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Feature Article

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Abstract

This study investigated the effects of using teacher candidate-created observation protocols based on current research on classroom practices to connect research to practice. The study examined the extent to which mentor teachers modeled current research-based practices as measured by the protocols and explored the frequency with which the practices were observed. Findings indicated that teacher candidates had a positive experience applying research to practice, that utilization of the protocols created an awareness of best practices being used, and the importance of individualizing the practices to meet student needs. Individualization of utilization based on mentor teacher personalities was also observed and many practices the teacher candidates selected were utilized in the mentor classrooms, particularly in the areas of lesson planning and reading instruction.

Introduction

Numerous studies have been conducted on the importance of teachers being knowledgeable about research-based practices and how to use that research to guide their instruction in the classroom (Buysse & Wesley 2006; Henderson, Meier, Perry, & Stremmel, 2012; Hoppey, Morewood, & Bolyard, 2010). There are also several studies that show the positive effects that research-based instruction has on student achievement (Marzano, Pickering, & Pollock, 2001).

Winton, Buysse, Rous, Lim, & Epstein (2012) stated that while evidence-based practices are important strategies to use in instruction, they should be integrated with "practitioner experience and deeply held beliefs with research findings in ways that inform decisions and actions" (p. 6). This integration takes skill, experience, and expertise in many areas. While a veteran teacher might not find this difficult, it could be problematic for pre-service teachers or teacher candidates, who are just beginning to gain experience in the classroom and an understanding of research and theory.

While pre-service teachers or teacher candidates may learn about research- based practices in their college classrooms, they are not always placed in field experience or clinical placement sites where

they can observe or use research-based practices. This is particularly concerning as, while some aspects of the knowledge necessary for becoming a teacher can be taught in college classrooms, several decades of research indicate that a number of crucial elements of professional practice can only be learned in the context of the classroom under the guidance of a strong mentor (Ball & Cohen, 1999; Feiman-Nemser, 2010). To further complicate matters, even for the pre-service teachers or teacher candidates that are placed with strong mentor teachers, identifying research-based practices in action can be difficult (Roehrig, Duggar, Moats, Glover, & Mincey, 2008). Some of the literature on the topic indicates that many pre-service teachers or teacher candidates are unable to distinguish when a mentor teacher is using the most effective practices (Roehrig, et al., 2008). Finding a way to help pre-service teachers or teacher candidates become familiar with research-based practices, identify those practices in action, and then discuss what they did or did not see modeled is one way to begin bridging the gap from research to practice with these novice educators.

Theoretical Framework

While several theoretical frameworks could be applied to the area of pre-service teachers or teacher candidates learning to connect research to practice through self-created protocols, observation, and modeling by mentors, this study is based upon Bandura's Social Cognitive Theory (Bandura, 1977; Bandura, 1986) and portions of Kolb's Experiential Learning Theory (1984). Social Cognitive Theory (Bandura, 1977; Bandura, 1986) emphasizes the idea that learning occurs in a social context, particularly through observation, and that an individual's continuous functioning or learning is due to ongoing interaction between behavioral, cognitive, and contextual elements. This relates to the observations and social contexts in which teacher candidates in this study were engaged.

Kolb's Experiential Learning Theory (1984) presents a cyclical model of learning in which

participants engage in an experience, observe and reflect, abstractly conceptualize, and then test in new situations. In this study, teacher candidates actively engaged by reading research-based articles and creating an observation protocol. They then observed their mentor teacher with the protocol and reflected upon and discussed the elements they saw, or did not see, in practice. Finally, they were asked to conceptualize answers to questions such as *why do you think this action was not observed, why do you think this action was observed the most,* and *why do you think this action was observed the least.* They were not asked to complete the fourth step in Kolb's (1984) cycle during this study. However, it is important to note that many teacher candidates informally stated that they applied the fourth step by implementing research-based practices in their own lessons that were or were not modeled by the mentor teacher.

