranged, structured learning experience, scheduled within a specific timeframe and related to the student’s academic and professional goals. Students work in consultation with a faculty member or college practicum instructor as they develop critical thinking skills and leadership abilities while performing authentic tasks. Students gain work experience and bridge the gap between course work (theory) and the work place (practice) in a practicum program. Students acquire real-life technical experience, skills, confidence, and knowledge in authentic environments. Student teaching or an internship is the culminating experience for teacher candidates at the baccalaureate level (http://www.ncate.org/documents/standards/NCATE%20Standards%202008.pdf).

As noted by NCATE, “students gain work experience and bridge the gap between course work (theory) and the work place (practice) in a practicum program.” It remains unclear however, whether the beliefs held by teachers-in-training at the close of their theoretical coursework endure after having student taught.

To answer this question, it is important to categorize individual beliefs and perceptions according to one or more overall philosophies espoused by teachers with
respect to perceptions of students and best pedagogical and classroom management practices. Framing beliefs along a continuum ranging from a custodial orientation to that which is humanistic serves this purpose. On the teacher-directed end of the spectrum is a custodial orientation. The second, on the progressive end of the spectrum of teacher beliefs is a humanistic orientation. Presumably teacher beliefs and their corresponding practices fall somewhere along the sequence between custodial and humanistic orientations, with philosophies on behalf of some educators falling on the extreme ends (Hoy, 1967; Hoy, 1968; Hoy & Woolfolk, 1990).

As briefly introduced previously, those who espouse a traditional, custodial orientation believe that power should be exerted from the top down, as students must be controlled so that order can be maintained. Teachers who believe in this orientation assert that the release of students from autocratic governance will permit learners to behave in undisciplined ways and threaten the degree to which they recall course content. Thus, students should not be trusted or left to their own devices.

The humanistic orientation however, stands in direct contrast to the custodial ideology. Pupils are encouraged to be active members of a classroom community, where their unique identities and perspectives are viewed as important assets. Students are not perceived to be untrustworthy, and their ability to self-regulate is facilitated by the provision of teacher-to-student(s) and peer-to-peer support. In addition, the students’ perception of what has value and to what extent is a vital component of the patchwork that reflects their unified community. Thus, individualism and interpersonal coherence are simultaneously embraced. In order to actualize these goals the classroom environs are not governed according to an autocratic, top-down management style.
Teacher Beliefs

Teacher beliefs have been measured through tools such as Likert-Scale surveys, and, less frequently, forced choice response measures. Also utilized have been case studies, the presentation of open-ended questions, the formulation of a “repertory grid” and “process tracing” (Fang, 1996, p. 51). In order to create a “repertory grid”, participants answer questions in different groupings, which are then categorized as constructs. Following this, constructs and related elements are arrayed in a grid, illustrating patterns of belief. “Process tracing” involves asking teachers’ to verbalize their decisions and perceptions of instructional tasks and then recording and transcribing these statements (Fang, 1996, p. 51).

Irrespective of the research methodology, commencing the analysis of teachers’ beliefs during their pre-service training or some time thereafter is limited by the inevitable omission of assessments at time one, the initial period of belief formation, which cannot be measured accurately retrospectively. What is the operational definition of time one? In this context, time one would be the end of high school. Why is this so? If beliefs are powerful drivers of behavior and are well defined by the time teachers-in-training begin college, then it is important to measure these perspectives on behalf of all participants upon their completion of secondary education. Also noteworthy is how such knowledge schemes are formed. Beliefs about what “good teachers” prioritize are partially shaped by knowledge; however these propositions are intermingled with and colored by episodic and affective information derived from experience (Pajares, 1992; Borg, 2001; Parker & Brindley, 2008; Fang, 1996; Kagan, 1992; Mayer, 2006; Zeichner & Tabachnick, 1981; & Lortie, 1975).
Noted in the academic literature base on teacher beliefs is the ambiguity surrounding its meaning, making “teacher beliefs and educational research…[a] messy construct” (Pajares, 1992, p. 307). Beliefs, which are the sum total of teachers’ cognitions in reciprocal interaction with former affect-laden experiences, have been labeled as “attitudes, values, judgments, axioms, opinions, ideology, perceptions, conceptions, dispositions, implicit theories, explicit theories, and practical principles” (Pajares, 1992, p. 309). Pajares (1992) asserts that conflating a belief with knowledge is problematic. For example, a new teacher may possess knowledge of teaching but his or her pedagogical beliefs are colored by affect and qualitatively different than propositional schemes. Thus, perceptions and feelings are inextricable elements of beliefs, where knowledge is an understanding of these constructs, “a distinction similar to that between self-concept and self-esteem” (Pajares, 1992, p. 309). Ignoring these distinctions can potentially threaten the internal validity of an instrument by failing to clearly define that which is being measured. This makes the operationalization of beliefs crucial in ensuring that the results culled are in response to the correct questions.

Case studies and other qualitative methods have been used to assess teachers’ beliefs as well as belief change over time. Rich, nuanced results are often captured by using the said approaches however these benefits should be balanced against potential costs such as limited external validity and reliability (Mayer, 2006). When a larger sample of participants’ who reside in multiple locales take survey(s) comprised of Likert-Scale questions, results are likely to be more reliable and generalizable. Nonetheless, respondents’ often try to represent themselves positively when taking surveys comprised
of questions on a Likert-scale, making reporting bias a common problem (Rimm-Kaufman, Storm, Sawyer, Pianta, & LaParo, 2006).

The Teacher Belief Q-Sort (TBQ), used in the study reported here, is unique in that those taking the instrument are required to click and drag statement cards into categories ranging from high priority to low. Using a “forced choice” measure has many benefits over Likert-Scale instruments, in that respondents, who wish to view themselves favorably, are never asked to highly agree or disagree with a particular belief rather they are just showing the salience of that belief in relation to others. This diminishes reporting bias (Rimm-Kaufman, Storm, Sawyer, Pianta, & LaParo, 2006).

Another forced-choice response measure, the Teaching Style Inventory (Grasha & Riechmann, 1996) requires participants to rank statements that most accurately describe what they would most likely do when teaching. Specifically, participants are asked to “rank the statement that best describes your response with a ‘4’. The next most descriptive statement should receive a ‘3’ and so on.” For example, one question reads: “When I teach my class I would be most likely to: (1) Include student’s life experiences or preexisting knowledge when I introduce a concept; (2) Incorporate reading assignments that provide the background for each concept introduced; (3) Require students to learn by doing creative problem solving exercises, laboratory activities, and projects; (4) Engage students in problems that are outside the realm of possibility to force them to think creatively” (Grasha & Reichmann, 1996, p. 1).

Results from the Teaching Style Inventory are tallied for four dimensions: concept representation (ranging from abstract to applied), learning (ranging from understanding to rote), interaction (ranging from individual to cooperative groups) and
cognitive processing (ranging from enactive to symbolic). Each number serves as either the x or y coordinate on each of two matrices (learning x concept representation and interaction x cognitive processing). Thus, aspects of what is measured by the Teaching Style Inventory are similar to the TBQ, such as rote learning versus learning for understanding however results from the TBQ cannot be plotted on matrices that represent one or more philosophical orientations. Notably, each cluster of four statements to prioritize on the Teaching Style Inventory is comprised of equally sound pedagogical techniques. This stands in contrast to the TBQ, where a statement such as the use of worksheets is deemed to be a more or less effectual pedagogical practice according to the respondents’ beliefs.

The majority of measures used to determine teachers’ beliefs are surveys comprised of Likert-scale questions (Parker & Brindley, 2008; File & Gullo, 2002; Solomon & Battistich, 1996; Glickman & Tamashiro, 1982). Specifically, the Teaching Style Survey (Grasha & Riechmann, 1996) reveals whether the participant’s teaching orientation is that of an expert, formal authority, personal model, facilitator or delegator. In addition, The Teaching Goals Inventory (Angelo & Cross, 1993) reveals the degree of agreement in response to a list of 52 goals and The Instructor Beliefs Self-Assessment (McCombs & Whisler, 1997), are additional measures that assess categories of teachers’ beliefs. Finally, the survey used to assess the degree to which participants’ believe in using either transmissive (akin to custodial) or progressive (akin to humanistic) pedagogical approaches is called the Witcher-Travers Survey of Educational Beliefs (WTSEB) (Witcher & Travers, 1999).
Qualitative methods such as open-ended queries and case studies were also used to examine practitioners’ views at different time points in their teacher training. For example, a case study of one student’s apprenticeship as a history teacher revealed that despite the challenges she faced when trying to use primary documents with her class – such as students’ inability to understand the text, her personal time constraints, and the students’ pervasive wish to be granted a quick answer – she persevered and taught history in a manner consistent with her belief system. Thus, the integrity of her beliefs and attendant practices was not altered by classroom challenges confronted in the “real world” (Mayer, 2006).

Linek, Sampson, Raine, Klakamp & Smith (2006) however, noted that after teachers-in-training spent one year in the field the number of categories they listed regarding what they believe good readers can do more than doubled. They also learned more about managing time, establishing transitions within lessons, how to effectively model lessons, how to choose appropriate texts, and what prior skills require consolidation before embarking on the use of specific learning strategies. These emergent understandings were made explicit upon critical reflection, revealing the degree to which such discussions grounded professional growth.

Colby and Stapleton (2006) also used qualitative methodology to trace belief change among pre-service writing teachers over time, and reported that the pre-service teachers working in the field found instruction and time management to be the most challenging aspects of teaching. For example, participants were challenged by having to reinforce rules consistently, provide models and examples of what they wanted their students to learn, and choosing “good books.”
The Teacher Belief Q-Sort was chosen for the current study because it is a forced choice measure, requiring participants to click and drag statement cards into categories ranging from high priority to low thereby diminishing reporting bias. In addition, the TBQ is a comprehensive assessment measure in that twenty statements in each of three key categories are ranked: pedagogical beliefs, perceptions of students and preferred classroom management procedures. Through the presentation of a constellation of statement cards within these three, key domains, it is possible to discern whether respondents espouse either a custodial or humanistic orientation as well as whether additional variance exists in response to specific questions such as the efficacy of using external rewards to shape student behaviors.

The TBQ was completed in the current study by pre-service teachers at two time points. The first was at the close of their didactic coursework, prior to the commencement of their student teaching, revealing their beliefs prior to entering the field. The second was soon after the same respondents student taught, revealing whether or not respondents’ beliefs changed after having been in the field and in what ways.

Dimensions of pedagogical orientations were described for other measures used to assess teacher beliefs, such as the degree to which educators believe in utilizing either a predominantly transmissive or a progressive approach. Transmissive pedagogical practices are characterized as teacher-led, frequently involving the use of lectures and direct instruction. Progressive approaches are student directed, where teachers act as facilitators who scaffold their learners’ ability to make meaning through inductive reasoning. The former may include the presentation of a teacher-led introduction from
which students can activate prior knowledge and build more elaborate schemas however
progressivism is fundamentally student-driven.

