Planning Backwards to Go Forward:

Examining Pre-service Teachers' Use of Backward Design

to Plan and Deliver Instruction

by

April Boozer

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Graduate Supervisory Committee:

David Carlson, Chair
Wendy Barnard
Shaun Holmes

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ABSTRACT

Undergraduate teacher preparation programs face scrutiny regarding pre-service teachers' preparation upon graduation. Specifically, scholars contend that teacher preparation programs do not adequately prepare pre-service teachers to plan for effective instruction. Situated in the Mary Lou Fulton Teachers College (MLFTC) at Arizona State University, this action research study used the Theory of Pedagogical Content Knowledge to examine (a) how pre-service teachers developed unit planning practices using the Backward Design framework and (b) the pedagogical practices used as they implemented the unit plan in the classroom. During the student teaching course, pre-service teachers received instruction on how to use the Backward Design framework to plan a unit of instruction to implement in their placement classroom. Results from the mixed-methods study provided evidence that Backward Design was an effective way for pre-service teachers to plan instruction. Results from the study indicated that implementing and reflecting on lessons taught from the unit plan contributed to the pedagogical practices used in the classroom. Furthermore, results demonstrated that designing, implementing, and reflecting on the unit plan contributed to a shift in how participants viewed themselves. Through the study, they began to view themselves more as a teacher, than a pre-service student teacher.

Keywords: teacher preparation programs, unit planning, instructional practices

DEDICATION

This work is dedicated to soon-to-be Dr. Catherine Boozer and Dr. Mia Boozer-Sharp.

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Love never fails-I Corinthians 13:8

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

Boyd, Grossman, Lankford, Loeb, and Wyckoff (2009) asserted:

> Teacher preparation that focuses more on the work of the classroom and provides opportunities for teachers to study what they will be doing as 1st year teachers seems to produce teachers, who on average, are more effective during their 1st year of teaching (p.434).

In many higher education institutions in the United States, clinically-based teacher preparation programs face intense scrutiny because of the lack of preparation and skills students possess upon graduation. Leading scholars involved in higher education teacher preparation programs, such as Darling-Hammond (2006), Duncan (2010), and policy advocates at the National Council on Teacher Quality (NCTQ) (2010) decry the lack of preparation students enrolled in teacher preparation programs receive. Much of the critique surrounds a lack of knowledge regarding pedagogical practices such as classroom management and lesson planning. In a speech at Columbia University, United States Secretary of Education Arne Duncan (2010) stated, "We must do a better job of preparing future teachers to educate our nation's children." Duncan, along with numerous scholars and researchers in the field of teacher preparation, call for reform in the way future teachers are educated and prepared for classroom experiences (Lewis, 1998). Ingersoll (2004) argued, "Systemic and simultaneous change in teacher preparation is needed to ultimately provide a well-qualified teacher for every classroom" (as cited in Cochran-Smith, 2004). Henry, Bastian, and Fortner (2011) suggested adjustments to teacher preparation programs to raise prospective teachers' effectiveness upon entry to the teaching profession. The Blue Panel Report, commissioned by The National Research

Council (2010), identified clinical preparation as one of the three aspects of teacher preparation likely to have the greatest potential on student outcomes. Sustained and meaningful reform of teacher preparation programs requires an introspective examination of the practices higher education institutions implement to train future teachers. One such practice under scrutiny is pre-service teachers' ability to effectively plan and deliver instruction (Darling-Hammond, 2006). Several researchers discuss the urgency in which teacher preparation programs must develop pre-service teachers as skillful planners.

Preparing Pre-service Teachers as Skillful Planners

Jones, Jones, and Vermette (2011) conducted a three-year study of novice teachers' ability to plan and deliver instruction. The researchers defined novice teachers as pre-service teachers and those in their first and second year of teaching. They collected over 500 pieces of teaching artifacts from observational data, interviews, and video recordings and identified six common lesson planning pitfalls made by novice teachers. They found that novice teachers (1) planned with an unclear objective, (2) did not create assessments or allowed students to complete them outside of class, (3) sparsely used formative assessments to gauge their students' understanding, (4) created assessments that were not aligned to the learning objective, (5) lacked knowledge on how to start the lesson, and (6) allowed their students to be passive recipients of knowledge.

Being cognizant of these six common pitfalls is essential information for higher education teacher preparation programs when developing 21st century teachers (Holm & Horn, 2003; Darling-Hammond, 2006). Designing learning experiences for pre-service teachers, centered on effective planning, is a necessary skill for teacher preparation programs. As Jones et al. (2011) stated a strong relationship exists between teacher

planning and student achievement. Additionally, ineffective planning practices learned in teacher preparation program courses carry over into the first few years of teaching (Jones, Jones, & Vermette, 2011). The ramifications of not educating teachers to successfully plan instruction are too great.

Two public school administrators, Chesley and Jordan (2012), examined what is currently missing from teacher preparation programs. They conducted two focus groups of 30 in-service teachers. The first focus group contained in-service teachers whose classroom experience ranged from three months to three years. The second focus group consisted of more experienced and trained mentor teachers. Akin to the results in the Jones et al. (2011) study, Chesley and Jordan (2012) found that teachers lacked in their ability to teach content pedagogy, design and teach lessons in real classroom situations, and create long-term plans. As one teacher stated, "*We didn't know how to plan for instruction*" (Chesley & Jordan, 2012, p. 43). Being able to plan is essential to a teacher's ability to deliver instruction. Chesley and Jordan (2012) suggested teacher preparation programs teach pre-service teachers how to lesson and unit plan. Skills in planning will help pre-service teachers understand and sequence their content, which will help them develop instructional practices appropriate for the subject matter being taught. According to the researchers, developing a sophisticated skill in planning is necessary for all teachers. It allows them to plan effective instruction that meets the needs of every learner in the classroom.

Sandholtz (2011) conducted a five-year study of 290 pre-service teachers, examining their descriptions of effective and ineffective teaching experiences. Results demonstrated a lack of knowledge regarding planning and preparation, connecting

classroom instruction to students' background experiences, and subject matter knowledge. Of the 290 respondents, 17% stated that insufficient planning and preparation contributed to their ineffective instruction. One respondent stated, *"I wasn't prepared and had to stall during the lesson to learn what I was supposed to be teaching"* (Sandholtz, 2011, p. 39). Another 5% of respondents stated insufficient subject matter knowledge contributed to a lack of effective instruction. Deficient subject matter knowledge also contributed to ineffective classroom practices.

Sandholtz (2011) discovered that diminished subject matter knowledge contributed to pre-service teachers using the wrong terminology in math and incorrectly completing sample problems. This lack of knowledge translated to their students' lack of understanding the subject matter. As will be discussed in the proceeding section, a negative relationship exists between pre-service teachers' lack of subject matter knowledge and the pedagogical practices employed in the classroom (Shulman, 1986b).

Teacher Preparation at Arizona State University

Like the aforementioned studies (Sandholtz, 2011; Chesley & Jordan, 2012), the Mary Lou Fulton Teachers College at Arizona State University (MLFTC-ASU) is not exempt from the criticism presented by the leading authorities on teacher preparation programs. While research suggests there is no single or "right" way to prepare high quality teachers upon graduation, experts and policy groups such as NCTQ (2010) agree that reform of clinically based teacher preparation programs is needed to significantly increase the effectiveness of novice teachers. Researchers Greenberg, Pomerance, and Walsh (2011) evaluated 134 higher education institutions in the United States that offer undergraduate teacher preparation programs. Evaluations were based on each institution's

effectiveness on five critical standards. Standard four is of particular importance as it observes how pre-service teachers develop skills related to instructional planning and delivery in the placement classroom.

- Standard 4: The cooperating teacher candidate must have the capacity to have a positive impact on student learning.

In their report, Greenberg et al. (2011) categorized each institution as having "model design," "good design," "weak design," or "poor design" as measured by the five critical standards. Of the 134 institutions evaluated, 7% were "model design," 18% were "good design," 25% were "poor design," and 49% were "weak design" (p. 32). The teacher preparation program at ASU West was among the 49% of institutions that received a "weak design" label, based on the critical standards. Greenberg et al. (2011) concluded that immediate reform of teacher preparation programs is needed to ready students for the profession.

Additionally, NCTQ released another report reviewing the nation's teacher preparation programs (Greenberg, McKee, and Walsh, 2013). The report rated programs on standards in four areas (1) selection, (2) content preparation, (3) professional skills, and (4) outcomes. Standard 11: Lesson Planning, under professional skills, is of interest as it speaks to how programs prepare Teacher Candidates to plan lesson and unit plans. In this report, the teacher preparation program at ASU received an overall rating of two of four stars in each of the aforementioned standards. According to the report, ASU partly met the planning standard (Greenberg et al., 2013).