Purpose of the Study

In the current study, teacher candidates were asked to read current research on best practices for elementary classroom teaching, to create observation protocols based on the information they deemed most important in the readings, and then to observe in assigned elementary classrooms for use of the research-based practices by classroom teachers. The study sought to immerse teacher candidates in current research-based readings, to have the candidates think critically about the research to determine key themes, to use this information to collaboratively create observation protocols, and then to subsequently observe the practices and /or strategies of mentor teachers in field experience classrooms to connect the readings to classroom practice.

The purpose of this study was to investigate the effects of having teacher candidates collaboratively create observation protocols based on assigned readings of current research on classroom practices, in order to connect research to practice. In addition, the study examined the extent to which mentor teachers modeled current research-based practices as measured by teacher

candidate-created observation protocols. Finally, the study explored which areas of research-based practices were observed the most and the least.

Research Questions

The following research questions will be addressed in the present study:

1. What are the effects of this project on teacher candidates' ability to connect research to classroom practice?

2. To what extent are mentor teachers modeling current research-based practices as measured by teacher candidate-created observation protocols?

3. Which areas of research-based practices are observed the most?

4. Which areas of research-based practices are observed the least?

Literature Review

Research-Based Practices and Effects

The importance of using research-based practices in teaching or instruction is well documented in the literature (Buysse & Wesley 2006; Henderson et al., 2012; Hoppey et al., 2010). In content areas such as reading and mathematics, evidence-based learning has been noted to be of value (Committee on the Prevention of Reading Difficulties in Young Children & The National Research Council, 1998; U.S. Department of Education, 2009). Evidence-based practices have also been shown to be beneficial with English Language Learners, students with disabilities, and students who are identified as gifted and/or talented (August & Hakuta, 1997; Vaughn, Klingner, & Hughes, 2000). Repeatedly, studies have shown the positive effects that research-based instruction has on students and on student achievement (Marzano et al., 2001).

The use of research-based practices is particularly important in the early grades, as it is often a student's first entry into formal schooling. Young children are often learning to read, write, and lay

the foundation for future learning and, thus, it is critical that students are taught in a developmentally appropriate way and that teachers have knowledge of what is appropriate (Head Start, 2008; Piaget, 1972; Vygotsky, 1978). The National Association for the Education of Young Children (NAEYC) supports this idea and writes that, "Research gives early childhood practitioners and policymakers essential knowledge to use in making decisions on behalf of young children and families" (2015, p.1). However, they also note that the research should be used in combination with the "wisdom and values of professionals and families" (NAEYC, 2015, p.1). Integrating research, values, and wisdom takes experience and skill, which can be a challenge for pre-service teachers or teacher candidates, due to their limited experiences with research and classroom practice.

Research-Based Practices with Teacher Candidates

Classroom lecture and placements. It would be fair to say that in most, if not all, teacher preparation programs in higher education, pre-service teachers, and teacher candidates are receiving classroom instruction in theory and how children learn best. Historically, pre-service teacher education programs have used what Zeichner (2010) refers to as an "application of theory model" (p. 90). In this model, teacher candidates learn theory in a college classroom and then are expected to apply that theory in school classrooms. This could be a positive situation if the teacher candidates are placed with skilled and fully trained mentors who are informed with current, evidence-based practices and who can use his or her wisdom and values to make the best decisions for children and who then allow the teacher candidate to practice and receive feedback on those practices (NAEYC, 2015). Unfortunately, that is not always the case.

In some teacher preparation programs, candidates may receive ample information on theory and

evidence-based practices in the college classroom but may receive very little opportunity to observe and apply those theories and practices before they are responsible for a classroom of students (Zeichner, 2010). For those teacher candidates that are spending an adequate portion of their preparation in elementary classrooms where research-based practices are used, research has shown that identifying research-based strategies in action can be difficult for pre-service teachers or teacher candidates (Roehrig, et al., 2008). It requires practice and support.

Regardless if teacher candidates complete pre-service teacher education programs that have field or clinical experiences before becoming fully responsible for classrooms or not, there is no guarantee that the field or clinical preparation is of high quality, nor if it has supported the level of professional learning that is needed in order for teachers to be successful (Valencia, Martin, Place, & Grossman, 2009). Once a pre-service teacher or teacher candidate has mastered the craft of identifying effective practices, they are not always afforded the opportunity to observe, practice, and receive feedback on the practices that the teacher preparation program intends for them to acquire (Zeichner, 2010).