Similarly, the Teacher Belief Q-Sort includes statement cards that reflect a humanistic orientation (again, akin to progressive pedagogy), a custodial orientation (again, akin to transmissive pedagogy) as well as other values such as the use of extrinsic rewards to reinforce specific student behaviors. Statements within the TBQ that are consistent with a humanistic belief system include: “If I treat students with respect, kindness and concern, there are less behavior problems”; “It is important to respect students’ autonomy and expect them to act in a responsible manner”; “Having at least a few students share something that has happened to them”; and “Students should feel they are ‘known’ and ‘recognized’ in the classroom.” Statements that are consistent with a custodial orientation include: “The primary goal in dealing with students’ behavior is to establish and maintain control”; “Students learn best in teacher-directed classrooms”; and “Students seldom take care of their materials if they are not supervised.”

Hoy (1967) asserts that pre service teachers consolidate largely humanistic beliefs and endorse attendant practices while taking teacher education courses at the university, where best practices are viewed as a way to facilitate positive student outcomes in an ideal environment. Upon entering the K-12 environment however, new teachers are met with “messy” real-world classroom dynamics and more “traditional” organizational norms. Hoy (1967) reports that this leaves neophytes, who wish to be accepted by their colleagues and want to demonstrate their competence by maintaining classroom order, to frequently teach in a manner less consistent with the progressive belief systems they cultivated as university students. These non-humanistic, non-progressive set of practices
have been operationalized as “custodial” (Hoy, 1967; Hoy, 1968; Hoy & Woolfolk, 1990).

The Teacher Belief Q-Sort will be used in the current student in order to compare students’ beliefs before and after student-teaching. Earlier research on this topic has shown mixed results. As noted above, Hoy (1967) conducted a study in order to determine whether teachers-in-training adopted custodial or humanistic pupil control orientations before and after their apprenticeships. Hypothesized was a belief change from a humanistic to more custodial position, resulting from pre-service teachers’ first experiences managing classrooms wherein some of their students are disruptive and disinterested in learning. Pre-service teachers’ requirement to manage the class effectively would hypothetically require them to exert control. The exertion of control, often normative in school contexts, may require teachers-in-training to be less humanistic in their pupil control ideologies. Results indicated a significantly stronger custodial pupil control orientation on behalf of those who student taught in comparison to their beliefs prior to entering the field.

The same study was replicated one year later in order to discern whether new teachers’ pupil control ideologies would be more custodial in comparison to their peers who received the same training in a teacher education program but did not teach upon graduation (Hoy, 1968). The measure used in these studies is The Pupil Control Ideology (PCI) Form, a twenty item, Likert-scale instrument. Higher scores on the PCI reflect a custodial teaching orientation and lower scores represent a humanistic system of beliefs. Hoy (1968) compared the aggregate mean of the PCI on behalf of teachers-in-training soon before they student taught with the metric after eight weeks of student teaching, and
again after the first year of teaching. The means between time one and time two as well as time two and time three were significantly higher among public school teachers but this was not the case on behalf of graduate assistants who only took the didactic teacher training coursework (no apprenticeship and no teaching) as well as those who did not student teach. Results indicated that after having worked in the field, new educators adopted a significantly more custodial, less humanistic stance. Furthermore, Hoy (1968) reports that when participants were asked whether they agreed with the following statement (at one time point [after their apprenticeship]): “Teacher education programs tend to focus on ideal images and situations rather than the ‘harsh’ realities of teaching,” 71% of the secondary level and 67% of the elementary level teachers were in agreement. Additionally, 94% of the participants who had completed their apprenticeship agreed that “In the school in which I am teaching, good teaching and good classroom control tend to be equated” (Hoy, 1968, p. 319).

Psychometric qualities of the PCI are reported to be good however the two statements just cited could presumably invoke agreement irrespective of their pupil control ideology. It is not surprising to note that first year teachers felt that good classroom control is emblematic of expertise or practice. This calls the reader to view these mean differences with some degree of skepticism. Equally important to note is that the comparisons made were between the average total scores on behalf of all participants between time one and time two and time two to time three (Hoy, 1968). Measures of central tendency do not allow consideration of variance across questions and/or participants (Tabachnick & Zeichner, 1984).
Hoy and Woolfolk (1990) conducted a similar study, this time, with the use of the Pupil Control Inventory, Teacher Efficacy Scale, Measure of Control versus Autonomous Problem Solving Heuristics Problems in School Inventory and the Organizational Health Inventory (OHI). The final measure, OHI, measures the degree of support conferred by teachers and administrators as well as the level of reflection on behalf of the former as well as their sense of pride.

Hoy & Woolfolk (1990) introduced efficacy as a variable to be measured within this study. The logic of doing so begins in acknowledging student teachers’ wish to manage their classrooms well, which can be challenging when particular learners tend to be disruptive. In order to actualize this goal, teachers need to believe in their ability to reach their students, which if strongly believed, is positively related to their sense of personal teaching efficacy. Educators’ ability to master this skill is influenced, in part, by the reciprocal interplay between the types of students within the school -- academically ambitious, relatively uninterested or somewhere in-between – and the institutional norms that dictate what is acceptable and of value in a particular environment. Ergo, neophytes bring their knowledge, experience and values to their role as new teachers but they must reconcile these aspects of their professional identity with the stressors, constraints and supports within a school environment. The sum of this reconciliation influences and is influenced by perceptions of efficacy (Hoy & Woolfolk, 1990).

The two dimensions of efficacy include a person’s general teaching belief, reflecting their overall expectancies regarding the degree to which most teachers are able to reach difficult students. The second, called personal teaching efficacy refers to a particular educator’s belief in his or her ability to make a difference in the lives of his/her
students. Hoy and Woolfolk (1990) hypothesized that the levels of personal and general efficacy among those who student taught would be lower after working in the field in comparison to their perspectives after finishing their didactic coursework.

Results indicate a more custodial pupil control ideology among those who student taught in comparison to those taking methods courses or developmental psychology. The Social Problem Solving Orientation was more controlling on behalf of those who student taught. Those taking methods courses in education did not become more controlling and those taking courses in developmental psychology became more autonomous in their pupil control ideology by the end of the semester. In addition, general efficacy declined among student teachers but this did not occur among those in the other two groups. At the same time, beliefs about their personal efficacy did not decline after having student taught. In reference to the relationship between the quality of the apprenticeship and beliefs, pre-service teachers who received more support from the teachers and administrators with whom they worked in the field also more strongly endorsed their students’ use of autonomous problem solving heuristics (Hoy & Woolfolk, 1990).

Research by Tabachnick and Zeichner (1984) conducted with the use of case studies reveals a more complex picture: new teachers whose professional behaviors could be conceptualized as traditional still maintained relatively progressive beliefs. Thus, according to this analysis a middle ground between professional beliefs and expected behaviors exists, in that some teachers unequivocally maintain their ideologies in the face of discrepant school norms yet adapt to the context to the degree to which they must (Tabachnick & Zeichner, 1984).
For example, Tabachnick and Zeichner (1984) report that a teacher who was immersed in a school that espoused custodial norms complied with basic mandates but when the classroom door was closed she actively engaged her students as individuals and facilitated the creation of a true learning community. Also reported was that her political savvy, interpersonal skills and teaching efficacy were variables that mitigated backlash from colleagues and administrators whose beliefs and practices were traditional, allowing this new teacher to retain her largely humanistic orientation in a more custodial context. In another instance however, a teacher still espoused a more humanistic ideology but was so fiercely micromanaged that she found no “wiggle room” to enact those pedagogical and classroom management practices. School contexts that are “open” or without walls; administrators who are frequently walking by each area, looking to admonish those teachers whose students are active and making noise; and team teachers who collectively mandate exactly what textbook pages and quizzes need to be completed at what time; all preclude new teachers from operating in a manner divergent from their humanistic beliefs. When faced with these obstacles, some teachers enact the roles expected of them yet still retain their beliefs, while others will not only play an expected role but eventually believe in the reasons for doing so, revealing an ideological shift (Tabachnick & Zeichner, 1987).

The Teacher Belief Q-Sort (TBQ) had been used previously in a study used to assess the beliefs on behalf of four groups of teachers with respect to classroom management, perceptions of students and preferred pedagogical practices as well as whether their beliefs changed after having been trained in the Responsive Classroom Approach (RC). Group one was comprised of experienced teachers’ trained in RC, group
two was comprised of experienced teachers with no such training, group three was comprised of pre-service elementary teachers, and group four was comprised of pre-service middle school and secondary education teachers-in-training. Results revealed that pre-service educators did not highly prioritize students’ general likability and personal motivation but did demonstrate a higher prioritization of collaboration and spontaneity in comparison to their more experienced counterparts. In addition, teachers trained in RC more highly prioritized statements consistent with their training such as the salience of students “being known” (Rimm-Kaufman, Storm, Sawyer, Pianta, & LaParo, 2006).

In the current study, the TBQ is being used to discern pre-service teachers’ beliefs at the close of their didactic coursework and again after having completed their apprenticeship. Of interest is the degree to which participants’ espouse a humanistic or custodial approach at these two time points. For this reason, questions within the TBQ, listed in the Appendix, were classified as humanistic (H), custodial (C) or N/A for not applicable. These designations, based upon the face validity of the statements, are enumerated in Table 1.

**Research Questions**

This research addresses the degree to which teachers in training espouse humanistic versus custodial beliefs at two time points: once at the close of their didactic coursework and again upon completion of their apprenticeship. Effects of reconciling theory with the “realities” of practice will be framed for interpretation through the lens of this ideological continuum.
Accordingly, the primary questions addressed in the study are:

1. What are pre-service teachers’ beliefs about students, discipline, and pedagogical practices after having taken all of their required coursework?

2. Do pre-service teachers’ beliefs about students, discipline and pedagogical practices espoused following course work, but prior to student-teaching change and if so, in what ways, when assessed immediately following student-teaching?

3. What qualities of the student teaching experience, are related to the verbal appraisal of their internship?
Methods

Participants

A total of 134 participants took the Teacher Belief Q-Sort while they were taking a class dealing with assessment and measurement during the summer prior to their internship. Participants were recruited to the study while enrolled in this course, as described below. Ninety five of the one hundred and thirty four participants completed the TBQ both prior to and after their apprenticeship. These 95 students were used in the pre and post student teaching analysis. An additional 17 students took the TBQ only after having student taught. Those who took the TBQ at time two and who responded to Likert-Scale questions and recorded responses to an open-ended query were included in the qualitative sorting of perceived experiences into categories. These phenomenological responses were then cross-checked with patterns of Likert-Scale results.