Although the teacher preparation program at ASU received two of four stars on Standard 11: Lesson Planning, the individual Program Rating Sheet-Arizona State

University did acknowledge changes made to the teacher preparation coursework: "Although this did not affect the rating, the program requires that throughout their student teaching experience, teacher candidates develop written instructional plans whose content follows explicit instructional guidelines" (Greenberg et al., 2013, p. 3).

The MLFTC at ASU continues to take steps to address deficiencies outlined in the critical standards. Ongoing redesign of the student teaching course is one step being taken to address the lack of preparation pre-service teachers possess in instructional planning. Students take the student teaching course during the final two semesters of the student teaching experience. The course focuses on helping them develop critical teaching pedagogies in the areas of lesson and unit plan design, reflecting on classroom instruction to make decisions about future instruction, and incorporating student feedback into ongoing lesson design. The student teaching course, which will be discussed in greater detail in chapter three, was the innovation of this study. My career in education helps provide background knowledge to support the design of the innovation.

Situated Context

"Through my coursework, I have been trained to become a teacher leader and change agent. Being a teacher leader means that I effectively set a positive example for my students to follow. I have learned to be the children's voice because many times their needs go unheard and unmet." ~October 2001

The excerpt above comes from my first job application to secure a teaching position. Throughout my undergraduate coursework in child development, I always believed my role of influence would be in an elementary classroom. The elementary classroom is where I envisioned myself building a sustainable and rewarding career. I embarked on a journey to live up to the words I scribed on the job application. Indeed, I

accomplished the aforementioned goals and worked in an elementary school for eight years. During that time, I became an advocate for many of my students through ensuring my instructional delivery met their needs. I advocated for my children by involving their parents in the daily operations of my classroom. Giving rise to students' voices concerning what and how they learned was my daily mission. Instilling a sense of pride in my students, despite growing up in an inner-city often characterized by low expectations, became my greatest accomplishment as a classroom teacher. Demonstrating for my students that I, too, a product of an inner-city public school system, achieved my dreams of becoming a classroom teacher meant they could do the same. However, during the fall of 2010, I realized my dreams were destined to expand beyond the walls of an elementary school classroom. Although extremely difficult to leave the elementary classroom, my impact could be greater realized by helping train future classroom teachers.

It was this dream and commitment to advocate for all children which led me to the MLFTC-ASU. Recruited to work as part of the Sanford Education Project (now Sanford Inspire Program) our curricular mission was to work with ASU instructors to transform the ways in which the college prepared and trained future teachers. Included in the work was the redesign of the student teaching course. The goal of the course was to combine the best practices of Teach For America and the MLFTC. Best practices such as planning and instructional delivery were key components of the course. Central to the student teaching course's core curriculum was, and continues to be, Backward Design (Wiggins & McTighe, 2005). Through the course, students learned the nuances of lesson and unit planning. The redesigned course was one attempt to increase students'

pedagogical knowledge and preparation needed to become teachers. It was also an attempt to address deficiencies of teacher preparation programs highlighted by researchers in the field, such as Darling-Hammond (2006).

Implemented during the Spring 2010 semester, the course has undergone several revisions based on anecdotal feedback from pre-service teachers and ASU instructors. Their feedback helped support the claims that students need increased instruction related to pedagogical knowledge (Graff, 2011). Classroom observations of implemented lesson plans and written post-conference reflections also helped substantiate claims to support instructional planning as a main focus of the course. A more intentional focus on instructional planning and delivery, along with the two research questions helped guide the research study and innovation. The research questions were:

1. How and to what extent are the unit planning practices of Teacher Candidates developed as they plan one, two-week unit of instruction in math, reading, social studies, science, or writing?

2. How and to what extent does unit planning inform instructional practices in the elementary classroom?

Summary

This chapter has provided an introduction to the study. Based on the need to better prepare teachers (Ingersoll, 2004; Darling-Hammond, 2006; Duncan, 2010; Jones et al., 2011; Chesley & Jordan, 2012), chapter two provides a more extensive look into the considerations teacher preparation programs must be aware of when teaching students to plan and successfully deliver instruction.

CHAPTER 2

THEORETICAL PERSPECTIVE

"Teaching is seen as an activity involving teachers and students working jointly. The work involves the exercise of both thinking and acting on the parts of all participants. Moreover, teachers learn and learners teach" (Shulman, 1986a, p. 7).

Chapter one provided the national conversation and context that warranted the study. Chapter two continues to build on this conversation through the reviewed literature. The literature reviewed in this chapter provides an argument for developing pre-service teachers' knowledge and ability as skilled instructional planners. Additionally, it encompasses a synopsis of the theoretical framework guiding the study. From the theory develops a discussion about the historical roots of curriculum development both past and present. Lastly, a discussion of Backward Design (Wiggins & McTighe, 2005) ensues to provide a conceptual framework for the study.

Duncan (2010) called for change in teacher preparation programs. As Harrington and Enochs (2009) stated internal reflection of teacher preparation programs is an essential component to improving programs and curriculum for pre-service teachers. The Interstate New Teacher Assessment and Support Consortium (InTASC), a group that operates within the reform of education, outlined 10 initial teacher preparation competencies to guide teacher preparation programs (Council of Chief State School Officers, 2011). Among the 10 standards, content knowledge and pedagogy and instructional strategies were especially critical to the research study. Development in these key InTASC standards will help the teacher preparation program at ASU produce skilled instructional planners who stay in the classroom.

9

Cochran-Smith (2004) examined the factors that cause teachers to stay or exit the classroom. To encourage teachers to stay in the classroom beyond five years, Cochran-Smith (2004) asserted that systemic change has to occur in the entry requirements and preparation done in teacher preparation programs. Additionally, NCTQ surveyed recent graduates of higher education teacher preparation programs and concluded that teachers suggest the most important part of their training experience lies within the student teaching experience (Greenberg, et al., 2010). Higher education institutions can raise the bar for teacher preparation programs by implementing reformed coursework and clinical experiences.

The Blue Ribbon Panel Report, commissioned by the National Council for Accreditation of Teacher Education (2010), described 10 guiding principles to improve clinically based teacher preparation programs. Particularly relevant to this study was principle two:

- Clinical preparation is integrated throughout every facet of teacher education in a dynamic way. Content and pedagogy are woven around clinical experiences throughout preparation and in course work (p.5).

In *The Education Schools Project*, Levine (2005) posited a nine-point template to successfully prepare students in teacher preparation programs. Of the nine points, point three, curricular balance, was of interest. Levine (2005) suggested balancing curriculum taught in coursework with what is practiced in the placement classroom setting. Allsopp, DeMarie, McHatton, and Doone (2006) asserted that the close proximity of the college courses to real classrooms allows pre-service teachers to move from theory to practice in real-time rather than abstractly, as is usually the case with traditional courses. As

supported by the literature, explicit connections between coursework and clinically embedded practice support the closing of the theory to practice divide (Moore, 2003; Levine, 2005; Allsopp, DeMarie, McHatton, & Doone, 2006). Although significant attention has been devoted to integrate theory and practice, Moore (2003) concluded the merging of theory and practice in teacher preparation programs will not be successful if key stakeholders, pre-service teachers, mentors, and course instructors do not build trust among themselves to confront differing conceptions of practice. Confronting these differences is important if theory is to inform teaching, as evident in a 2006 study by Moyer and Husman.

Moyer and Husman (2006) studied the influence of methods coursework and field placements on the pre-service teaching experience. The study divided participants into two groups. Of the two groups, the second was examined to determine the efficacy of merging theory with clinical practice. In the final analysis, the researchers concluded that students in the second group were impacted because they were situated at a school site where the methods courses were integrated with their field placement. From the findings, it was evident that emphasizing the strong correlation between theory and clinical practice led to more prepared teachers. According to Merrill (2002) learning is promoted when knowledge is applied and integrated in the real world; hence the push to develop pre-service teachers' ability to take what is learned in coursework and apply to classroom situations (Moore, 2003). However, additional methods of how to effectively merge theory and practice must be considered to develop pre-service teachers' knowledge of instructional planning and delivery.

Theory of Pedagogical Content Knowledge (PCK)

The Theory of Pedagogical Content Knowledge (Shulman, 1987) guided this action research study. Shulman (1987) argued that the interconnectedness of content knowledge and pedagogical content knowledge are essential for teachers, especially novice teachers. Content knowledge includes the "knowledge, understanding, skill, and dispositions that are to be learned by school children" (Shulman, 1987, pp. 8-9). Shulman's (1987) theory of Pedagogical Content Knowledge (PCK) provides the framework and knowledge base teachers employ to ensure students attain content knowledge. PCK "represents the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction" (Shulman, 1987, p. 8). PCK seeks to determine "what teachers should know and know how to do" (Shulman, 1987, p. 19). Moreover, PCK helps teachers clarify challenges students may have in learning content (Shulman, 1986b).