In some field experience or clinical placement settings, universities may have minimal sites from which to select, due to location. This could limit the number of suitable mentor teachers available, leaving programs to place teacher candidates with mentors who may not use research-based practices, may not be as experienced as they had hoped, or may not even have the desire to mentor teacher candidates. In fact, regardless of location, teacher candidates are often placed in classrooms with mentor teachers who are not knowledgeable on the subject matter that the teacher preparation program intends for the candidates to learn (Zeichner, 2010). This creates conflict as it is important that teacher candidates understand research-based practices, be able to observe and identify those practices, and, eventually, be given considerable time to implement those practices.

Action research. One possible way to assist teacher candidates in becoming more familiar with the use of and practice in research-based strategies is through action research. According to the Association for Supervision and Curriculum Development (ASCD), action research is "is a disciplined process of inquiry conducted *by* and *for* those taking the action. The primary reason for engaging in action research is to assist the "actor" in improving and/or refining his or her actions" (ASCD, 2015, p.1). The idea of action research by classroom teachers in collaboration with other stakeholders, be that university partnerships, teacher candidates, or community activists, is an important part of educational research (Cochran-Smith & Lytle, 2009; Price, 2001). It has been noted that action research can be particularly important in promoting reflective practice and educational change (Price, 2001). However, there is limited research involving pre-service teachers or teacher candidates using research to inform their own individual experiences in field or clinical placements (Cochran- Smith & Lytle, 2009; Price, 2001). What is documented is the critical nature of teacher candidates being data literate, knowledgeable about research-based practices, and able to understand how to use this information to guide their instruction (Hoppey, et al., 2010).

Noffke (1995) noted that action research "carries with it the dual potential of helping pre- service. . . teachers to seek alternatives to current practice and also of helping them reproduce what already exists" (p. 7). This is important for two reasons. First, if a teacher candidate is placed with a skilled mentor who implements the use of research-based strategies, the candidate can use this action research to help him or her replicate what is seen in the field or clinical placement site. Second, if the teacher candidate, does not have the opportunity to observe a skilled mentor who is using research-based practices in their field or clinical placement sites, he or she can reflect on what is observed through the research and seek answers as to why or why not those practices are observed, how he or she can prevent that from

happening in their own practice, and how those practices can be replaced by more effective alternatives. Ross and Kyle (1990) agree that it is necessary for teacher candidates to engage in educational research and to develop the ability to use and reflect on conflicting research findings. This study is an attempt to further contribute to this line of inquiry.

Methodology

This was a qualitative pilot study involving nine mentor teachers and fourteen teacher candidates serving as participants. Mentor teachers are defined in this project as classroom teachers in P-12 settings who mentor undergraduate teacher candidates seeking educator certification. In this case, the mentor teachers were elementary teachers working with teacher candidates seeking Early Childhood through Grade 6 (EC-6) certification in the state of Texas. All mentor teachers in the study were female and ranged in age from mid-20s to mid- 40s. The mentor teachers had an average of 12 years' experience and served as mentor teachers to teacher candidates enrolled at a local university.

The mentor teachers all served on one elementary school campus, located in rural East Texas. The elementary school is located in a district that had 1753 students enrolled (Texas Education Agency, 2013a) in 2011. The elementary campus housed 525 students in the 2011-2012 academic year, received Recognized status by the Texas Education Agency (TEA) in 2011, and served the following student populations: 3.2% African American, 5.1% Hispanic, 87.6% White, 1.5% American Indian, .4% Asian, and 2.1% Two or More Races (TEA, 2012). At the time of the study, the campus was listed as being 61.5% Economically Disadvantaged (TEA, 2012). The study was conducted in the 2012-2013 academic year, making the information noted above pertinent and relevant as it reflects the demographics of the school at the time.