Procedure

The pre-service teachers taking their last class before student teaching entitled either, “Assessment and Measurement for Teachers” or “Assessment and Measurement for Special Education Teachers”, were recruited by a visit to the class. During the first or second “Assessment and Measurement” class teachers-in-training were provided with a description of the study, including the instructions for online participation, the amount of time required to complete the measure, the possible benefits that may or may not be derived as a result of having participated, and a consent form. Course instructors for ten out of eleven sections offered extra credit if their students’ participated; credit ranged from two to five extra points. The same participants, taking post student-teaching coursework (regular education students were taking a special education class and special
education students were taking a class on English Language Learning) were asked in an analogous fashion to take the TBQ again in January, 2011, one month after their apprenticeship. Respondents who took this measure a second time were required to answer four Likert-Scale queries pertaining to their perceptions of the support they received from their cooperating teachers as well as additional evaluations of the student teaching experience. Also presented to participants was the option to self-report other information about their apprenticeship. Following this they began taking the TBQ.

**Materials**

The Teacher Belief Q-Sort (TBQ) is an online method for assessing teacher priorities and beliefs by requiring participants to rank their beliefs in relation to other beliefs, so that the priorities driving their practices are revealed (Rimm-Kaufman, Storm, Sawyer, Pianta, & LaParo, 2006). Asking teachers to choose which practices exceed others in order of importance reduces the likelihood of reporting bias. This stands in contrast to asking participants to either agree or disagree with a belief, which can compel respondents to answer in ways that portray them favorably (Rimm-Kaufman, Storm, Sawyer, Pianta, & LaParo, 2006).

The dimensions of beliefs pertain to three main categories: discipline and behavior management, pedagogical practices, and beliefs about children (Rimm-Kaufman, Storm, Sawyer, Pianta, & LaParo, 2006). For the first category, the spectrum of priorities range from behaviorist techniques such as shaping and response cost to managing the classroom through relationship cultivation and other humanistic means. The second category, pedagogical practices, range from those espoused by information processing theorists, where techniques such as confirming feedback, facilitating student
thought, and fostering metacognition are extensively discussed and endorsed, to the salience of belonging and social cohesion as fundamental for learning. Finally, the third category, or beliefs about children, includes the degree to which children are naturally driven to learn, as well as whether or not children learn through teacher-driven lectures or more student-directed activities (Rimm-Kaufman, Storm, Sawyer, Pianta, & LaParo, 2006). A copy of the sixty items in the measure is included in the Appendix.

Participants were required to sort their beliefs by dragging four statement cards to five categories ranging between values of four, three, two, one, and zero. (If participants drag five statement cards, three statement cards, or any number other than the required four statement cards for each of the five categories [four, three, two, one, and zero], then they will not be able to proceed to the next screen and successfully complete the measure.) “Four” represents a statement card which is of the “highest priority,” “three” represents a statement card which is a “priority,” “two” represents a statement card which is prioritized as “neutral,” and scores in the “one” and “zero” range represent the lowest prioritization of a statement card.

Psychometric indices support the validity and reliability of the Teacher Belief Q-Sort (Rimm-Kaufman, Storm, Sawyer, Pianta, & LaParo, 2006). First, six educators, uninvolved in the cultivation of this measure, were asked to articulate their least important and most important beliefs with respect to the three categories within the TBQ. On average, three of the lowest and highest priority statements were described similarly throughout all of the said interviews. These results suggest that the TBQ has solid content validity.
In order to discern content validation, the same teachers rated whether each statement fit the category in which it was included. On a scale of one to five, five being most fitting, the range of scores were between a four and a five. Finally, to measure face validity, a second set of ten teachers, unfamiliar with the creation of the TBQ, were asked to do the sorting exercise and then consider the degree to which their priorities were well depicted by the statements they placed in extreme categories. Each of the ten teachers felt the match between their priorities and the measure were between good and excellent.

The reliability of the TBQ was established by asking 44 teachers to take the measure twice within one year (Rimm-Kaufman, Storm, Sawyer, Pianta, & LaParo, 2006). The correlation between each participant’s scores across the individual items ranged from .50 to .90 with a relatively low standard deviation of .11 and a robust mean of .71. These strong, positive correlations indicate that the TBQ is a reliable instrument.

**Queries on a Likert-scale.** The four questions presented at the beginning of the TBQ time two were as follows: (1) “To what extent did you find the student teaching experience connected to and helped you integrate your coursework?”; (2) “To what extent did you feel respected as competent by your supervising teacher(s)?”; (3) “To what extent did you feel like an effective teacher when you student taught?”; and (4) “To what extent did you feel supported by your cooperating teacher?” Responses range from a high of “five” to a low of “one” with “five” representing “highly strong”, “four” representing “strong”, “three” representing “neutral”, “two” representing “weak” and “one” representing “very weak.” Participants were also asked, in an open-ended format, if there was anything else they wished to report about their apprenticeship.
Results

The results section is organized into three parts. Revealed in section one are pre-service teachers’ beliefs upon completion of their didactic course work followed by an explication of the significant differences between the means at time one and time two according to \( t \)-tests conducted for each statement. This information is relevant, both in illuminating the values espoused by teachers-in-training prior to their entry into the field as well as whether immersion in the “real world” alters these prioritizations in specific ways. Also important to note are the statements that are of the lowest priority to these participants and whether there is philosophical commonality among them. What is most valued by teachers-in-training upon completion of their didactic coursework is also expressed in what they value the least.

Section two reveals the significant categorical differences between time one and time two, in the number of students who selected low, neutral and high prioritizations for each statement card according to \( \chi^2 \) analysis. Virtually all categorical differences between these two time points were among statements that fell into the mid-range of prioritization, thereby shedding light on variance not only at the highest and lowest ends of the spectrum but that which lies in-between.

Section three depicts students’ views of the quality of the apprenticeship as well as the emergent connections between these perspectives and additional qualitative responses. These findings are important in discerning whether the aggregate of participants had a positive experience as apprentices as well as the degree to which subjective appraisals are linked to specific responses on the Likert-scale queries.
Mean Priorities Before and Immediately After the Teaching Internship

To facilitate an examination of the student-teachers’ beliefs at time one and time two the statements were ordered in relation to their mean rankings at time one. The highest priority group was identified as the cluster of statements ranked from 3.29 to a low of 2.59 (on a scale from four [most highly prioritized] to zero [least prioritized]). The mean prioritization for the statement nineteen was 2.45, which was a substantial drop from statement eighteen revealing a demarcation between the set of statements most highly prioritized from those in the mid-range. The lowest priority group was identified as the cluster of statements below 1.0, ranging from a high of .92 to a low of .34. The middle priority comprised the remaining statements, ranging from 2.45 to 1.19 (Table 1).

Students’ belief priorities and their changes over time are presented in this framework.

The first research question concerns pre-service teachers’ beliefs at the close of their didactic coursework, prior to student teaching. Respondents most highly prioritized statements ranked from one to eighteen reflected a humanistic orientation at the close of their university course-based training (Table 1). For example, of high priority to these participants was “Students should feel as though they are ‘known’ and ‘recognized’ in the classroom”; “Students need to feel safe and secure in the classroom”; “If I treat students with respect, kindness and concern, there are less [sic] behavior problems”; “Doing an activity to create a sense of community”; “Students meet challenges best when they feel their teachers care about them”; and “It is important to respect students’ autonomy and expect them to act in a responsible manner.” Other beliefs were highly prioritized at time one such as a focus on cognitive processes not products, student-directed active learning, fostering students’ ability to self-regulate, modeling the behaviors they wish for students
to emulate, and the discussion/posting of classroom rules as a means for maintaining clear expectations for student behavior.

Students priorities at the two time points were evaluated by comparing their level of prioritization for each statement at time one with their prioritization at time two with 60 pairwise t-tests. This allowed item by item comparisons of values expressed by the group as a whole. These values could then be ranked by their mean prioritization values at time one to give an organized view of their most important values (Table 1). There was relative consistency over time in those statements most and least highly-ranked, so the results are presented with this organization, where statements are identified by their mean rank at Time 1.

**Highest Priorities**

Of the eighteen statements most highly ranked at time one, ten were unequivocally humanistic and not only did this general pattern continue post-apprenticeship but in some instances it was strengthened. For example, the statement “Students meet challenges best when they feel their teachers care about them,” was ranked fifteenth time one and rose to a ranking of eleventh time two. Similarly, the statement “Students need to feel safe and secure in the classroom” was ranked fourth (out of sixty) time one and rose to third time two (Table 1).

Embedded within the highest prioritizations -- favoring a non-custodial, humanistic belief system -- were statements that could be operationalized as the fundamentals of effective classroom management and pedagogy. Examples include, “A classroom runs smoothly when there are clear expectations for behavior”; “Students learn best by being actively involved in lessons”; “Classroom rules should be discussed and
posted”; “Students need to be met where they are in terms of their ability”; “Students learn best when they have good role models for behavior”; and the salience of “Modeling behavior for students” (Table 1).

The second research question concerns whether the difference between the mean priority scores for each of the sixty statement cards changed significantly from time one to time two. To answer this query, a repeated measures $t$-test was conducted on each. This was executed by comparing the mean prioritizations on behalf of all 95 participants before and after having student taught in order to calculate the $t$-ratio for each of the sixty statement cards. The probability level, set at .05 or lower, was two-tailed, as it was not assumed that statements would be more or less highly prioritized between time one and time two.

Of sixteen highly prioritized statements, two were significantly different between time and time two according to $t$-tests. The first of which, ranked third out of sixty statements at time one, “A classroom runs smoothly when there are clear expectations for behavior” then increased to being ranked first out of 60 beliefs at time two. In addition, the mean prioritization for this statement time one was significantly different than the mean time two according to a $t$-test, $t(94) = -2.325$, $p = .022$ (two-tailed). The second of which, ranked eighth out of sixty statements time one, “Self-monitoring (or self-regulation) are important skills for students to develop,” dropped in prioritization to a rank of 18 time two, reflected by the significant differences between the means at both time intervals according to a $t$-test, $t(94) = 2.324$, $p = .02$ (two-tailed) (Table 1).

Several statements reflecting a humanistic orientation were ranked highly at time two revealing a marked stability in belief orientations such as, “Students should feel as
though they are ‘known’ and ‘recognized’ in the classroom” was ranked second in importance time one and fourth in importance time two; “Students need to feel safe and secure in the classroom” was ranked fourth in importance time one and rose to third in importance time two; and “Students meet challenges best when they feel their teachers care about them” was ranked fifteenth in importance time one and rose to eleventh in importance time two. Less prioritized was “If I treat students with respect, kindness and concern, there are less [sic] behavior problems” moving from a rank of nine time one to a rank of sixteen time two. “A classroom runs smoothly when there are clear expectations for behavior,” increased in prioritization to be the highest ranking statement. In combination, these findings suggest the retention of a humanistic orientation with an increased emphasis the importance of providing students with clear, consistent expectations (Table 1).