PCK was an appropriate theory for the study, as the study examined how pre-service teachers developed pedagogical practices related to Backward Design (Wiggins & McTighe, 2005). PCK provided a lens with which to view pre-service teachers' development. Within PCK resides a model of pedagogical reasoning and action steps (Shulman, 1987). While not meant to be a prescribed list or mandatory steps, the model of pedagogical reasoning and action steps seeks to assist teachers as they develop teaching proficiency.

Model of pedagogical reasoning and action steps. According to Shulman (1987) the model of pedagogical reasoning and action steps provides a framework for

teachers to ponder and internalize content to effectively instruct students. Shulman (1987) outlines distinct characteristics of the model. They are (a) comprehension, (b) transformation, (c) instruction, (d) evaluation, and (e) reflection.

To foster PCK growth in teachers, the comprehension of content knowledge is essential. Teachers must understand and articulate the content knowledge they will teach to students. Once they have internalized the content, they must then carefully consider what the knowledge means. After they understand the knowledge, teachers are able to transform it in a teachable way. When transforming the knowledge, teachers consider the diverse needs of students and make adaptations, as necessary.

Transformation allows a teacher to see and tailor instruction to meet the needs of each student. Transforming the knowledge, into a presentable format for students, is at the heart of instructional pedagogical practice and reasoning. Since teaching is a learned profession (Shulman, 1987) teachers must study their content to proficiently deliver instruction. After instruction, evaluation may begin.

Evaluation is characterized by the ongoing assessment of teaching and learning. During instruction, teachers should constantly check for student understanding to provide feedback and evaluate students' comprehension of the content being taught. Within this model, evaluation is not reserved for students, but extends to the teacher (Shulman, 1987). The model urges teachers to evaluate their own instruction to help determine student understanding. Student understanding, in turn, allows the teacher to reflect on and make judgments about the pedagogical practices used.

Lastly, Shulman (1987) stated reflection helps encourage a teacher's continued development. During the reflection step, teachers examine practices used during

13

instruction. Reflection on the teaching practices used should also consider a measurement of student learning outcomes. Engaging in this model, according to Shulman (1987), provides teachers a way to develop their PCK. The following studies highlight how PCK provided a basis for pre-service teachers to develop their teaching skills.

Studies based on Pedagogical Content Knowledge. A 2010 study conducted in an undergraduate English I/II course sought to provide pre-service teachers with knowledge of teaching reading while also developing their pedagogical skills (Atay, Kaslioglu, & Kurt, 2010). Eighteen pre-service teachers participated in the study. The study required each participant to read a text and prepare activities to teach to their peers, before teaching to students. During peer teaching, each pre-service teacher was tasked with keeping their peers' interest and assessing their understanding. After planning for and presenting instruction to peers, each pre-service teacher prepared a written reflection and participated in an interview to describe the process and how it impacted their PCK. Comments from participants showed a degree of PCK development as a result of engaging in the study. One student wrote, "*My content knowledge was already good but pedagogically I learned much through lesson preparation and presentation*" (Atay et al., 2010, p. 1424.) Another commented, "*When I was preparing I thought of how I should give instruction, how much explanation I should do, and what to do if something goes wrong when I'm delivering my lesson. It had positive effects on my pedagogic awareness*" (Atay et al., 2010, pp. 1423-1424.) The students' quotes suggest that their PCK increased as they prepared, reflected on, discussed, and taught lessons.

Nilsson and Loughram (2011) conducted a study in an undergraduate science methods course. The study used CoRe (Content Representations) to examine pre-service

teachers' development of PCK. CoRe is a way to portray a teacher's PCK in a specified science topic. Within CoRe, participants considered the what, why, and how of the big ideas when planning and delivering science instruction. After planning and delivering instruction, pre-service teachers reflected on their PCK development. Participants in the study reported changes in their PCK related to how they planned for and delivered science instruction. One participant stated, "*I can really see how much I have changed and developed during only a few months. I can see that I have learnt a lot, but I can also see that I have changed my thinking and the way I experience the world around me*" (Nilsson & Loughram, 2011, p. 717). Results of the study showed that self-assessment and knowledge of science content helped enhance each pre-service teacher's PCK.

Pedagogical Content Knowledge relevance to study. While the two aforementioned studies (Atay et al., 2010; Nilson & Loughram, 2011) discussed PCK development in specific undergraduate methods courses, little research exists regarding ways pre-service teachers develop PCK in their student teaching course. Moreover, much of the research on PCK discusses implications for in-service, not pre-service teachers. Nilsson and Loughram (2011) asserted PCK tends to focus on experienced in-service teachers because pre-service teachers' PCK "tends to be framed around a search for something for which there is little meaningful conceptualization" (p. 700). Often this search proves difficult, as pre-service teachers have little context for teaching. Nilsson and Loughram (2011) asserted that pre-service teachers need an opportunity to define, identify, and explicitly develop their PCK.

This study observed how pre-service teachers developed PCK as they planned and implemented instruction in their placement classrooms. To expand on the limitations of

15

the existing literature, this study focused on how pre-service teachers developed

pedagogical skills related to Backward Design (Wiggins & McTighe, 2005) in their

student teaching course. Based on instruction, they developed one, two-week unit of

instruction to deliver in the placement classroom. To develop PCK, pre-service teachers

in the study had to first understand curriculum development (Shulman, 1986).

Curriculum Development

"Curriculum planning is but an index, a reflection, an aspect, an activity that emerges
from an orientation and vision of who and what we are, where we come from, and where
we are going" (Macdonald & Purpel, 1987, p. 192).

What is curriculum development? Curriculum development is more than a

bulleted list or prescribed format mandated by textbook publishers or curriculum maps

published by school districts. It is more than words in theory with little practical

application. It cannot be succinctly defined, developed, and packaged. Instead,

curriculum development is an intricate process which requires deep thought and

consideration. Macdonald and Purpel (1987) suggested that curriculum considers the

"visions of humanity, the universe, human potential, and relationships to the cosmos"

(p.192). According to Henderson and Gornik (2007) curriculum development resulted

from employing "problem-solving processes" with a critical and reflective eye. Bobbitt

(2004) defined curriculum as a "*series of things which children and youth must do and*

experience by way of developing abilities to do things well that make up the affairs of

adult life; and to be in all respects what adults should be*"* (p. 11).

Curriculum as conversation. Sophisticated conversations, among teachers, help

guide the curriculum development process. The ethos of the conversation allows teachers

to comprehend that curriculum is a living, breathing document that should not be

16

formalized or too abstract (Pinar, Reynolds, Slattery, & Taubman, 2006). Pinar (2006) argued that using shared experiences to develop curriculum cannot occur without engaging in conversation. Drawing upon the work of Applebee (1996), Pinar (2006) declared that conversation extends beyond the surface level meaning of the term. Within this context, conversation is more than engaging in a dialogue with someone. Instead, conversation encompasses the living traditions that shape students' present understanding (Pinar, 2006). To foster the conversations that influence curriculum development, educators must expand beyond the traditional notions of curriculum.

     Curriculum as responsive to students' needs. Akin to Macdonald and Purpel (1987), Pinar (2006) argued that curriculum development helps teachers understand the task at hand. To achieve this understanding, teachers must comprehend the world around them, the ideas that shape knowledge, and the ongoing commitment to one another. The curriculum must be a lived experience, shared between teachers and students. Teachers must consider their students' lives, interests, dislikes, and cultural heritage when developing curriculum (Pinar, 2006). Moreover, curriculum is characterized by constant "re-examination, research, and re-evaluation" (Macdonald & Purpel, 1987, p. 189). Created through a critical and thoughtful lens, curriculum development is an arduous and ongoing process.

     Macdonald and Purpel (1987) posited that teachers who develop curriculum must remain cognizant of the social and political hierarchies that exist. The task of critically reflecting upon society's role in curriculum development has been supplanted by stifling the creativity of students and teachers (Bobbitt, 2004). The current system of monolithic curriculum continues to fail students as a one-size-fits-all system does not work for

today's changing landscape of education (Macdonald & Purpel, 1987). Furthermore, the researchers suggested that the pressure of student performance on standardized tests has replaced much of the creativity and expertise of the classroom teacher. Pressure to perform has also caused many teachers to defer to a textbook instead of using the professional knowledge of their craft and students to develop curriculum (Kauffman, Johnson, Kardos, Liu, & Peske, 2002). To this end, curriculum development faces a crisis (Schwab, 1969.) The crisis lies within not developing curriculum that considers the human experiences and needs of individual students. A sense of urgency must exist to prepare teachers who are able to construct curriculum based on the human experience and student need (Bobbitt, 2004; Pinar, 2006). Therefore, it is vital that teachers develop sound pedagogical knowledge regarding ways to plan and implement curriculum (Graff, 2011).

A soundly developed curriculum also considers the intricacies of student connections to their life experiences. Furthermore, it considers the historical and societal significance and social lives of children (Pinar, 2006). In fact, Pinar (2006) described a shift in how educators should ponder and develop curriculum. Central to Pinar's (2006) argument were the challenges teachers faced when examining and considering the many facets that shape curriculum development.