The teacher candidates were all enrolled at a regional, accredited university, located 40 miles from the elementary campus where the study took place. The university is located in rural East Texas and served 12,702 students in 2011-2012 academic year (Stephen F. Austin State University, 2015). The College of Education, the largest college on the campus, served over 4,000 students during 2011-2012 (Stephen F. Austin State University, 2015). The teacher candidates serving as participants were Elementary Education (EC-6) majors in the second semester of their junior year. All were enrolled in their first field experience course, entitled Practicum I. These teacher candidates enrolled in Practicum I were assigned to the elementary campus involved in the study at their registration for Practicum I. They had no prior knowledge of the study and participated in the study as an assignment for the course. All teacher candidate participants were female and were traditional college students in their early 20s at the time of the study. Practicum I requires teacher candidates to observe and engage with the mentor teacher and elementary students in their classrooms two hours per day, 4 days per week, under the guidance of a university professor and the mentor teacher.

At the onset of the project, teacher candidates were randomly paired into research dyads. Each teacher candidate was tasked with reading a series of current literature from research journals on best practices in elementary classrooms. The researchers on the topics of classroom management, lesson planning, reading instruction, writing assessment, and classroom environment carefully selected the articles. Each topic was researched and observed individually for approximately two weeks, to allow teacher candidates to focus on each topic individually. After each teacher candidate read the assigned journal articles per topic, they then worked within the dyads to discuss the readings and collaborate to create observation protocols containing what they found to be the critical pieces of information. The protocols were constructed entirely by the teacher candidates and varied from dyad to dyad, based upon their own interpretation of what they found to be the most critical elements. The teacher candidates then used the protocols in the

classrooms to identify the utilization of the research-based practices. Each individual teacher candidate used their created protocols to observe within their assigned classroom for use of the practices they included in the protocols on a daily basis as they completed their assigned time. Each topic was observed for an average of six to eight class days.

At the conclusion of two to three observation periods, the teacher candidates were randomly divided into two focus groups (*n*=7) to discuss their observations. Each focus group was led through a series of semi-structured questions facilitated by a principle investigator. Each focus group session was held within one class period and lasted approximately one hour. The focus group questions were created by the investigators and addressed the creation of the protocols, the selection of the elements included on the protocols, the frequency with which the elements were observed, and the teacher candidates' thoughts about the process. The semi- structured questions were designed to gauge the participants understanding of the research, the frequency with which they observed (or did not observe) the research-based practices in the elementary classrooms, and their ability to connect the research and practice. Each focus group was recorded and transcribed.

Results

Focus group data from this pilot study were coded and analyzed for themes in the participants' responses to the semi-structured questions (see Table 1, below, for analysis codes) and produced results that indicate a strong positive response by the teacher candidates to the use of research-based observation protocols as an effective means to connect current research to practice. While the findings indicated variability in the amount of current research-based practices being used in the classrooms in which the observations took place, the results indicate the use of the candidate-created protocols provide a useful catalyst for connecting best practices theory to actual classroom practice, as well as prompt

teacher candidate reflection on why or why not best practices are employed. See Table 1 for the codes and examples that were utilized for transcript analysis.

Table 1
Codes and Examples for Transcript Analysis

Codes	Examples
Mentor teacher models current research-based practices.	Classroom size, positive relations, consistency, mobility, concrete examples
Mentor teacher does NOT model current research-based practices.	Not utilizing space, attention to mobility issues, language
Beliefs on factors contributing to low frequency of observed practices.	Time-consuming, planning issues, scheduling
Beliefs on factors contributing to high frequency of observed practices.	No examples.
Useful information learned from developing the protocol.	What not to do, don't get complacent
Least observed-trends/patterns	What mentor teacher doesn't do
Most observed – trends/patterns.	Repeated, same worksheets/monotonous
Elements selected for protocols	List; relevant reading topics
Reasons cited for selection of elements	Seen as most important; want in classroom

Research Questions Answered

The specific themes that were identified for each of the semi-structured research questions were applied to the corresponding research questions. The pages of transcripts from the focus group sessions provided rich detail into the teacher candidates perspectives on the effects of the

project on their own learning, the extent to which mentor teachers were utilizing the best-practices that the teacher candidates found to be most important from the readings, and the frequency with which the practices were observed.