**Lowest Priorities**

The least prioritized statements, from a ranking of 51 out of 60 to 60 out of 60, reflect a custodial orientation: a lack of trust in students, teacher-directed instruction, and the use of worksheets, drills and traditional pedagogical practices. Also receiving a low rank was the belief that the allocation of extrinsic rewards would diminish student motivation (Table 1). The statement: “Students are more motivated by grades than the acquisition of competence,” increased in mean priority: $t(94) = -2.639, p = .01$, (two-tailed). This belief, ranked 56 out of 60 at time one, rose to a rank of 52 out of 60 at time two (Table 1). The statistically significant increase in prioritization of the said statement is likely to be reflective of what pre-service teachers experienced when in the field.
**Mid-Range Priorities**

Statements emblematic of a humanistic orientation are highly ranked within this middle division. For example, “Students need to be met where they are in terms of their ability,” and “Permitting students to choose from a variety of activities,” were ranked 20th and 28th time one, respectively, and reflect a focus on student-directed learning. The statements, “Welcoming each student by name to class” and “Almost all children in my class try their best,” ranked 25th and 26th respectively, are consistent with a humanistic belief orientation. Importantly, consistency in policies and procedures was also ranked highly. During time one the statement, “Rules for the students’ classroom need to be reinforced consistently” was ranked 19 out of 60 in importance and during time two it was ranked 17 out of 60, indicating a small rise in prioritization. “Having a morning routine” was also a high priority relatively speaking, with a rank of 22 out of 60 time one and 26 out of 60 time two (Table 1). This constellation of beliefs is progressive, humanistic, and focused on the establishment of procedures and rules that are routinized, yet not in a custodial, top-down manner.

The statement, “Students need some choice of activities in the classroom,” went from an average rank of 27 to a relatively high rank of 19 and the mean values were significantly different between time one and time two according to a $t$-test, $t(94) = 2.508$, $p = .01$ (two-tailed). Mean values between time one and time two for four other statement cards were significantly different according to t-tests: “A noisy classroom is okay as long as all the students are being productive,” $t(94) = -2.064$, $p=.04$ (two-tailed); “Praise from me is an effective way to change students’ behavior,” $t(94) = 2.324$, $p = .022$ (two-tailed); “Students need opportunities to think in a quiet classroom
environment,” $t(94) = 2.956$, $p = .004$; “Working on group projects,” $t(94) = -2.233$, $p = .028$; and “The curriculum and class schedule need to be prioritized over specific student interests,” $t(94) = 2.187$, $p = .03$.

Specific beliefs were prioritized differently after participants’ completed their apprenticeships, putatively as a function of what they learned while teaching in the real world. These differences include an increased prioritization of accepting classroom noise provided students are being productive as well as the efficacy of using praise to shape student behavior. Requiring an a priori schedule to exceed students’ interest in importance was reduced in rank between time one and time two, as was the belief that students need to think in a quiet classroom environment (Table 1). These changes also reflect a strengthened belief in student-directed learning as well as the efficacy of using extrinsic reinforcements to incentivize positive student behaviors and an understanding that a little student noise is tolerable provided they are working and “on-task.”

**Numbers of Students Identifying Statements a High, Medium, or Low Priority**

Another approach was used to consider research question two. Specifically, the number of students who changed their prioritization for each statement from time one to time two was tested by running $\chi^2$ analyses on each one of the 60 queries. For the purpose of analysis, responses from the Teacher Belief Q-Sort were collapsed into three levels. A score of three or four was considered “high”; a score of two was considered “neutral”; and a score of zero or one was considered “low.” Each test evaluated the numbers of students who fell into the high, neutral, or low response priorities at time one in comparison with time two for one of the sixty individual statement cards in the TBQ.
That which was statistically significant between time one and time two according to $\chi^2$ analyses was presented (Table 2). Only reported were results significant at a level of $.05$ or below. In addition, only results from cross-tabulation tables where $22\%$ or fewer of the cells contains a value less than five were included in order to reduce the possibility of committing a type I error.

Numbers of students shifting priority level was most evident for the group of statements near the midrange of mean priority at time one. Statements that were more frequently characterized as high priority time two in comparison to time one include: “Having a morning routine”; “Each of my students teaches me something”; “A noisy classroom is okay as long as all the students are being productive;” and “Praise from me is an effective way to maintain control” (Table 2). Cross-tabulation tables illustrate these categorical changes in detail, making it worthwhile to present exemplars of cross-tabular information, and in particular, for those comparisons with relatively high $\phi$ values. Thus the cross-tabular data for the statement card, “Praise from me is an effective way to change students’ behavior,” with a $\phi$ value of $.420$, is depicted in Table 3.

To interpret Table 3, first look at the numeral eleven, to the right of “Time 1, Low.” This means that eleven respondents rated “Praise from me is an effective way to change students’ behavior” as low in priority. Thirteen participants rated this statement card as low in priority time one and then neutral in priority time two (see box to the right of the “low” category). Finally, seven participants prioritized this statement card as low time one, but after having worked in the field, rated this card as a high priority time two. This is consistent with the totals: 31 out of 95 respondents felt this statement card
warranted a low prioritization time one, but only 25 out of 95 participants felt similarly time two.

Statements that were more frequently characterized as low priority time two in comparison to time one include: “Talking about our plan or schedule for the day”; “Using a theme-based approach to instruction”; “The primary goal in dealing with students is to establish and maintain control”; and “Most students respect teachers and authority”; and “It is important to respect students’ autonomy and expect them to behave in a responsible manner” (Table 2). Consistent with that which was stated previously regarding the illustrative value of presenting cross-tabular data, cross-tabulations for the statement cards, “The primary goal in dealing with students is to establish and maintain control,” with a \( \phi \) value of .410, and “It is important to respect students’ autonomy and expect them to behave in a responsible manner,” with a \( \phi \) value of .394, are depicted in Tables 4 and 5, respectively.

Statements that were more frequently characterized as neutral in priority time two in comparison to time one include, “Welcoming each student by name to class,” and “Proper control of a class is apparent when students work productively when I am out of the room” (Table 2).

These results indicate that pre-service teachers retain their humanistic orientation but change specific perspectives on the efficacy or salience of particular practices according to their experiences in the field. For example, more respondents felt having a morning routine was important after having student taught, whereas the belief that most students respect teachers and authority was less highly prioritized, ostensibly because
they encountered these realities and adjusted their expectancies and practices accordingly.

**Perceptions of the Quality of the Apprenticeship**

**Student ratings of quality.** The third research question concerns the participants’ perception of the support they received from their cooperating teachers as well as their additional evaluations of the experience. To that end, the following Likert-scale queries were posed: (1) "To what extent did you find the student teaching experience connected to and helped you integrate your coursework?"; (2) "To what extent did you feel respected as competent by your supervising teacher(s)?"; (3) "To what extent did you feel like an effective teacher when you student taught?"; and (4) "To what extent did you feel supported by your cooperating teacher?" Higher numbers on the scale indicated more positive responses.

Responses varied minimally, with the majority of participants’ responses in the “strong” category, represented by a “four” or “highly strong category, represented by a “five.” Specifically, more than half of the participants who completed the Likert-scale queries felt effective when enacting their roles as student teachers. Approximately the same numbers felt the student teaching experience connected to and helped them make sense of their coursework (Table 6). Differing however was the number of participants who, when asked if they felt respected as competent by their cooperating teachers, felt minimally or weakly regarded. A slightly larger number --ten out of one hundred and ten-- felt only weakly supported by their cooperating teachers. This indicates that a small proportion of student teachers did not have a positive experience with their mentors and an even smaller group did not feel effective in their roles. The large majority however
perceived themselves to be competently engaging in apprenticeships that were connected to their didactic coursework (Table 6).

**Voluntary qualitative responses.** After participants completed the four queries on a Likert-scale they were asked in an open-ended format if there was anything additional they wished to report about their student teaching experience. Voluntary qualitative responses provided by participants upon completion of their student teaching were sorted, allowing for the detection of possible relationships between responses to queries on the Likert scale and the qualitative question. Of the qualitative responses voluntarily recorded, six were unequivocally negative, five included a challenge that was managed, eleven were unequivocally positive and the remaining two fell into none of the three categories. Thus, a total of 24 participants voluntarily typed in responses to the open-ended query (Table 7).

Uniformly positive experiences were depicted as, “I had a great experience and was very grateful to have such a great supervisor and cooperating teacher,” or “amazing” and scores associated with these qualitative appraisals were always in the “strong” or “very strong” range with the exception of two “neutral” appraisals in response to the first query (“To what extent did you find the student teaching experience connected to and helped you integrate your coursework?”). Thus, in every instance with the exception of one question for one participant, quantitative indices reported by this subset according to the Likert Scale were positive (Table 7).

In response to question one, “To what extent did you find the student teaching experience connected to and helped you integrate your coursework?” 50% of the six participants whose apprenticeships were uniformly negative reported “strong,” 17%
reported “neutral,” and 33% reported, “weak.” When asked, “To what extent did you feel respected as competent by your supervising teacher(s)?” 50% of teachers-in-training from the same group reported “weak,” 33% reported “neutral,” and approximately 16% reported “strong.” Responses to the third query, “To what extent did you feel like an effective teacher when you student taught?” were “strong” 66% of the time and “neutral” among 33% of these respondents. Finally, when asked, “To what extent did you feel supported by your cooperating teacher?” 66% of the participants chose “very weak” and 33% chose “strong” (Table 6).

Others wrote appraisals of this experience that were not uniformly negative, yet some tumult or disappointment in their student teaching apprenticeship still was noted. In such instances, either their cooperating teacher’s partially or fully abnegated his/her role (“My teacher handed over the class to me after one week and would leave me. Thank goodness I had background . . .”) or the apprentice was confronted with some other difficulty and/or contextual challenge (“I was placed late in my student teaching position [October] because I had to leave my first placement . . .” or, “I did my student teaching in a primarily urban Hispanic school”). Nonetheless, all of the said participants responded to the four queries with scores of “strong,” “very strong,” and in few instances, “neutral” (Table 7).

This reveals a qualitative difference between feeling negatively about the entire situation -- as reflected by very low scores in response to queries two and four -- and acknowledging a limitation or hurdle confronted in the field that was surmountable. Responses to the latter were not in the “very weak” range and many were “strong” as
well as “very strong,” much like that was reported by those who had a very positive experience (Table 7).
Discussion

The results of this study reveal that these pre-service teachers espouse a humanistic, non-custodial orientation prior to student teaching and that they retain this general value system after having taught in the “real world.” Also highly prioritized by participants’ before and after student teaching was a focus on fostering their students’ ability to think critically and become increasingly metacognitive. Statement cards within the TBQ that reflect a custodial, traditional orientation such as the utilization of worksheets and drills when committing facts to memory were prioritized the least. Procedures such as the use of hand signals, the allocation of rewards to those students who demonstrate “good” behavior and the establishment of set routines were also least prioritized. Thus it became clear that a teacher-directed, routinized context where peer interactions are limited is inconsistent with these participants’ beliefs. Again this was, with limited exceptions to be described later, a consistent finding both before and after the student teaching experience.