As such, curriculum development is a complex process which requires active participation. According to Pinar (2006) teachers' active participation gives rise to the human voice and spirit. Through ongoing conversations, a shift from a traditional to more modern way of curriculum development can occur (Pinar, 2006). To account for the shift, scholars embolden teachers to develop and follow a plan of action, guided by the needs of

an evolving world and student needs (Schwab, 1969; Bobbitt, 2004; Pinar, 2006; Vartuli & Rohs, 2008).

Curriculum Development History

Beginning in the early 20th century, curriculum development has experienced several paradigmatic shifts (Macdonald & Purpel, 1987). In the 1940s, the Tyler Rationale introduced education as a set of neatly packaged behavior objectives to be obtained by students. The existence of the human potential or diversity of human needs was absent from Tyler's (1949) work. A more comprehensive analysis of the Tyler Rationale will be discussed in the latter part of this section.

From the Tyler Rationale of the 1940s, curriculum development shifted to include Oakeshott's (1959) work. Oakeshott (1959) sought to reintroduce the idea of conversation to recover the disconnected nature of education. Oakeshott (1959) contended that conversation encompassed a diversity of voices, which included the public and one's self. Curriculum conversations should not be regulated to a specific end goal, but evolve as the self evolves. This allows teachers the opportunity to reclaim the curriculum for themselves and their students. After all, curriculum is action (Jones et al., 2011). Curriculum as conversation and action, shifted to Schwab's (1969) discussion of the crises in education.

Among these crises included a flight from the subject of the field. Within this flight, Schwab (1969) carefully constructed the argument that teachers must be involved in conversations about curriculum to witness its impact. The researcher asserted that without teacher voices and student experiences, curriculum will continue to mirror a one-size-fits-all theoretic paradigm. Careful deliberation and conversation characterize the

design of a more eclectic curriculum. The eclectic curriculum in action is designed for "real acts, real teachers, real children" (Schwab, 1969, p.12). From the eclectic, curriculum development shifted during the national curriculum reform movement and focused on standardization during the 1970s and 1980s, which tended to ignore the inclusion of students' experiences advocated for in the 1960s (Macdonald, 2003).

The national reform movement and focus on standardization introduced a system whereby teachers' instruction consisted of prescribed objectives, materials, and textbooks from publishers wishing to eliminate the expertise and influence of teachers (Pinar, 2006). However, the trouble with the packaged curriculum was it failed to account for the context in which it was delivered (Vartuli & Rohs, 2008). Instead of helping students understand themselves and the world around them, teachers were "forced to "instruct" students to mime others' (textbook authors') conversation, ensuring that countless classrooms are filled with forms of ventriloquism rather than intellectual exploration, wonder, and awe" (Huebner, 1999, as cited in Pinar et al., 2006, p. 186). Curriculum devoid of the human potential continues to be destined for failure. Therefore, as discussed by Macdonald (2003) the conversation of curriculum development was repurposed to include school-based curriculum reform with an increased focus on the impact the world has on learning.

Taking from lessons of the past, a more scientific and transformative (Bobbitt, 2004; Henderson & Gornik, 2007) shift characterizes modern day curriculum development. Current curriculum development seeks to renew the "democratization" (Pinar, 2006, p.2) of education to help students make connections between themselves, their world, and knowledge (Kelting-Gibson, 2005; Pinar, 2006; Jones et al., 2011).

Although necessary for student growth, the idea of a shift to a more scientific and transformative (Bobbitt, 2004; Henderson & Gornik, 2007) curriculum has not come without hardship. A thorough explanation of the Tyler Rationale, as coined by Macdonald & Purpel (1987) is warranted to understand the struggles to shift toward a more scientific and transformative (Bobbitt, 2004; Henderson & Gornik, 2007) curriculum.

Tyler Rationale. Tyler's (1949) work characterized the work of curriculum development and instruction of the 1940s. Tyler (1949) condensed curriculum development in three steps (1) choose and formulate educational objectives, (2) use the objectives to select and organize learning experiences, and (3) evaluate the efficiency and effectiveness of the curriculum (p. 1). Lacking from the steps was the democracy of the human potential. The steps were devoid of the spirit and experiences of the real students and teachers who engaged with the curriculum (Pinar, 2006). The Tyler Rationale assigned a prescribed set of behavioral objectives to curriculum development that were independent of the social world in which students interacted. Furthermore, within the Tyler Rationale, an elite group planned without explaining the conditions and interests they sought to serve in the curriculum (Macdonald & Purpel, 1987). The one-size-fits-all curriculum posited by Tyler (1949) perpetuated the status quo and stymied the creativity and intellectual prowess of students and teachers. According to Macdonald & Purpel (1987) this approach solely focused on the attainment of curricular goals. In describing the curriculum development process, Tyler (1949) posed four questions (p.51):

1. What educational purposes should the school seek to attain?

2. What educational experiences can be provided that are likely to attain those purposes?

3. How can these educational experiences be effectively organized?

4. How can we determine whether these purposes are being attained?

Tyler (1949) urged that the educator begin with a set of goals, or educational objectives. Educator choice, not the needs of students, was the hallmark of objective selection in the Tyler Rationale. The educational objectives provided the basis for material selection, content, instructional procedures, and tests. Tyler (1949) defined curriculum objectives in terms of the anticipated behavior and content. Contrary to this belief, Bobbitt (2004) described the need for educators to shift their thinking from merely guessing about objectives, to employing a more scientific and efficient approach to curriculum development.

Within Bobbitt's (2004) scientific approach, educators began with an awareness of all objectives students in a particular grade must attain. Observing students in their natural environments provided the educator an opportunity to determine what students needed in order to be successful in all aspects of life. This observation allowed the educator to narrow down the swath of objectives to the most important ones students needed. It was difficult to determine their curricular needs without careful observations. Furthermore, Bobbitt (2004) contended that examining exemplar curriculum models helped the teacher design a curriculum plan.

Attempting to answer Tyler's (1949) questions also required a closer look at the definition of learning experiences. In the Tyler Rationale, a teacher's ability to create an environment that "evokes the desired experience from the student" (Tyler, 1949, p. 64)

characterized learning experiences. Tyler (1949) seemed to ignore the human potential, in favor of reducing learning experiences to the achievement of behavioral objectives (Macdonald & Purpel, 1987). However, Bobbitt (2004) believed that learning experiences were not defined by behaviors, but by moving towards incorporating students' undirected and directed experiences. Undirected experiences were learned within students' environments. They encompassed the "abilities, habits, and forms of knowledge" (Bobbitt, 2004, p. 11) students should acquire and possess. It was detrimental to isolate student learning to specific objectives. Observing the undirected experiences helped educators plan the directed experiences (Bobbitt, 2004). Directed experiences included objectives which helped supplement what was not obtained through the undirected experiences. Together, undirected and directed learning experiences helped students learn to use their human potential and experiences to comprehend and implement learning objectives. The goal was that the directed learning experiences would play a lesser role as students learned to consciously draw on their experiences (Macdonald & Purpel, 1987). However, this contrasted with Tyler's (1949) ideas of curriculum organization.

Tyler (1949) contended that the organization of learning experiences, not the experiences of the human potential, should influence the efficiency of instruction and changes in students. Tyler (1949) argued that the vertical and horizontal alignment of learning experiences greatly influenced the learning outcomes for children. If a relationship existed between experiences of ascending grade levels, Tyler (1949) argued, surely children should master the learning experiences. While part of this argument may be true, missing from this idea were the experiences and social lives of children from one

grade level to the next. Taking offense to this point, Pinar (2006) asserted teachers must

"research throughlines with subjectivity, society, and intellectual content in and across

the academic disciplines" (p. 2). In other words, developing learning experiences

encompassed a holistic view of the students, their surrounding world, and the curriculum.

Instead of looking at curriculum and learning experiences holistically, Tyler (1949)

remained firm on the idea that a system of efficiency was all that was needed. This sort of

efficiency led Tyler (1949) to believe that educators were able to effectively assess the

efficacy of a one-size-fits-all curriculum. The notion of assessing the curriculum, and not

the student's experience of grappling with and internalizing the curriculum, could be

problematic (Schwab, 1969).

Tyler (1949) stated that learning experiences must be aligned to the proposed

objectives. Student evaluations were not conducted to determine understanding, but to

determine the success of the curriculum and the intended behaviors outlined by the

objectives.

> It should be clear that evaluation then becomes a process of or finding out how far
> the learning experiences as developed and organized are actually producing the
> desired results and the process of evaluation will involve identifying the strengths
> and weaknesses of the plans (Tyler, 1949, p. 105).