Research Question 1. *What are the effects of this project on teacher candidates' ability to connect research to classroom practice?* The overarching findings for this question indicated that teacher candidates had an overall positive experience utilizing the protocols to observe for best practices. Results indicated that this was because of the specificity of the practices for which they were observing. Focus group questions revealed that the process of reading the research individually, collaborating with a partner to discuss shared ideas about the important elements, and then observing for those specifically identified elements gave a purpose to their daily classroom observations, and heavily influenced the ways in which they saw the day-to-day classroom operations. The focus group discussions indicated that by utilizing observation protocols with self-selected items from the research provided the candidates the opportunity to seek out best practices and to turn their focus away from thinking about what they themselves should be doing in the classroom, but rather to take full advantage of being placed in classrooms where they could seek out and observe first-hand best practices in action, or when these were not observed in action, to think more critically about why that might be the case. As one candidate stated "I didn't know to look for what I didn't know."

It was also discovered that utilization of the protocols created an awareness of the best practices being used, but also shed light on the importance of individualizing the practices to meet student needs. Additionally, a theme emerged that indicated the teacher candidates saw the utilization of the best-practices as influenced by the differing personalities of the mentor teachers. The project indicated that many of the practices that the teacher candidates selected for their

protocols were being used in the mentor classrooms. These were most heavily seen in the areas of writing instruction, assessment, and classroom environment.

Another important finding related to the effects of the project on teacher candidates was the topic areas that were most heavily observed during the project. Teacher candidates reflected more on their observations in the areas of classroom environment, assessment, and writing instruction, indicating a greater awareness of the practices in these areas being used in the classrooms. See Table 2 for candidates' observations to address the question: *What are the effects of this project on teacher candidates' ability to connect research to classroom practice?*

Table 2
Candidates' Ability to Connect Research to Classroom Practice

Research-Based Practices	Observation
Classroom Management	• Consistency in routine and expectations • Reinforce a positive student teacher relationship • Maintain a healthy balance of authority figure and friendship
Lesson Planning	• What not to do in the classroom • Utilize educational energizers • Tailor lesson plans for students • Give students the opportunity to ask questions
Reading Protocols	• Importance of peer reading and discussion • Opportunity for different groups: guided group, paired students, individual reading • Introduce vocabulary concepts • Ask many questions for gauging comprehension
Writing Protocols	• Teach writing throughout the day • Guided writing • Provide lots of encouragement • Provide the chance for students to share what they are writing • Make connections to what is being written to the child's life

Table 2 (continued)

Research-Based Practices	Observation
Classroom Environment	• Possible to make do with what you have • Flexibility is key • You can never have enough items on the wall • You can never have enough books • Student teachers more aware of what to look for in a classroom

Research Question 2. *To what extent are mentor teachers modeling current research-based practices as measured by teacher candidate-created observation protocols?* The focus group sessions indicated that the teacher candidates observed many of the best practices from the literature. Especially important to the teacher candidates was the fact that they were able to see these practices from the readings in concrete, tangible ways. While the results indicated a higher number of best-practice observations in some areas than in others, as one would expect, it was a positive finding to see that some measure of current best practices from the literature was being modeled, to some extent, in every area identified and included on the protocols. Additionally, it was interesting to note from the focus group discussions, that the candidates felt strongly that teacher personality was a key factor in influencing the frequency of best practices being utilized, and in what ways. This was important to the candidates, as it caused them to reflect on their own personalities and tendencies when thinking to their own future use of strategies once in the role of classroom teacher rather than pre-service teacher. Again, while all techniques were modeled and observed to some extent, research questions 3 and 4 indicate how the extent of usage was distributed. As one might expect, there was minimal usage of some techniques, and more extensive usage of others. See Table 3 for candidates' observations to address the question: *To what extent are teachers modeling current*

research-based practices as measured by teacher candidate-created observation protocol?