Based upon these results it would be reasonable to assume that this group of pre-service teachers’ highly prioritizes fostering their students’ intrinsic motivation and problem solving capabilities. Teachers such as these, who believe in utilizing student-directed pedagogical approaches such as cooperative learning, are also apt to believe that employing “progressive” practices will not result in classroom chaos. Consistent with the stronger beliefs at time two, this group of pre-service teachers did not feel their “students had little desire to learn,” “were more motivated by grades than the acquisition of competence,” and would frequently destroy their “materials if not supervised.”
Also reflective of the highly prioritized card stating a focus on thought processes, not products, as well as the value of providing students’ with intrinsically-motivating, self-directed learning experiences. Sixty-eight percent of participants prioritized “Reflecting on the content of an academic lesson and talking about what we learned” as well as “Students need opportunities to be creative in the classroom” as a “higher priority” or the “highest priority.” Both statements remained high priorities on behalf of these participants upon completion of their apprenticeship.

Of these statements listed, the mean prioritization that significantly differed at the .01 level as per a t-test from time one to time two was: “Students are more motivated by grades then they are by the acquisition of competence.” Presumably immersion in a “real” school context where students demonstrate less of a focus on mastery and more of a focus on scores accounts for this change. Similarly, “A classroom runs smoothly when there are clear expectations for behavior,” “Modeling behavior for students,” and “Reflecting on the content of an academic lesson and talking about what we learned,” were all more highly prioritized post student teaching. This change is arguably a logical response to having been in the field: These pre-service teachers realize the salience of discussing the content learned as a class, as well as defining and modeling expected student behaviors in order to effectively manage their classrooms.

Additional variance in mean responses between time one and time two pertain to student self-regulation and the administration of extrinsic rewards. The first, “Students are more motivated by grades [an extrinsic reward] than the acquisition of competence [an intrinsic reward],” was not highly prioritized before or after student teaching, however it was a significantly stronger belief time two in comparison to time one.
Consistent with this was a second, significantly stronger belief in the value of allocating extrinsic rewards as a way to manage the classroom: “Praise from me is an effective way to change student behavior.” If after having student taught, participants’ believe the use of operant conditioning is a way to increase students’ motivation to achieve and behave well in class then it is likely that a belief in students’ capacity to self-regulate is diminished as well. This was the case, as the statement “Self-monitoring or self-regulation are important skills for students to develop” was significantly less highly prioritized on behalf of pre-service teachers after their apprenticeship. Thus, the notion that students will “do the right thing” based on their intrinsic desire to do so was attenuated and replaced with a stronger sense that they will perform well when given incentives to do so.

The lessened reliance on students to do “the right thing,” presumably necessitated the presentation of explicit expectations on a regular basis. Consistent with this is a lowered prioritization of the statements, “If I treat students with respect, kindness, and concern, there are less behavior problems,” and “Students should feel as though they are ‘known’ and ‘recognized’ in the classroom.” Again, attending to students’ affective needs may have been a less effective classroom management practice in comparison to making behavioral expectations explicit.

This makes the significantly stronger belief at time two of “Encouraging students and giving feedback that focuses on the process of students’ creations or thinking, not the outcomes of the solution” an additional, interesting finding. Routinely asking students to describe what they learned as well as what their thinking processes were is clearly a practice that is endorsed as per the academic literature base on effective pedagogy and is
of great value in the “real world.” This is an interesting response: in a test-driven environment where there is much material to cover, requiring students to explain their thoughts and describe their solutions costs time, yet ostensibly yields dividends as a means for concretizing students understanding and fostering their metacognitive capabilities.

Of the statements that fell between the highest and lowest values contained in Table 1, some were less neutral and closer to the “high priority” range than others. The majority of “higher priority” beliefs within this range could be classified as “humanistic,” such as the importance placed on creating a sense of community in the classroom. Yet some beliefs of “lower priority” after having student taught suggest a higher degree of “realism.” For example, during time one participants’ rated the statements entitled, “Self-monitoring (or self-regulation) are important skills for students to develop” and “It is important to respect students’ autonomy and expect them to act in a responsible manner,” as “higher priority” or the “highest priority,” 67% and 60% of the time, respectively. Statements pertaining to students’ self-monitoring skills and the importance of respecting your students’ autonomy were less highly prioritized on behalf of these participants after they student taught. A greater emphasis on maintaining control through teacher-directed means could be the result of participating in the “real world” where students do not always demonstrate the self-regulatory capacities required for autonomous work.

In addition, the statement “Students need some choice of activities within the classroom,” was a significantly higher priority for respondents at the .01 level -- as per t-tests -- after having been in the field, as was “Students are more motivated by grades then
they are by the acquisition of competence.” These findings are particularly interesting in
that, as cited in the literature, increasing autonomous student behavior through the
provision of choice is a positive pedagogical tool that can increase learner motivation.
This suggests that time spent in the “real world” can strengthen respondents’ beliefs in
specific theories of “best practice.” Participants’ strengthened belief in their students
proclivity to espouse an entity versus a mastery view, is also presumably the result of
having actually taught learners, replacing ideal images with more realistic viewpoints.

Less neutral statements of low prioritization in Table 1 include: “Students must be
kept busy doing activities or they soon get into trouble,” “The curriculum and class
schedule need to be prioritized over student interests,” of which the former increased
minimally in rank time two and the mean of the latter decreased significantly -- at the
same time point -- in accordance with its ranking. This reveals a general trust in students
to behave well even when not persistently occupied as well as the salience of aligning the
day and that which is learned according to the students’ needs and interests. This is
consistent with the stable, equally low prioritization of requiring students to “Work on
skills at which they are not good, even if it means giving those fewer choices of
activities,” as well as, “Students need opportunities to think in a quiet classroom
environment.” Thus, custodial, teacher-directed, control-oriented approaches are
inconsistent with the beliefs these pre-service educators espoused prior to and after their
apprenticeship. Working in the “real world” of teaching did not erode these belief
systems.

Significant categorical differences in the prioritization of instructional techniques
emerged as well. “Using whole group instruction” was viewed more frequently at time
two as neutral as opposed to highly prioritized at time one whereas “Having a morning routine” was more frequently viewed as important at time two. It is reasonable then to infer that the establishment and perpetuation of morning routines is an important aspect of classroom management whereas whole group instruction is not a pivotal aspect of student learning. “Talking about [our] plan or schedule for the day” and “Using a theme based approach to instruction” was not frequently highly prioritized time two, indicating that while morning routines are important, discussing schedules is not. In addition, whether or not material is taught thematically was not a strong determinant of student learning.

The final sets of significant categorical differences pertain to beliefs about students. Specifically, whether or not “Most students respect teachers and authority” was not deemed to be a high priority at time two, presumably because general proclivities on behalf of most learners has little bearing on what actually occurs in a specific teacher’s classroom. In addition, the statement, “Each one of my students teaches me something” was highly prioritized much more frequently at time two, reflecting an awareness of the learning curve experienced upon entering the field and informed by every student in the class.

Results in response to the four Likert-scale queries posed before respondents began taking the TBQ time two were overwhelmingly positive, reflected by the majority of participants’ choosing evaluations in the “strong” or “highly strong” categories when evaluating the quality of their apprenticeship. This is important to note, both as an interesting finding in and of itself and as a caveat regarding the generalizability of results in response to the TBQ. Specifically, if participants in other locales, who take the TBQ
before and after their apprenticeship, do not feel competent when student teaching, do not feel supported by their cooperating teachers and the like, then the findings from this study may not apply to them.

Also emergent was a relationship between responses to Likert-scale queries and participants’ self-reports of the student teaching experience. The eleven respondents who self-reported their apprenticeship(s) as unequivocally positive answered the four queries accordingly with “highly strong”, “strong”, and in few instances, “neutral”, evaluations. Variance however was detected between two groups: one comprised of those who had a uniformly negative student teaching experience versus a second comprised of those who confronted a surmountable challenge while working in the field. The responses reported on behalf of those who confronted a manageable challenge were very similar to their counterparts who had a positive experience, with their lowest evaluation in the “neutral” range. The former, in response to the question, “To what extent did you feel respected as competent by your supervising teacher(s)?” responded with evaluations of “weak” or “neutral” the majority of the time, with only 29% reporting “strong.” More strikingly was the response to the query, “To what extent did you feel like an effective teacher when you student taught?” where 66% of the same participants chose “very weak” and 33% chose “strong.” Less variance was detected in response to questions one and three, which referred to the degree to which participants’ felt their apprenticeship was a helpful compliment to their coursework and whether they felt effective in their role as a student teacher, respectively.

Thus, respondents who felt minimally respected and supported by their cooperating teachers during their apprenticeship were students who described their
experience as an unequivocally negative one, where no mitigating factor or variable rendered the said challenges to be surmountable. Those who had prior experience in the classroom or other assets that counterbalanced the challenges they confronted during their apprenticeship did not evaluate the support or respect they received from their cooperating teachers as “weak” or “very weak.” This suggests that perceptions of support are related to the degree to which assistance and respect on behalf of cooperating teachers is needed as well as whether one or more challenges in the field were overcome.

In summary, the descriptive statistics that indicated which statements were the most and least highly prioritized reveal values in favor of active learning; a humanistic teaching style; a valuation of pedagogical practices espoused by information-processing theorists, such as a focus on thinking processes irrespective of products; and a general optimism about students, such as their willingness to work if adequately challenged. Also deemed to be a powerful learning tool was modeling, consistent with Bandura’s research. Least prioritized were teacher-led classrooms; contexts where student-to-student collegiality was constrained to “free periods;” the use of workbook pages and drills as pedagogical tools; incentivizing positive student behavior by conferring rewards/using behaviorist techniques; and negative views of learners such as, “Some show a minimal interest in learning” or “Many cannot be expected to protect materials if left unsupervised.”

A retention of humanistic values after having student taught stands in contrast to the findings generated by previous research. Hoy (1968) reports that the 58 elementary school teachers and 58 secondary school teachers in his study had a higher pupil control orientation -- emblematic of a strengthened custodial, less humanistic ideology -- after
having student taught, and again after having taught for one year. The same comparison was not significant at both time points among graduate students and peers from the same teacher education program who neither student taught nor began classroom teaching. Consequently, that which was hypothesized was confirmed: a more custodial, less humanistic stance was adopted by those who have been in the field. Additional studies by this theorist yielded the same results (Hoy, 1967; Hoy & Woolfolk, 1990).