In opposition to this view, Schwab (1969) asserted that a practical curriculum considered

issues with the curriculum in light of the students as they grappled with and internalized

the content. In Schwab's (1969) view, assessment of student understanding was an

ongoing process which extended beyond the confines of a classroom. Curriculum from

Schwab's (1969) viewpoint included a range of assessments to determine changes to the

curriculum that would best suit the needs of students. Using student experiences also

afforded teachers an opportunity to take a more proactive stance. A proactive stance allowed teachers to anticipate changes needed to ensure student success (Schwab, 1969). Missing from the Tyler Rationale was a proactive approach in favor of a more prescribed, one-size-fits all (Macdonald & Purpel, 1987) approach to curriculum.

Much of the disagreement with the Tyler Rationale was that curriculum development could not be reduced to a cookie cutter approach that assumed all children were the same or learned in the same manner. In fact, curriculum development should be considered a complex, and often messy, process which must consider the diversity of students and teachers (Sandholtz, 2011). An examination of Tyler's (1949) work gave credence to Bobbitt's (2004) argument that a new curriculum must focus on "new methods, new materials, and new vision" (p. 9). Unlike Tyler (1949), Bobbitt (2004) argued for a more progressive education which developed a proficiency of skill, rather than simple memorization. The monolithic curriculum presented by Tyler (1949) appears more antiquated today than during the 1940s (Macdonald & Purpel, 1987).

Interestingly, while Tyler (1949) offered a sequenced approach to curriculum development and evaluation, no advice was offered on how schools should apply it when developing curriculum. To some degree, this seems irresponsible considering the role Tyler's (1949) work plays in current curriculum development. Tyler (1949) failed to present an approach to curriculum development that considered the human potential. Therefore, Tyler's (1949) role in current curriculum development should be drastically diminished (Macdonald & Purpel, 1987) in favor of a more scientific and transformative (Bobbitt, 2004; Henderson & Gornik, 2007) curriculum. Contrary to Tyler's (1949) argument, curriculum should have a multifaceted approach (Schwab, 1969).

25

Modern Curriculum Development Process

   Today, curriculum development is slowly beginning to emerge from the shadows of the Tyler Rationale. A new paradigm encompasses a shift towards a more scientific and transformative (Bobbitt, 2004; Henderson & Gornik, 2007) curriculum. Within this stance, curriculum development carefully considers the multifaceted nature of student needs to thrive in an evolving world (Schwab, 1969). During this time of modern curriculum development, the task does not lie in simply repeating the old curriculum, but in embracing the "now" (Pinar, 2006, p. 12). The "now" (Pinar, 2006, p. 12) consists of complexities that characterize students socially and intellectually. Transformative curriculum repurposes education to develop a student's conceptual understanding that lasts beyond a standardized assessment (Danielson, 1996). However, before any curriculum work commences, Pinar (2006) stated that the empowerment of teachers to make decisions that change the face of curriculum is paramount to the new shift in curriculum development.

   Curriculum for the 21ˢᵗ century learner. Teachers have a responsibility to develop curriculum for the 21ˢᵗ century learner (Holm & Horn, 2003; Darling-Hammond, 2006; Chesley & Jordan, 2012). The 21ˢᵗ century learner comes with a diversity of perspectives, experiences, and needs which teachers must be prepared to instruct. Moreover, teachers are essential to student learning and understanding. To instruct the 21ˢᵗ century learner, teachers need a sophisticated understanding of student needs that informs their curriculum development (Holm & Horn, 2003). Understanding students' needs and incorporating them into the curriculum helps teachers construct a purposeful plan of instruction (Darling-Hammond, 2006). To become skillful planners, teachers

must take into account the knowledge of their learners and their development in social

contexts, knowledge of subject matter and curriculum goals, and knowledge of teaching

(Darling-Hammond, 2006). Figure 1 depicts the view of preparing teachers for a
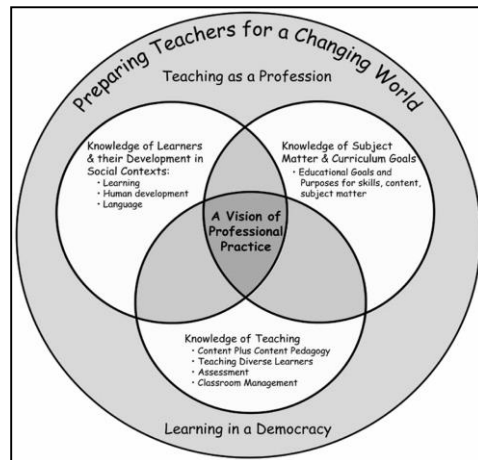
changing world.

Figure 1. Preparing Teachers for a Changing World

Learning to plan effective lessons does not occur by happenstance. It requires a

concerted effort to fully understand classroom dynamics and students' needs (Holm &

Horn, 2003). Traditionally, curriculum has been limited to the attainment of a set of

objectives or performance indicators. Instead, Henderson and Gornik (2007) argued that

the conversation must now transcend to describe and facilitate students' journey toward

understanding the curriculum. A shift must occur from requiring students to produce

isolated facts to teaching them to "think and feel and act in vital relation to the world's

life (Bobbitt, 2004, p. 10). To gain a better understanding of the curriculum shifts, one

must consider the work of Henderson and Gornik (2007).

Transformative Curriculum Leadership. Henderson and Gornik (2007) used

the term Transformative Curriculum Leadership (TCL) to describe one paradigm shift in

education. The hallmark of TCL rests within its liberating ideals that allows teachers to reclaim the curriculum. TCL allows teachers to shift their attention from the rigidity of standardization in curriculum and assessment, to more student-centered learning. TCL asks teachers to help guide their students to "demonstrate a deep understanding of the subject matter but also to exhibit democratic self and social understanding" (Henderson & Gornik, 2007, p. 16). Moreover, TCL charges teachers to develop curriculum that students find inspirational and enables them to achieve a level of autonomous learning. To achieve the level of autonomy demanded by TCL, Henderson and Gornik (2007) compel teachers to teach toward a 3S understanding. Within 3S understanding, learning will occur when students use their understanding of the world and ideas for learning to comprehend and utilize subject matter. Figure 2 depicts 3S understanding.
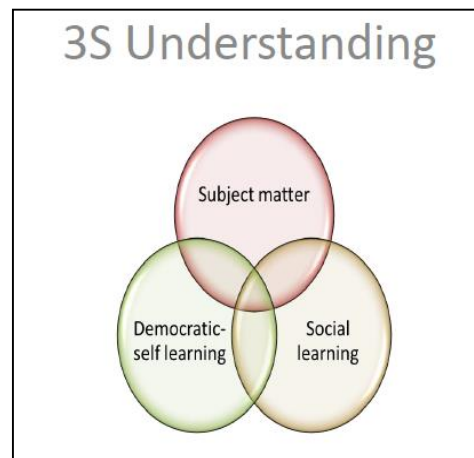

Figure 2. 3S Understanding

To achieve instruction toward a 3S understanding, teachers must embrace a love for and deep understanding of curriculum. An understanding of explicit and implicit curriculum will help spur teachers' abilities to teach toward 3S understanding (Henderson & Gornik, 2007).

Explicit and implicit curriculum. Explicit curriculum refers to what teachers will teach daily (Henderson & Gornik, 2007). The researchers asserted that it includes teaching students to master standards dictated by state and district curriculum maps. In addition to state standards, textbooks influence the explicit curriculum. While the explicit curriculum is often characterized by a set system, they contended that the implicit curriculum included what students were not taught from a textbook.

Implicit curriculum, also described as the null and hidden curriculum, sometimes has a greater influence on student understanding as it allows for teachable moments (Wiggins & McTighe, 2005; Henderson & Gornik, 2007). While teachers typically have plans, the implicit curriculum enables them to deviate from the plans to help influence what students may learn. According to Henderson and Gornik (2007) the implicit curriculum includes the social and academic norms of school and life. It helps shape students' values and belief systems about school and the world around them. Teachers must also consider the appropriateness and significance of the implicit curriculum to ensure the proper learning of students. Henderson and Gornik (1987) urged teachers not to shy away from incorporating the implicit curriculum in planning, as they contain valuable lessons for student understanding of the world. When teachers allow students' experiences to help guide curriculum development and instruction, true 3S understanding can occur. However, an awareness of explicit and implicit curriculum will not be enough to characterize a transformative curriculum.

Careful planning is a deliberative process to enhance students' 3S understanding (Henderson & Gornik, 2007). The framework to promote a transformative curriculum lies within a teacher's ability to successfully design a planning platform to guide teaching and

student inquiry. Henderson and Gornik (2007) stated that when planning, teachers have to consider the interrelatedness of the platform design, program planning, course planning, and unit/lesson planning. For purposes of the research study, the fourth level of specificity, unit planning became the focus.