Table 3
Teachers' Modeling of Current Research-based Practices

Research-Based Practices	Observation
Classroom Management	• Consistency in demands Positive teacher interaction • Healthy balance of nurture and control
Lesson Planning	• Lesson presented in a multisensory way • Visual aids at every center • Introduce new weekly topic with anecdote, cartoon, parts of drama, or story • Movement (physical) • Repetition with AR books • Different lessons may be presented in the same format
Reading Protocols	• Exposure to expository text • AR books • Continually engaged in discussions after reading • Teacher asks questions for comprehension • Teacher connects the lesson for real-life perspective • Multiple opportunities to engage in reading
Writing Protocols	• Teachers model and prompt students then step back • Daily journal writing • Handwriting practice • Assists students in writing assignments and provides feedback • Teacher scaffolds and guides them through their thinking
Teacher Assessment	• Journal writing every day • Running records of each student (notes of progress) • Teacher provides descriptive feedback • Teacher engages students in lesson topics and provides constructive feedback

Table 3 (continued)

Research-Based	Observation
Classroom Environment	• Multipurpose functioning spaces • Daily routine to promote student learning • Organized and well-structured classroom • Print rich environment

Research Question 3. *Which areas of research-based practices are observed the most?* The area that was indicated as having the greatest amount of best-practice modeling was in the area of reading instruction. Teacher candidates cited multiple examples of reading practices that were exemplified in the research articles. Additionally, lesson planning was highly referenced as a practice that was on-target with the literature. Writing instruction was the third highest in the frequency of observed best practices, with assessment and classroom environment being almost equal in comparison. See Table 5 for candidates' observations to address the question: *Which areas of research-based practices are observed the most?*

Table 4
Research-based Practices Observed the Most

Research-Based Practices	Observation
Classroom Management	• Classroom Management • Signal system • Did not observe the neglectful parenting style
Lesson Planning	• Use of manipulatives • Frequent mobility • Alternative ways for demonstrating mastery of objectives • Transitions • Tailoring lesson to specific groups of learners

Table 4 (continued)

Research-Based Practices	Observation
Reading Protocols	• Teaching instruction then talk about content • Teacher as facilitator without imposing own interpretations • Assessing for comprehension • Peer reading
Writing Protocols	• Collaborative writing • Students being taught how to write • Provision of mental, linguistic, and physical tools • Small group work • Sharing activity field trip sources
Teacher Assessment	• Formative assessment • Equal use of formative and summative assessment • Involving students in the assessment practice • Gathering evidence of each child's work
Classroom Environment	• Greener classroom • Class walls didn't always tell a story (inside classroom) • Color on the walls • Organization/tools and materials are not labeled

Research Question 4. *Which areas of research-based practices are observed the least?* The element that was observed the least in a positive correlation to the literature was the area of classroom management. The references in the transcripts regarding classroom management were interesting, in that the teacher candidates gleaned much practical information regarding classroom management to include on the observation protocols but were unable to see the best practices fully modeled in the classrooms. See Table 6 for candidates' observations to address the question: *Which areas of research-based practices are observed the least?*

Table 5

Research-based Practices Observed the Least

Research-Based Practices	Observation
Classroom Management	• Classroom Management • Signal system • Did not observe the neglectful parenting style
Lesson Planning	• Use of manipulatives • Frequent mobility • Alternative ways for demonstrating mastery of objectives • Transitions • Tailoring lesson to specific groups of learners
Reading Protocols	• Teaching instruction then talk about content • Teacher as facilitator without imposing own interpretations • Assessing for comprehension • Peer reading
Writing Protocols	• Collaborative writing • Students being taught how to write • Provision of mental, linguistic, and physical tools • Small group work • Sharing activity field trip sources
Teacher Assessment	• Formative assessment • Equal use of formative and summative assessment • Involving students in the assessment practice • Gathering evidence of each child's work
Classroom Environment	• Greener classroom • Class walls didn't always tell a story (inside classroom) • Color on the walls • Organization/tools and materials are not labeled

Discussion

It is not surprising that teacher candidates found the protocols to be helpful. Because the literature indicates that inexperienced teacher candidates may have difficulty recognizing best practices in action, having the protocol could have assisted the teacher candidates in recognizing research-based practices as they were used (Roehrig et al., 2008). Having something concrete for which to observe could have been the reason the protocols were beneficial to the students.