Tabachnick & Zeichner (1984) however, asked analogous research questions through the use of case study methodology, which, instead of revealing variance between the means before and after pre-service teachers’ immersion in the field, provided more elaborate explanations of variance among a few. Thus, while the external validity of these case studies is more limited due to a small sample size, the internal validity is strengthened by viewing each participant so intricately in order to clearly answer the questions being asked.

Results of the case studies conducted on four teachers indicates that a middle ground between professional beliefs and expected behaviors exists, in that some teachers unequivocally maintain their ideologies in the face of discrepant school norms yet adapt to the context to the degree to which they must. For example, a participant who was immersed in a school where the prevailing norms were custodial complied with their supervisor’s basic mandates but when the classroom door was closed, she actively engaged her students, valued their individuality and fostered the creation of a true learning community. This teacher’s politically savvy, interpersonal skills and teaching efficacy were all factors that mitigated backlash from colleagues and administrators within the institution.
A second participant also retained her humanistic ideology throughout her first year of teaching but was so fiercely micromanaged she could not teach accordingly. In this instance, the school context was “open” or without walls; administrators would frequently walk by each area and would admonish those teachers whose students were active and making noise; and “team teachers” collectively mandated which workbook pages and quizzes needed to be completed at any given time.

This suggests that to assess teachers’ beliefs at various points in their training and practice it is best to do so through the use of case studies and/or measures such as the TBQ, which disaggregate facets of belief orientations so that a more nuanced picture can be revealed. In addition, additional longitudinal research that cross references teachers’ beliefs with the norms within each of their schools would indicate whether or not their initial values remain stable over the course of several years and in what contexts. Finally, assessing the frequency with which teachers’ perform their roles according to their beliefs would shed light on whether such orientations can be made manifest in the “real world” as well as whether or not teacher training programs should begin apprenticeships earlier in the pre-service teachers’ instruction so that practices and pressures faced in the real world can be reconciled with theories espousing humanistic, progressive pedagogical practices.

Limitations

Three limitations warrant discussion. First, the content validity for each statement card labeled as “custodial,” “humanistic,” or “n/a” was not discerned, rather each card was assessed on its face validity. Thus, it is unclear whether several, individual observers trained in the field of education and well-versed in custodial, humanistic and other
orientations would reliably categorize each statement similarly, verifying the content validity of each. Second, of the 134 participants who took the TBQ time one, 95 took the same measure again upon completion of their internship. It is possible that, if the number of participants were higher during both time points, then the study would yield more generalizable results. Third, comparing the mean scores for each of the three categories – classroom management, beliefs about students and pedagogical practices -- on behalf of pre-service teachers prior to and after their apprenticeship -- with either traditional or progressive teaching exemplars may reveal more powerful differences in beliefs between the two time points.

**Future Research**

Future work needs to be done in order to discern whether the beliefs espoused on behalf of cooperating teachers are related to orientations espoused by student teachers upon completion of their apprenticeships. Additional research should be conducted in order to track several teachers’ beliefs longitudinally as a means for discerning stability and change over time. Concurrently assessing the contextual variables that may be related to these findings would be important to pursue. If beliefs in relation to classroom management, students and pedagogical practices change among many second and third year teachers in accord with school norms and additional contextual variables, then it may be prudent for teacher education programs to begin apprenticeships earlier in their training programs so that “real world” challenges can be reconciled with theories of best practice.
References


Appendix

Web-based Teacher Belief Q-Sort, Statement Cards

Beliefs About Classroom Management.

0=Lowest priority
1=Low to mid-priority
2= Mid-priority
3=Higher Priority
4=Highest Priority

1. “The primary goal in dealing with students’ behavior is to establish and maintain control.”

2. “A noisy classroom is okay as long as all the students are being productive.”

3. “Students must be kept busy doing activities or they soon get into trouble.”

4. “When students are engaged in interesting problems and challenging activities, they tend to have very few discipline problems.”

5. “Proper control of a class is apparent when the students work productively while I am out of the room (either briefly or when only a substitute is present).”

6. “Monitoring students can prevent problematic situations.”

7. “Peer interactions are best left to recess and snack time.”

8. “The curriculum and class schedule need to be prioritized over students’ specific interests.”

9. “A classroom runs smoothly when there are clear expectations for behavior.”

10. “Classroom rules should be discussed and posted.”

11. “Self-monitoring (or self-regulation) are important skills for students to develop.”
12. “It is important to respect students’ autonomy and expect them to act in a responsible manner.”

13. “Students should try to resolve conflicts on their own before going to the teacher.”

14. “Rules for the students’ classroom behavior need to be reinforced consistently.”

15. “Praise from me is an effective way to change students’ behavior.”

16. “Students learn best in primarily teacher-directed classrooms.”

17. “If I treat students with respect, kindness and concern, there are less behavior problems.”

18. “Verbal punishment is an unacceptable means of controlling students’ behavior; I believe it’s more important to use only positive management techniques.”

19. “If I anticipate problems before they happen and discuss them with the students, I have fewer discipline problems.”

20. “Extrinsic rewards for desirable behavior (e.g., stickers, candy bars) undermine student’s motivation; it’s better not to give such rewards at all.”

Beliefs About Teaching Practices.

0=Lowest priority

1=Low to mid-priority

2= Mid-priority

3=Higher Priority

4=Highest Priority

1. “Having a morning routine.”

2. “Talking about our plan or schedule for the day.”

3. “Welcoming each student by name to class.”
4. “Doing an activity to create a sense of community.”

5. “Talking about current events.”

6. “Using hand signals.”

7. “Having at least a few students share something that has happened to them.”

8. “Discussing a written announcement or message created by the teacher.”

9. “Conducting the business of the classroom (e.g., collecting lunch or milk money) following a set routine.”

10. “Reflecting and talking about something such as a social interaction that ‘worked’ or ‘didn’t work’ in our class.”

11. “Reflecting on the content of an academic lesson and talking about what we learned.”

12. “Using drill and recitation for factual information (math facts, etc.).”

13. “Modeling behaviors for students.”

14. “Introducing new objects or new activities in the room through demonstration.”

15. “Using worksheets.”

16. “Permitting students to choose from a variety of activities.”

17. “Encouraging students and giving feedback that focuses on the process of students’ creations or thinking, not the outcomes or the solution.”

18. “Using whole group instruction.”

19. “Using a theme-based approach to instruction.”

20. “Working on group projects.”
Beliefs About Students.

0=Lowest priority
1=Low to mid-priority
2= Mid-priority
3=Higher Priority
4=Highest Priority

1. “Almost all children in my class try their best.”
2. “Many of the students in my class try to get away with doing as little work as possible.”
3. “Students should feel as though they are “known” and “recognized” in the classroom.”
4. “Students need to be met where they are in terms of their ability.”
5. “Each one of my students teaches me something.”
6. “Almost all students are equally likable and enjoyable.”
7. “Most students respect teachers and authority.”
8. “Students seldom take care of their materials if they are not supervised.”
9. “Students learn best when they have good role models for behavior.”
10. “Students need some choice of activities within the classroom.”
11. “Students need to work on skills at which they are not good, even if it means giving them fewer choices of activities.”
12. “Students cannot be understood without knowing something about their families.”
13. “Students meet challenges best when they feel that their teachers care about them.”
14. “Students need to feel safe and secure in the classroom.”
15. “Students need opportunities to think in a quiet classroom environment.”
16. “Students need to have their strengths recognized to promote learning.”
17. “Students learn best by being actively involved in lessons.”

18. “Students need opportunities to be creative in the classroom.”

19. “Some students show little desire to learn.”