Unit Planning

Unlike the Tyler Rationale, TCL, focuses on 3S understanding and considers the human value (Henderson & Gornik, 2007). Student understanding is at the heart of effective unit planning. Unit planning must consider the educational goals to be achieved, student performance, and ways to judge the quality of student performance and understanding of the prescribed goals (Wiggins & McTighe, 2005). Shifting attention from teaching students to pass standardized assessments, to teaching that caters to the human experience, frames the planning process. Henderson and Gornik (2007) argued that teachers should constantly "engage in clarifying what is to be done with and for students in the classroom" (p. 106). Wiggins and McTighe (2005) defined unit plans as a "unit of study that represent a coherent chunk of work in courses or strands, across days or weeks" (p. 353). Unit plans should be a collaborative process between teachers and students, responsive to students' needs, and consider the daily lessons students need in order to comprehend the overall unit (Henderson & Gornik, 2007). Furthermore, teachers should develop units that create new complexities and raise new questions to deepen student understanding and engagement (Pinar, 2006). See Table 1 for a description of the unit plan components.

Table 1

Unit Planning Components

Who	What	Why	How
Teachers, students	Units/lessons in the course. 2-4 weeks in length. Holistic standards, performances of 3S understanding, judgment criteria, generative learning experiences.	Outlines the specific units/lessons and experiences, which support the course plan. Serves as a planning tool for 3S journey of understanding.	Deliberations in supportive learning community integrating seven reflective inquiries. Describe and analyze curriculum as it is currently expressed (currere).

Unit planning considerations. Before launching into specific steps of unit development, Macdonald & Purple (1987) challenged teachers to consider specific factors essential to planning. They posited that teachers must first gather and analyze student data to serve as the foundation for curriculum work. In the current conversation of curriculum development, data has been categorized as student achievement results. How well did a student score on the standardized measure? What were the areas of strength and weakness? What skills were not mastered? These questions often dominate the conversation of data collection and analysis.

However, Macdonald and Purpel (1987) encouraged teachers to think in a more holistic way. While quantitative data is relevant, the researchers urged teachers to consider the history, background, and theoretical perspectives of participants. In this case, the participants are children who shall receive the curriculum. Possessing background knowledge of students is paramount to the work of curriculum development. In conjunction with examining quantitative data, Macdonald and Purpel (1987) explored the relevancy of qualitative data gathered.

Participant observations provide a launching point for curriculum development. However, the teacher's role is not to merely observe and take notes on participants. Instead, a sense of urgency must exist to become an active participant in the observations and settings (Macdonald & Purple, 1987). Active participation affords the teacher an opportunity to interact with the environment in a creative and imaginative way. Through imagination, teachers learn to intersect theory and practice. The researchers contended that this intersection allows for a more concrete understanding and interpretation of the curriculum tasks.

When developing curriculum, exchanging ideas, through creativity, activates ongoing dialogue and self-reflection. Within these conversations, teachers must remain aware of their own values and points of view (Macdonald & Purpel, 1987). The researchers asserted that when teachers allow their own values and points of view to surface, they create a more diverse and human-centered curriculum. Possessing open communication, through valuing the thoughts and ideas of others, will allow curriculum development to flourish. Contrarily, a lack of substantial communication will slow down the development process (Macdonald & Purpel, 1987). The conversation of curriculum and unit development must center on embracing new ideas and ways of implementing curriculum. Henderson and Gornik (2007) organized the approach into five tasks:

1. Write holistic, understanding goals for the unit/lesson. Use the inquiry map for guidance to describe progressive student-centered concerns and society-centered advocacies.

2. Write the curricular priorities-big ideas, enduring understandings, and essential questions-as well as time allotments (anywhere from 2 to 4 weeks), which support

the understandings, goals, and student performance of 3S understanding in the unit/lesson.

3. Write the likely student performances and describe how the work should be differentiated to meet the needs of students. Plan for the selection of curricular materials in the unit/lesson.

4. Write the judgment criteria for case-by-case assessments of the quality of the students' journeys, using rubrics for student feedback.

5. Elevate curriculum judgments in humble and pragmatic openness (p. 92).

These five steps display a deliberative design and planning process of units. Henderson and Gornik (1987) argued that units cannot be planned in isolation, but instead consider the entire range of curriculum planning. Unit planning is a tedious process that must be done carefully.

The ability to develop students' 3S understanding characterizes a well-planned unit. To plan and teach units that contribute to 3S understanding, teachers must maintain a sense of openness, respect for diversity, and willingness to share with and listen to others (Henderson & Gornik, 2007). Hence the "democratization" (Pinar, 2006, p. 2) ideals of education and curriculum development (Macdonald & Purpel, 1987). The framework of Backward Design (Wiggins & McTighe, 2005) holds an important key as teachers begin to plan units that consider the human potential and educational needs of children. Backward Design (Wiggins & McTighe, 2005) provides a platform to construct student-centered curriculum

Backward Design

Although Tyler's (1949) reliance upon behavioral objectives and curriculum development did not include the human experience, the premise of backwards planning a curriculum was inherent in Tyler's (1949) work on curriculum and instruction. Tyler (1949) suggested that teachers organize curriculum for continuity, sequence, and integration. Tyler (1949) recommended teachers begin by selecting objectives, developing instructional procedures, and creating tests to measure student progress. Using the premise of Tyler's (1949) work on curriculum and instruction, Wiggins and McTighe (2005) encouraged teachers to use a backwards approach to curriculum design to fully assess student understanding and experience with the curriculum. However, Wiggins and McTighe (2005) also encouraged teachers to recognize and embrace the diversity of the human experience when planning instruction. Backward Design (Wiggins & McTighe, 2005) aims to assist teacher as designers.

> Teachers are designers. An essential act of our profession is the crafting of curriculum and learning experiences to meet specified purposes. We are also designers of assessments to diagnose student needs to guide our teaching and to enable us, our students, and others (parents and administrators) to determine whether we have achieved our goals (Wiggins & McTighe, 2005, p.13).

Backward Design (Wiggins & McTighe, 2005) consists of three stages. Figure 3 depicts the three stages of Backward Design (Wiggins & McTighe, 2005).
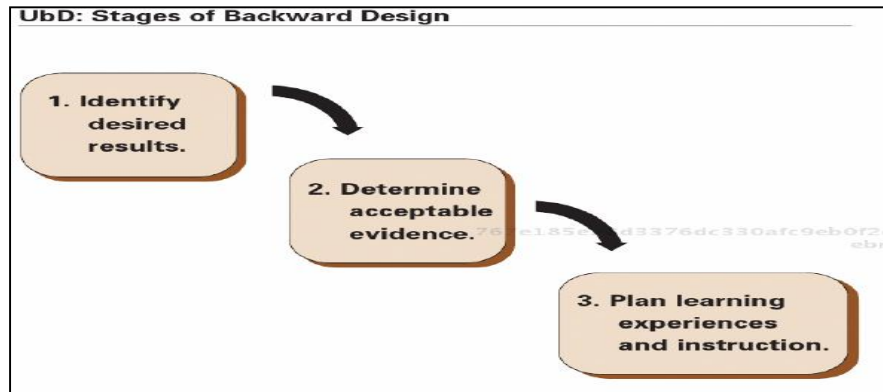
Figure 3. Stages of Backward Design

Stage 1: Identify desired results. Within stage one, teachers ask themselves an essential question, "At the end of this unit of instruction, what should students know and be able to do?" Focusing design on the result is at the heart of Backward Design (Wiggins & McTighe, 2005). Stage one helps the teacher focus instruction on the big ideas, or targeted content, of the unit. Remaining cognizant of the unit's big ideas minimizes the potential to incorporate non-essential information into the unit. Tailoring instruction to teach the big ideas of the unit also helps the teacher achieve the desired results.

Stage 2: Determine acceptable evidence. During stage two, teachers ask themselves, "How will I know that students have achieved the desired results of the unit?" An assessment characterizes stage two. Before planning the daily instruction, teachers must first consider how they will assess student learning of specific standards. Therefore, assessments may come in various forms: authentic performance tasks, appropriate criterion-based tools, formative feedback from students, and student self-assessments (Wiggins & McTighe, 2005). Stage two of the process helps teachers identify whether students have met the desired results of the unit.

35

Stage 3: Plan learning experiences and instruction. Once the teacher identifies desired results and evidence of mastery, appropriate standards-based planning commences. During stage three, teachers ask themselves an essential question: "In what ways will instruction lead to students achieving the desired results of the unit?" To answer the question, teachers consider how their daily instruction engages students and motivates them toward achievement of the desired results of the unit. Creating and implementing learning experiences is one of the greatest challenges teachers face (Holm & Horn, 2003). Although challenging, the most effective learning experiences are those that allow students to build on and apply their existing knowledge in their lives (Vartuli & Rohs, 2008). Furthermore, always considering the end goal helps the teacher plan in a focused and purposeful manner. As demonstrated in the following studies, using the three stages of Backward Design (Wiggins & McTighe, 2005) benefited pre-service teachers when planning instruction.