Teacher candidates did see all practices observed to some extent in their mentor teachers' classrooms. This could be due to the fact that the campus is consistently rated as an exemplar campus. It would stand to reason that the exemplary campus would employ teachers that are using best practices. It is true that identifying research-based strategies in action can be difficult for teacher candidates and it is possible that some of what teacher candidates in this study observed were not best practices. However, the use of the protocols and the support provided through reflection and discussion could have enabled them to more correctly identify the best practices they noted (Roehrig, et al., 2008).

It would seem reasonable that candidates would cite observation of best practices more often in reading and writing instruction, as these two are both components of a strong literacy program. Another factor that might have influenced the frequency of observations cited for best practices in reading and writing instruction is the fact that these observations took place in primary grades, where literacy instruction is often an area of focus, as the key component of successful future learning in other content areas.

It is entirely possible that classroom management was observed the least because many aspects of facilitating optimal classroom behavior is imbedded in within the environment that the classroom teacher establishes early in the academic year, and, therefore, might have been imperceptible to the teacher candidates.

Additionally, if a classroom teacher is masterful at facilitating a classroom environment that effectually reduces instances of classroom misbehavior, there would be little opportunity for candidates to observe classroom management techniques to address behavioral issues when they occur. It is also possible that the students did not see strong classroom management techniques but it is not known as questions did not specifically ask if poor practices were used.

Limitations of the Study

This was a pilot study, which took place as a semester-long course assignment in a controlled environment. Because the study took place at an elementary school located 40 miles away from the university campus, the teacher-candidates may have self-selected into a group of highly motivated participants. Although the students had no knowledge of the project prior to registering for the site, the fact that each of the 14 students selected a practicum site located 40 miles from campus indicates a high level of motivation. Often, teacher candidates who choose this site are honors students willing to travel a bit further for what they consider to be an optimal field experience location. This self-selection may have created a group of teacher candidates who were particularly committed to utilizing the protocols to the fullest extent possible. The same level of engagement may not be achieved in another group of teacher candidates. Nonetheless, the impact on these teacher candidates was evident. Additionally, the results on the extent of the usage of the techniques at this school cannot be generalized to other elementary campuses. This particular campus is consistently rated as a TEA Exemplary School. At a school with this rating, one would expect that many, if not most, of the classroom teachers were modeling current best practices.

Conclusions

This study is significant because it illuminates the importance of the "application of theory model"

(Zeichner, 2010, p. 90). Many teacher education programs spend ample time immersing teacher candidates in theory and/or in research-based practices in the lecture classroom, but it is equally important that teacher candidates are given adequate time to observe those theories in action (Zeichner, 2010). Given that it can be difficult for pre-service teachers or teacher candidates to identify research-based practices in action, this study also suggests the importance of using research-based protocols with teacher candidates as they observe mentor teachers in the field, particularly when coupled with reflective discussions as a means of support (Roehrig, et al., 2008). Based on the results of this study, teacher candidates seemed to be more able to connect research to practice through the use of this combination. This finding could be of particular value to other teacher education programs.

Additionally, outcomes from this study suggest that teacher candidates observed more research-based practices in reading and writing but fewer in classroom management. Given the importance of a positive classroom environment that is conducive to learning, a future consideration would be to have teacher candidates create research-based observation protocols and, at some point in their clinical practice or field experiences, have the opportunity to observe mentor teachers, focusing solely on classroom environment and classroom management practices.

Finally, this study served as a method to support teacher candidates in thinking critically about current literature in order to determine essential information, and, in turn, to question what takes place in classrooms that contradicts research (Ross & Kyle, 1990). It also provided an opportunity for teacher candidates to engage in discussions as to what actions to take when one is bound by certain directives or practices that contradict the research (Ross & Kyle, 1990). This is important as many novice teachers may "wash out" and discontinue use of effective, research-based practices when overwhelmed, when faced with colleagues who

use less effective practices or leaders who do not support the research-based practices, and when a focus is placed on standardized testing outcomes at the expense of research-based best practices.

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