20. “Students are more motivated by grades than they are by the acquisition of competence.”
<table>
<thead>
<tr>
<th>Statement Card</th>
<th>Type</th>
<th>Rank</th>
<th>Rank</th>
<th>Time One Mean (Standard Deviation)</th>
<th>Time Two Mean (Standard Deviation)</th>
<th>t-value</th>
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<tr>
<td>17 T. Encouraging students and giving feedback that focuses on the process of students' creations or thinking, not the outcomes of the solution</td>
<td>H</td>
<td>1</td>
<td>2</td>
<td>3.29 (1.051)</td>
<td>3.34 (1.006)</td>
<td>-.283</td>
</tr>
<tr>
<td>3 S. Students should feel as though they are 'known' and 'recognized' in the classroom</td>
<td>H</td>
<td>2</td>
<td>4</td>
<td>3.27 (1.044)</td>
<td>3.16 (.770)</td>
<td>.981</td>
</tr>
<tr>
<td>9 C. A classroom runs smoothly when there are clear expectations for behavior</td>
<td>N/A</td>
<td>3</td>
<td>1</td>
<td>3.23 (.928)</td>
<td>3.49 (.797)</td>
<td>-.325*</td>
</tr>
<tr>
<td>14 S. Students need to feel safe and secure in the classroom</td>
<td>H</td>
<td>4</td>
<td>3</td>
<td>3.22 (.931)</td>
<td>3.24 (1.097)</td>
<td>.171</td>
</tr>
<tr>
<td>4 C. When students are engaged in interesting problems and challenging activities, they tend to have very few discipline problems</td>
<td>N/A</td>
<td>5</td>
<td>5</td>
<td>3.20 (.963)</td>
<td>3.13 (1.104)</td>
<td>.524</td>
</tr>
<tr>
<td>17 S. Students learn best by being actively involved in lessons</td>
<td>N/A</td>
<td>6</td>
<td>7</td>
<td>3.08 (1.135)</td>
<td>3.04 (1.151)</td>
<td>.215</td>
</tr>
<tr>
<td>4 T. Doing an activity to create a sense of community</td>
<td>H</td>
<td>7</td>
<td>6</td>
<td>3.04 (.978)</td>
<td>3.05 (1.014)</td>
<td>.081</td>
</tr>
<tr>
<td>11. C Self-monitoring (or self-regulation) are important skills for students to develop</td>
<td>H</td>
<td>8</td>
<td>18</td>
<td>2.98 (1.091)</td>
<td>2.62 (1.231)</td>
<td>2.324*</td>
</tr>
<tr>
<td>17 C. If I treat students with respect, kindness, and concern, there are less behavior problems</td>
<td>H</td>
<td>9</td>
<td>16</td>
<td>2.96 (1.051)</td>
<td>2.75 (1.203)</td>
<td>1.527</td>
</tr>
<tr>
<td>11 T. Reflecting on the content of an academic lesson and talking about what we learned</td>
<td>N/A</td>
<td>10</td>
<td>8</td>
<td>2.95 (1.308)</td>
<td>3.04 (1.184)</td>
<td>-.636</td>
</tr>
<tr>
<td>10 C. Classroom rules should be discussed and posted</td>
<td>N/A</td>
<td>11</td>
<td>10</td>
<td>2.93 (1.064)</td>
<td>2.86 (1.126)</td>
<td>.456</td>
</tr>
<tr>
<td>18 S. Students need opportunities to be creative in the classroom</td>
<td>H</td>
<td>12</td>
<td>14</td>
<td>2.77 (1.171)</td>
<td>2.78 (.976)</td>
<td>-.077</td>
</tr>
<tr>
<td>16 S. Students need to have their strengths recognized to promote learning</td>
<td>H</td>
<td>13</td>
<td>13</td>
<td>2.75 (1.090)</td>
<td>2.81 (.936)</td>
<td>-1.416</td>
</tr>
<tr>
<td>13 T. Modeling behavior for students</td>
<td>N/A</td>
<td>14</td>
<td>9</td>
<td>2.75 (.101)</td>
<td>2.94 (.987)</td>
<td>-.1347</td>
</tr>
<tr>
<td>13 S. Students meet challenges best when they feel their teachers care about them</td>
<td>H</td>
<td>15</td>
<td>11</td>
<td>2.72 (1.280)</td>
<td>2.82 (1.021)</td>
<td>-.649</td>
</tr>
<tr>
<td>12 C. It is important to respect students' autonomy and expect them to act in a responsible manner</td>
<td>H</td>
<td>16</td>
<td>22</td>
<td>2.66 (1.208)</td>
<td>2.54 (1.262)</td>
<td>.751</td>
</tr>
<tr>
<td>4 S. Students need to be met where they are in terms of their ability</td>
<td>N/A</td>
<td>17</td>
<td>12</td>
<td>2.59 (1.163)</td>
<td>2.81 (1.191)</td>
<td>-1.536</td>
</tr>
<tr>
<td>9 S. Students learn best when they have good role models for behavior</td>
<td>N/A</td>
<td>18</td>
<td>15</td>
<td>2.59 (.992)</td>
<td>2.76 (1.026)</td>
<td>-1.286</td>
</tr>
<tr>
<td>14 C. Rules for the students' classroom need to be reinforced consistently</td>
<td>N/A</td>
<td>19</td>
<td>17</td>
<td>2.45 (1.236)</td>
<td>2.69 (1.131)</td>
<td>-1.727</td>
</tr>
<tr>
<td>16 T. Permitting students to choose from a variety of activities</td>
<td>N/A</td>
<td>20</td>
<td>28</td>
<td>2.37 (1.158)</td>
<td>2.32 (1.142)</td>
<td>.360</td>
</tr>
<tr>
<td>10 T. Reflecting and talking about something such as a social interaction that worked or didn't work in our class</td>
<td>N/A</td>
<td>21</td>
<td>20</td>
<td>2.36 (1.296)</td>
<td>2.56 (1.327)</td>
<td>-1.207</td>
</tr>
<tr>
<td>1 T. Having a morning routine</td>
<td>N/A</td>
<td>22</td>
<td>26</td>
<td>2.35 (1.351)</td>
<td>2.45 (1.261)</td>
<td>-.761</td>
</tr>
<tr>
<td>5 S. Each of my students teaches me something</td>
<td>H</td>
<td>23</td>
<td>25</td>
<td>2.33 (1.219)</td>
<td>2.48 (1.274)</td>
<td>-.970</td>
</tr>
<tr>
<td>19 C. If I anticipate problems before they happen and discuss them with the students, I have fewer discipline problems</td>
<td>N/A</td>
<td>24</td>
<td>30</td>
<td>2.32 (1.323)</td>
<td>2.23 (1.180)</td>
<td>.519</td>
</tr>
<tr>
<td>3 T. Welcoming each student by name to class</td>
<td>H</td>
<td>25</td>
<td>24</td>
<td>2.31 (1.305)</td>
<td>2.49 (1.100)</td>
<td>-1.284</td>
</tr>
<tr>
<td>1 S. Almost all children in my class try their best</td>
<td>H</td>
<td>26</td>
<td>31</td>
<td>2.27 (1.376)</td>
<td>2.11 (1.306)</td>
<td>.935</td>
</tr>
<tr>
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<td>71</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>10 S. Students need some choice of activities in the classroom</td>
<td>N/A</td>
<td>27</td>
<td>19</td>
<td>2.26 (1.083) 2.61 (1.053) 2.508**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2C. A noisy classroom is okay as long as all the students are being productive</td>
<td>H</td>
<td>28</td>
<td>23</td>
<td>2.24 (1.286) 2.53 (1.090) -2.064*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 T. Introducing new objects or new activities through demonstration</td>
<td>N/A</td>
<td>29</td>
<td>27</td>
<td>2.23 (1.153) 2.33 (1.233) -0.583</td>
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<td></td>
</tr>
<tr>
<td>20 T. Working on group projects</td>
<td>N/A</td>
<td>30</td>
<td>21</td>
<td>2.22 (1.239) 2.56 (1.182) -2.233*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 T. Talking about current events</td>
<td>N/A</td>
<td>31</td>
<td>29</td>
<td>2.16 (1.170) 1.89 (1.086)</td>
<td></td>
<td></td>
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<tr>
<td>2 T. Talking about our plan or schedule for the day</td>
<td>N/A</td>
<td>32</td>
<td>30</td>
<td>2.14 (1.245) 1.95 (1.304)</td>
<td></td>
<td></td>
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<tr>
<td>7 T. Having at least a few students share something that has happened to them</td>
<td>H</td>
<td>33</td>
<td>33</td>
<td>2.09 (1.112) 1.96 (1.166) .926</td>
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<td></td>
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<tr>
<td>6 C. Monitoring students can prevent problematic situations</td>
<td>N/A</td>
<td>34</td>
<td>32</td>
<td>1.96 (1.271) 2.03 (1.056) -.444</td>
<td></td>
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<tr>
<td>5 C. Proper control of a class is apparent when students work productively when I am out of the room</td>
<td>N/A</td>
<td>35</td>
<td>35</td>
<td>1.95 (1.258) 1.93 (1.169) .145</td>
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<tr>
<td>15 C. Praise from me is an effective way to change students’ behavior</td>
<td>N/A</td>
<td>36</td>
<td>29</td>
<td>1.95 (1.232) 2.29 (1.211) -2.324*</td>
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<tr>
<td>19 F. Using a theme-based approach to instruction</td>
<td>N/A</td>
<td>37</td>
<td>40</td>
<td>1.86 (1.492) 1.64 (1.436) 1.320</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 C. The primary goal in dealing with students’ behavior is to establish and maintain control</td>
<td>C</td>
<td>38</td>
<td>37</td>
<td>1.85 (1.360) 1.72 (1.381) .894</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 S. Most students respect teachers authority</td>
<td>C</td>
<td>39</td>
<td>41</td>
<td>1.84 (1.182) 1.63 (1.150) 1.353</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 T. Using whole group instruction</td>
<td>C</td>
<td>40</td>
<td>39</td>
<td>1.72 (1.200) 1.64 (1.193) .473</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 T. Conducting the business of the classroom (e.g., collecting lunch or milk money)</td>
<td>N/A</td>
<td>41</td>
<td>42</td>
<td>1.58 (1.301) 1.55 (1.286) .200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 C. Students should try to resolve conflicts on their own before going to the teacher</td>
<td>N/A</td>
<td>42</td>
<td>43</td>
<td>1.55 (1.156) 1.54 (1.156) .073</td>
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<td></td>
</tr>
<tr>
<td>12 S. Students cannot be understood without knowing something about their families</td>
<td>H</td>
<td>43</td>
<td>44</td>
<td>1.52 (1.200) 1.51 (1.193) .077</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 S. Students need opportunities to think in a quiet classroom environment</td>
<td>N/A</td>
<td>44</td>
<td>46</td>
<td>1.49 (1.129) 1.14 (.916) 2.956**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 C. Verbal punishment is an unacceptable means of controlling students’ behavior; I believe it’s more important to use only positive management techniques</td>
<td>H</td>
<td>45</td>
<td>38</td>
<td>1.47 (1.219) 1.72 (1.358) -1.336</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 C. The curriculum and class schedule need to be prioritized over specific student interests</td>
<td>C</td>
<td>46</td>
<td>50</td>
<td>1.38 (1.248) 1.05 (1.095) 2.187*</td>
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<td></td>
</tr>
<tr>
<td>6 S. Almost all students are equally likable and enjoyable</td>
<td>H</td>
<td>47</td>
<td>45</td>
<td>1.33 (1.087) 1.28 (1.126) .395</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 S. Students need to work on skills at which they are not good, even if it means giving them fewer choices of activities</td>
<td>C</td>
<td>48</td>
<td>47</td>
<td>1.25 (1.049) 1.14 (1.049) .695</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 T. Discussing a written announcement or message created by the teacher</td>
<td>N/A</td>
<td>49</td>
<td>48</td>
<td>1.20 (1.181) 1.12 (.988) .627</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 C. Students must be kept busy doing activities or they soon get into trouble</td>
<td>C</td>
<td>50</td>
<td>49</td>
<td>1.19 (1.133) 1.12 (1.100) .518</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 C. Extrinsic rewards for desirable behavior (e.g., stickers, candy bars, undermine student’s motivation</td>
<td>N/A</td>
<td>51</td>
<td>51</td>
<td>.92 (1.059) 1.03 (1.180) -.719</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 S. Some students show little desire to learn</td>
<td>C</td>
<td>52</td>
<td>53</td>
<td>.82 (1.170) .67 (1.097) 1.027</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 S. Many of the students in my class try to get away with doing as little work as possible</td>
<td>C</td>
<td>53</td>
<td>55</td>
<td>.68 (1.805) .60 (.968) .533</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 T. Using hand signals</td>
<td>N/A</td>
<td>54</td>
<td>54</td>
<td>.68 (.854) .61 (.829) .681</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 S. Students seldom take care of materials if not supervised</td>
<td>C</td>
<td>55</td>
<td>56</td>
<td>.65 .45 1.925</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(.893)</td>
<td>(.787)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>--------</td>
<td>--------</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>20 S. Students are more motivated by grades than the acquisition of competence</td>
<td>C</td>
<td>56</td>
<td>52</td>
<td>.58 (.925)</td>
<td>.97 (1.165)</td>
<td>-2.639**</td>
</tr>
<tr>
<td>16 C. Students learn best in primarily teacher-directed classrooms</td>
<td>C</td>
<td>57</td>
<td>57</td>
<td>.49 (.810)</td>
<td>.43 (.846)</td>
<td>.610</td>
</tr>
<tr>
<td>12 T. Using drill and recitation for factual information (math facts, etc.)</td>
<td>C</td>
<td>58</td>
<td>59</td>
<td>.35 (.809)</td>
<td>.32 (.718)</td>
<td>.336</td>
</tr>
<tr>
<td>7 C. Peer interactions are best left to recess and snack time</td>
<td>C</td>
<td>59</td>
<td>58</td>
<td>.34 (.694)</td>
<td>.35 (.782)</td>
<td>-.102</td>
</tr>
<tr>
<td>15 T. Using worksheets</td>
<td>C</td>
<td>60</td>
<td>60</td>
<td>.34 (.709)</td>
<td>.25 (.601)</td>
<td>.905</td>
</tr>
</tbody>
</table>