Studies on Backward Design. A study conducted by Kelting-Gibson (2005) compared lesson and units designed using Backward Design (Wiggins & McTighe, 2005) and those using traditional design. The study contained 59 participants, all pre-service teachers, from two sections of an undergraduate Educational Planning and Management course. The 59 participants produced a total of 153 lesson and unit plans. The study did not specify the number of participants in the control and experimental groups. Lesson and unit plans were evaluated using Danielson's (1996) six components essential to planning. Lesson and unit plans were scored as 1 = Unsatisfactory, 2 = Basic, 3 = Proficient, and 4 = Distinguished. Study results showed that the group that received instruction using Backward Design (Wiggins & McTighe, 2005) outperformed those who received

36

traditional curriculum instruction. Additionally, results indicated the experimental group displayed higher content knowledge, an ability to communicate criteria for assessments, a greater ability to set goals for students, an awareness of available resources, and greater performance when developing plans linked to instructional goals.

Stiler (2009) examined the usefulness of Backward Design (Wiggins & McTighe, 2005) in an undergraduate Multicultural Education course. The study included 20 participants. Students completed service-learning lesson plans using Backward Design (Wiggins & McTighe, 2005). Of the 20 lesson plans, 17 used Backward Design (Wiggins & McTighe, 2005) to develop content-specific lesson plans. Furthermore, Stiler (2009) determined that the use of "overarching understanding and essential questions from Backward Design (Wiggins & McTighe, 2005) helped facilitate the development of lessons" (p. 117).

Graff (2011) sought to determine the efficacy and usefulness of Backward Design (Wiggins & McTighe, 2005) on teacher practice. Backward Design (Wiggins & McTighe, 2005) was taught in an undergraduate Curriculum and Instruction education course from 2004-2006. Thirty former students participated in a focus group. Of the 30 participants, 26 eluded to the helpfulness of Backward Design (Wiggins & McTighe, 2005) on feeling prepared for curriculum and planning. According to the results, 65% specifically stated Backward Design (Wiggins & McTighe, 2005) helped in their preparation to plan. Additional findings showed that planning with the end in mind helped new teachers design and evaluate instruction (Graff, 2011).

Although respondents discussed positive feelings towards Backward Design (Wiggins & McTighe, 2005) they also expressed Backward Design as "an effective and

agonizing way to learn" (Graff, 2011, p. 164). The process was "agonizing" (Graff, 2011, p.164) in the sense that students were often left without answers to specific best practices to use. Instead, Backward Design (Wiggins & McTighe, 2005) helped pre-service teachers decide the best practices to use for particular contexts and students. This supports the claim that teachers must plan with their students' interests and needs in mind. Moreover, respondents considered the process "agonizing" (Graff, 2011, p. 164) because of the content knowledge required to plan. As Shulman (1986b) discussed PCK cannot occur without sound content knowledge. Overall, the study demonstrated that Backward Design (Wiggins & McTighe, 2005) helped pre-service teachers feel prepared when planning instruction.

From the discussed studies (Kelting-Gibson, 2005; Stiler, 2009; Graff, 2011) the use of Backward Design (Wiggins & McTighe, 2005) helped teachers develop curriculum with the end goal in mind and focus instruction on specific information to teach. Beginning with the end in mind helped teachers focus on the curriculum outcomes, not activities of the unit (Shumway & Berret, 2004). Moreover, it helped them focus instruction on the content taught and provided an avenue to ensure alignment between the desired results, assessments, and instructional activities. They were able to plan more standards-based instruction, as opposed to activity-based instruction. By focusing on the standards, teachers created more purposeful instruction for students.

Summary

This section has reviewed the literature that supported the study's innovation. The reviewed literature focused on PCK, curriculum development history and processes, and Backward Design (Wiggins & McTighe, 2005). To produce teachers who are skilled in

instructional planning, attention must be given to how they develop sound curricular and pedagogical knowledge (Shulman, 1986b; Schwab, 1969; Shulman, 1987; Macdonald & Purpel, 1987). Designing a responsive curriculum, focused on real students' needs (Chesley & Jordan, 2012), is critical to new teachers' PCK. Backward Design (Wiggins & McTighe, 2005) is one avenue through which pre-service teachers can begin to effectively plan and deliver instruction. As this chapter has focused on past and present curriculum development, the next section explains the study's methods. The methods were designed to study the innovation's effectiveness and answer the following research questions:

1. How and to what extent are the unit planning practices of Teacher Candidates developed as they plan one, two-week unit of instruction in math, reading, social studies, science, or writing?

2. How and to what extent does unit planning inform instructional practices in the elementary classroom?

CHAPTER 3

METHODS

The previous chapter discussed the larger educational context that warranted the study. Moreover, chapter two presented the research literature and theoretical framework that gave credence to this study. Chapter three will discuss the methods and design of the action research study by presenting a description of the setting, participants, role of the researcher, innovation, data collection tools, and data analysis procedures.

The action research study examined how instructional planning and pedagogical teaching practices, related to Backward Design (Wiggins & McTighe, 2005), developed in pre-service teachers. Action research was the preferred method as it included "the improvement of professional practice through continual learning and progressive problem solving" (Riel, 2011, p. 2). Additionally, the teacher research movement informed the proposed study. As Herr and Anderson (2005) suggested teacher input within a collaborative environment is critical to successfully improving practice.

Moreover, the study intended to address a growing concern that teacher preparation programs inadequately prepare pre-service teachers as skillful planners (Darling-Hammond, 2006). According to Nuangchalerm and Prachagool (2010) pre-service teachers "must be given the skills and knowledge to develop pedagogical content knowledge, to critique practice and challenge traditional pedagogy" (p. 88). To document the acquisition of skills, a 15-week innovation was implemented during the Fall 2013 semester of the yearlong student teaching experience.

The innovation of the action research study was the student teaching course, where pre-service teachers developed knowledge related to Backward Design (Wiggins

40

and McTighe, 2005) and instruction. Using the Backward Design (Wiggins & McTighe, 2005) framework, pre-service teachers in the study planned one two-week unit of instruction to deliver to students in their placement classrooms. The study employed a mixed-methods approach designed to help answer the research questions:

1. How and to what extent are the unit planning practices of Teacher Candidates developed as they plan one, two-week unit of instruction in math, reading, social studies, science, or writing?

2. How and to what extent does unit planning inform instructional practices in the elementary classroom?

A mixed-methods approach to data collection, that combined quantitative and qualitative data, was used in the study. Greene (2007) asserted that a mixed-methods design allows the researcher to use multiple methods to increase the validity and credibility of findings, while respecting multiple methods of understanding what was being studied. Mixed methods allowed the researcher an "attempt to legitimate the use of multiple approaches in answering research questions" (Johnson & Onwuegbuzie, 2005, p. 17). Additionally, this mixed methods study focused on complementarity. In a mixed methods study, "results from the different methods serve to elaborate, enhance, deepen, and broaden the overall interpretations and inferences from the study" (Greene, 2007, p. 101). Results from the qualitative and quantitative data collection tools were used to help understand the complex and multifaceted nature of the research phenomenon (Greene, 2007).

Concurrent data collection began in August 2013 and continued through December 2013. According to Creswell (2009) concurrent mixed methods allowed the

researcher to "merge quantitative and qualitative data in order to provide a comprehensive analysis of the research problem" (p. 14). Seven qualitative data collection tools included (a) questionnaire, (b) field notes, (c) unit plan draft and final, (d) classroom observations, (e) post-lesson written reflections, (f) student work samples, and (g) semi-structured interview. One quantitative data collection tool included (h) The System for Teacher and Student Advancement (TAP) scores on seven observable indicators: Standards and Objectives, Presenting Instructional Content, Activities and Materials, Academic Feedback, Managing Student Behavior, Teacher Content Knowledge, and Teacher Knowledge of Students. All data was collected and analyzed separately.

Setting

The mixed-methods study took place during the Fall 2013 semester in a Title I, K-5th grade, Science, Technology, Engineering, and Math (STEM) focused school in Scottsdale, AZ (Scottsdale Unified School District, 2012a). The school also included a Program for Assessed Needs in Developmental Areas (PANDA) preschool which included typically developing children as well as preschoolers with special needs (Scottsdale Unified School District, 2012b).

The school's population consisted of 587 students; 3.9%, Asian, 5.7% Native American, 4% Black, 34.2% Hispanic, and 49.4% White. Of the student population, 52.6% received free and reduced lunch, 18.9% received special education services, and 9.8% were classified as English Language Learners (Arizona Department of Education, 2012a)

During the 2011-2012 school year, the school received a "C" rating as designated by the Arizona Department of Education. The state determined letter grades by "comparing the change in Arizona's Instrument to Measure Standards (AIMS) scores from one year to the next for similarly achieving students across the state" (Arizona Department of Education, 2012b, p. 3). Of the 200 possible points, the school received between 100-119, and was one point away from receiving a "B" grade (Arizona Department of Education, 2012b).