*p<.05, **p< .01
Table 2 Statements Where Significant Numbers of Students Altered Their Priorities From Time I to Time II

<table>
<thead>
<tr>
<th>Statement Card*</th>
<th>Time one High</th>
<th>Time two High</th>
<th>Time one Neutral</th>
<th>Time two Neutral</th>
<th>Time one Low</th>
<th>Time two Low</th>
<th>$\chi^2$</th>
<th>P</th>
<th>$\phi$</th>
</tr>
</thead>
<tbody>
<tr>
<td>16* It is important to respect students’ autonomy and expect them to behave in a responsible manner,</td>
<td>55</td>
<td>54</td>
<td>24</td>
<td>20</td>
<td>16</td>
<td>21</td>
<td>14.730</td>
<td>.005</td>
<td>.394</td>
</tr>
<tr>
<td>22* Having a morning routine</td>
<td>45</td>
<td>53</td>
<td>23</td>
<td>19</td>
<td>27</td>
<td>23</td>
<td>14.6</td>
<td>.005</td>
<td>.393</td>
</tr>
<tr>
<td>23* Each one of my students teaches me something</td>
<td>43</td>
<td>49</td>
<td>21</td>
<td>21</td>
<td>29</td>
<td>23</td>
<td>11.656</td>
<td>.020</td>
<td>.354</td>
</tr>
<tr>
<td>25* Welcoming each student by name to class</td>
<td>43</td>
<td>47</td>
<td>25</td>
<td>30</td>
<td>27</td>
<td>18</td>
<td>11.256</td>
<td>.024</td>
<td>.344</td>
</tr>
<tr>
<td>30* Talking about our plan or schedule for the day</td>
<td>42</td>
<td>36</td>
<td>20</td>
<td>17</td>
<td>33</td>
<td>42</td>
<td>13.130</td>
<td>.011</td>
<td>.372</td>
</tr>
<tr>
<td>32* A noisy classroom is okay as long as all of the students are being productive</td>
<td>42</td>
<td>54</td>
<td>24</td>
<td>23</td>
<td>29</td>
<td>18</td>
<td>12.636</td>
<td>.013</td>
<td>.365</td>
</tr>
<tr>
<td>35* Proper control of a class is apparent when the students work productively when I am out of the room</td>
<td>32</td>
<td>27</td>
<td>24</td>
<td>35</td>
<td>39</td>
<td>33</td>
<td>10.297</td>
<td>.036</td>
<td>.329</td>
</tr>
<tr>
<td>36* Praise from me is an effective way to maintain control</td>
<td>31</td>
<td>43</td>
<td>33</td>
<td>27</td>
<td>31</td>
<td>25</td>
<td>16.797</td>
<td>.002</td>
<td>.420</td>
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<tr>
<td>37* Using a theme-based approach to instruction</td>
<td>36</td>
<td>29</td>
<td>16</td>
<td>15</td>
<td>43</td>
<td>51</td>
<td>11.183</td>
<td>.025</td>
<td>.343</td>
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<tr>
<td>38* The primary goal in dealing with students is to establish and maintain control</td>
<td>33</td>
<td>31</td>
<td>21</td>
<td>13</td>
<td>41</td>
<td>51</td>
<td>15.970</td>
<td>.003</td>
<td>.410</td>
</tr>
<tr>
<td>39* Most students respect teachers and authority</td>
<td>26</td>
<td>24</td>
<td>25</td>
<td>19</td>
<td>42</td>
<td>50</td>
<td>11.788</td>
<td>.019</td>
<td>.356</td>
</tr>
</tbody>
</table>

*Statements are labeled by rank at time 1
Table 3 *Cross tabular Data of χ² Analyses Revealing Significant Categorical Differences*

<table>
<thead>
<tr>
<th>Time 1, Low</th>
<th>Time 2, Neutral</th>
<th>Time 2, High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>13</td>
<td>7</td>
<td>31</td>
</tr>
<tr>
<td>6</td>
<td>12</td>
<td>15</td>
<td>33</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>21</td>
<td>31</td>
</tr>
<tr>
<td>25</td>
<td>27</td>
<td>43</td>
<td>95</td>
</tr>
</tbody>
</table>

Table 4 *Cross tabular Data of χ² Analyses Revealing Significant Categorical Differences*

<table>
<thead>
<tr>
<th>Time 1, Low</th>
<th>Time 2, Neutral</th>
<th>Time 2, High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>3</td>
<td>7</td>
<td>41</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>7</td>
<td>21</td>
</tr>
<tr>
<td>10</td>
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<td>17</td>
<td>33</td>
</tr>
<tr>
<td>51</td>
<td>13</td>
<td>31</td>
<td>95</td>
</tr>
</tbody>
</table>

Table 5 *Cross tabular Data of χ² Analyses Revealing Significant Categorical Differences*

<table>
<thead>
<tr>
<th>Time 1, Low</th>
<th>Time 2, Neutral</th>
<th>Time 2, High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>8</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>19</td>
<td>24</td>
</tr>
<tr>
<td>14</td>
<td>10</td>
<td>31</td>
<td>55</td>
</tr>
<tr>
<td>21</td>
<td>20</td>
<td>54</td>
<td>95</td>
</tr>
</tbody>
</table>
Table 6 Frequencies of Students Who Rated Aspects of Their Apprenticeship and Didactic Coursework Along a Continuum from Negative to Positive

<table>
<thead>
<tr>
<th>Statement Card</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Median</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>To what extent did you find the student teaching experience connected to and helped you integrate your coursework?</td>
<td>Frequency=4</td>
<td>Frequency=17</td>
<td>Frequency=56</td>
<td>Frequency=33</td>
<td>4.00</td>
<td>4.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.6%)</td>
<td>(10.9%)</td>
<td>(35.9%)</td>
<td>(21.2%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To what extent did you feel respected as competent by your supervising teacher?</td>
<td>Frequency=5</td>
<td>Frequency=2</td>
<td>Frequency=12</td>
<td>Frequency=36</td>
<td>4.00</td>
<td>5.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.2%)</td>
<td>(1.3%)</td>
<td>(7.7)</td>
<td>(23.1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To what extent did you feel like an effective teacher when you student taught?</td>
<td>Frequency=3</td>
<td>Frequency=20</td>
<td>Frequency=66</td>
<td>Frequency=21</td>
<td>4.00</td>
<td>4.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.9%)</td>
<td>(12.8%)</td>
<td>(42.3%)</td>
<td>(13.5%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To what extent did you feel supported by your cooperating teacher?</td>
<td>Frequency=6</td>
<td>Frequency=4</td>
<td>Frequency=13</td>
<td>Frequency=54</td>
<td>4.50</td>
<td>5.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3.8%)</td>
<td>(2.6%)</td>
<td>(8.3%)</td>
<td>(34.6%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 7 Qualitative Responses and Results from Likert-Scale Queries

<table>
<thead>
<tr>
<th>Uniformly Negative Qualitative Responses</th>
<th>Results, Likert-Scale Queries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Student teaching connected to coursework?</td>
</tr>
<tr>
<td>“It was not a great experience—both placements”</td>
<td>3</td>
</tr>
<tr>
<td>“The World Languages Supervisor at my school was rather non-existent during my internship period”</td>
<td>4</td>
</tr>
<tr>
<td>“My teacher was awful and treated me and the students terribly”</td>
<td>2</td>
</tr>
<tr>
<td>“My teacher was incredibly unsupportive in all aspects of student teaching”</td>
<td>4</td>
</tr>
<tr>
<td>“My teacher went out of her way to make me feel terrible”</td>
<td>2</td>
</tr>
<tr>
<td>“I received little or no support from my cooperating teacher”</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Positive Qualitative Responses</th>
<th>Results, Likert-Scale Queries</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Amazing opportunity to apply what I learned in the classroom”</td>
<td>4</td>
</tr>
<tr>
<td>“I had a great experience and was very grateful to have such a great supervisor and cooperating teacher”</td>
<td>5</td>
</tr>
<tr>
<td>“All in all, I had a wonderful student teaching experience. Both of my cooperating teachers supported…”</td>
<td>5</td>
</tr>
<tr>
<td>“It was great to work with someone who also went through my program at the GSE, it gave us similar ph…”</td>
<td>5</td>
</tr>
<tr>
<td>“I had a very positive student teaching experience. My cooperating teacher treated me like an equal.”</td>
<td>3</td>
</tr>
<tr>
<td>“It was the most beneficial experience I have had throughout my entire teaching education.”</td>
<td>5</td>
</tr>
<tr>
<td>“In comparison to others, I have a wonderful student teaching experience. I feel so lucky to have been…”</td>
<td>3</td>
</tr>
<tr>
<td>“I had great cooperating teachers who helped me with anything I needed. They were amazing”</td>
<td>5</td>
</tr>
<tr>
<td>“Wish we had more time in our second placement”</td>
<td>4</td>
</tr>
<tr>
<td>“Showed what actually works in the classroom and what doesn’t”</td>
<td>5</td>
</tr>
<tr>
<td>I worked with two cooperative teachers. I was respected by other teachers in the department and…”</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Surmountable Challenges</th>
<th>Results, Likert-Scale Queries</th>
</tr>
</thead>
<tbody>
<tr>
<td>“I was placed late in my student teaching position (October) because I had to leave my first placement.”</td>
<td>3</td>
</tr>
<tr>
<td>“I did my student teaching in a primarily urban Hispanic school.”</td>
<td>4</td>
</tr>
<tr>
<td>“I had two cooperating teachers—one was very liberal in how she mentored me and allowed me to experi…”</td>
<td>5</td>
</tr>
<tr>
<td>“I had part time teaching experience prior to student teaching, which affected my confidence positive…”</td>
<td>4</td>
</tr>
<tr>
<td>“My teacher handed over the class to me after one weekend would leave me. Thank goodness I had backg…”</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
<th>Results, Likert-Scale Queries</th>
</tr>
</thead>
<tbody>
<tr>
<td>I currently <strong>hold an incomplete</strong> for the student teaching…to be completed in fall 2011…”</td>
<td>4</td>
</tr>
<tr>
<td>With my learners I felt the <strong>administration and district leaders</strong> did not allow time for students to…”</td>
<td>5</td>
</tr>
</tbody>
</table>