This site was chosen as it had hosted an ASU iTeachAZ cohort of Teacher Candidates since Fall 2010. As part of the original implementation, the researcher built a rapport with the site-based administrator, mentor teachers, and Site Coordinator.

Participants

Participants in the study were enrolled seniors in the MFLTC-ASU. Students, referred to as Teacher Candidates (TCs), were a part of the iTeachAZ Senior Year Residency (SYR) model, housed within the local partner school. While TCs completed the SYR, a Site Coordinator, who was a full-time ASU faculty member, supervised and delivered ASU coursework at the school site. Additionally, other ASU instructors delivered methods courses to the TCs at the school site.

TCs in this cohort received dual certification in Early Childhood and Early Childhood Special Education. During the SYR, students completed two full semesters of student teaching alongside a mentor teacher. One semester was spent in a special education preschool classroom and the other in a K-3 classroom. During the study, participants were in the first semester of the SYR, where each implemented the innovation, and had spent three months in the school before the innovation began. As part

43

of the innovation's requirements, TCs planned and implemented one unit of study for 10 school days in their placement classroom.

Although TCs were solely responsible for planning and implementing the unit plan, each consulted the mentor teacher and received prior approval. Mentor teachers provided ongoing support and coaching as TCs planned and implemented their units. To solicit support for the innovation, the researcher conducted an information session at the chosen school site in August 2013. During the information session, the researcher provided information about the innovation, research study, and answered questions. Once the presentation commenced, the researcher solicited TCs to sign up as a participant. A convenience or nonprobability sample (Plano Clark & Creswell, 2010) was used, based on those who volunteered to be a part of the study. Convenience sampling allowed the researcher to select participants based on their availability and accessibility (Gelo, Braakmann, & Benetka, 2008). A convenience sample was used as TCs had many responsibilities during the time of the research study. Participants student taught four days per week, took four ASU methods courses, planned daily instruction for their placement classroom, and worked a job outside of the school day.

Of the 25 TCs, six volunteered to be part of the study. However, one TC was unable to participate because her student teaching experience occurred at another school district site. The researcher was unable to receive permission to conduct observations in another school district. Of the remaining TCs, five participated for the duration of the research study. The five participants were Jessica, Alexandra, Casey, Rebecca, and Crystal. All names have been changed to pseudonyms.

Each participant completed a two-item questionnaire (Appendix A). The questionnaire provided the researcher information about each participant's desire to pursue a career in teaching and reasoning for joining the research study.

Jessica was a 22 year old White female. She was placed in a PANDA special needs preschool classroom and completed her unit plan on transportation. Although Jessica had not always considered a career in education, she reflected on the influences of others in her life. Their influence contributed to her majoring in education. Jessica wanted to be a teacher to "influence a child's life and be there for them at all times." She participated in the study as an opportunity to receive feedback and support to increase her skills as a teacher.

Alexandra was a 23 year old Assyrian female. She was placed in a PANDA special needs preschool classroom and completed her unit plan on transportation. Alexandra always possessed a love for children. After taking her first child development class in high school, she decided to pursue a career in education. Volunteer opportunities, with children ranging in age from six months to 13 years old, cultivated her desire to teach. Alexandra joined the research study to engage in a new experience and learning opportunity. She also discussed the opportunity to learn from the researcher as another reason for participating in the study.

Casey was a 27 year old White female. She was placed in a kindergarten classroom and completed a science unit on seasons. Prior to continuing her education at ASU, Casey was a preschool teacher for 10 years. During those 10 years, she also served as a director of a preschool program. She began her journey as a preschool teacher through an internship program at her high school campus. Through the experience, she

"fell in love with teaching" and decided to continue. However, she decided to step down from her position to complete her degree. Her previous experiences provided her with a level of "comfort" in the classroom.

Those experiences also influenced Casey's decision to be a part of the study. As she documented in the questionnaire, "I feel that we can all help each other become the best teachers if we work together. I have been at a school that each grade level only helped each other. This caused problems." An opportunity to grow during an experience that did not require much additional work was another reason for participating.

Rebecca was a 22 year old White female. She was placed in a PANDA special needs preschool classroom and completed a harvest themed unit plan. A lifelong love for children fueled Rebecca's pursuit of an education degree. As a young girl she "read" to children, although she could not yet read, and also taught Sunday School as a teenager. While at a local community college, she decided to take an introduction to education course to pursue a degree in education. Rebecca participated because the study sounded interesting and she relished the opportunity to help the researcher.

Crystal was a 21 year old White female. She was placed in a kindergarten classroom and completed a wood and paper science unit. An early volunteer experience, as part of a vacation Bible school program at her church during the summer of her 7th grade year, contributed to her desire to teach children. While in college, she completed a volunteer opportunity in a kindergarten classroom and decided to change her major from undecided to early childhood education. Crystal participated in the study because it did not require much additional work.

Role of Researcher

Positionality within the research study was important as the researcher had dual roles. The researcher was a Curriculum Coordinator in the MLFTC-ASU. As a Curriculum Coordinator, the researcher served as the Course Coordinator and designer of the innovation, the student teaching course. As Course Coordinator, the researcher also had specific responsibilities. Responsibilities included maintaining updated course syllabi, ensuring all instructors had the necessary materials to instruct the course, and answering all questions related to course content. As the designer of the course, the researcher's role was to research best practices to shape and potentially redesign the course.

Although the position of Curriculum Coordinator did not consider the researcher a fully participating insider to the cohort of students, past experiences warranted insider positioning. During the 2010-2011 school year, iTeachAZ was launched. As previously stated, the site where this study occurred was an original partner site. Within the launch, the researcher served as a Clinical Instructor Partner, responsible for maintaining daily logistics and support of TCs. Furthermore, responsibilities included designing and co-teaching the student teaching course with the Site Coordinator. As part of the launch, an awareness of the district, school, site-based administrator, mentor teachers, and Site Coordinator emerged. This knowledge allowed the researcher continued access to the school site.

In addition to helping launch the site, the researcher possessed knowledge of Backward Design (Wiggins & McTighe, 2005). Serving as a former elementary school teacher required knowledge of Backward Design (Wiggins & McTighe, 2005). As a

novice teacher, the researcher received specific coaching related to Backward Design (Wiggins & McTighe, 2005) which helped improve instrument planning and delivery. Later, as a more skilled teacher, the researcher served as grade level chair, and provided coaching support to peers. To this extent, the researcher's past experiences provided access to the skills TCs acquired related to Backward Design (Wiggins & McTighe, 2005). Although the researcher possessed the aforementioned skill set, positionality was still considered within the research setting and will be discussed in greater detail in chapter four.

Within the perception of TCs, the researcher was considered an outsider and was not part of their daily cohort. Therefore, establishing a culture of joint participation was important. To establish a culture of joint participation, the researcher made clear all intentions of the research study. Doing so allowed the researcher the opportunity to establish a rapport and avenue for collaboration with TCs (Herr & Anderson, 2005). Additionally, the researcher spent one-on-one time with each participant, during class, to establish a relationship and foster joint participation. Working with the Site Coordinator facilitated initial communication with TCs. Moreover, working with the Site Coordinator helped achieve the goals of observing how TCs developed knowledge related to Backward Design (Wiggins & McTighe, 2005) and instructional practices which informed the research study. Field notes were used to document any issues of positionality and will be discussed in chapter four.

Innovation

The study intended to address a growing concern among educational experts that teacher preparation programs inadequately prepare pre-service teachers as skillful planners (Darling-Hammond, 2006). For example, Moore (2003) argued that teacher preparation programs have shifted to teaching more "procedural concerns and routine tasks" (p. 31) as opposed to a focus on teaching.

To address concerns put forth by experts in the field (Moore, 2003; Darling-Hammond, 2006; Jones et al., 2011) an innovation was designed and piloted during the Spring 2011 semester. The innovation of the study was the student teaching course. Prior to the pilot of the student teaching course, coursework included little pedagogical knowledge regarding Backward Design (Wiggins & McTighe, 2005) or instructional practices. Anecdotal feedback from TCs and MLFTC course instructors was used to initiate three course revisions. Each iteration increased instruction related to salient signature pedagogies, particularly Backward Design (Wiggins & McTighe, 2005).

As part of the innovation, TCs used Backward Design (Wiggins & McTighe, 2005) to create instructional unit plans. According to Wiggins and McTighe (2005) Backward Design helps teachers "aim for specific results and design backward from them accordingly" (p. 56). Wiggins and McTighe (2005) contended that Backward Design assists a teacher in laying out a plan to teach content connected to specific learning goals. High quality Backward Design (Wiggins & McTighe, 2005) encompasses:

- Content standards
- Considering desired real-world applications
- Key resource or favorite activity

- An important skill

- A key assessment

- An existing unit (pp. 256-258).

The researcher created four power point modules with corresponding handouts and notes, based on the Backward Design (Wiggins & McTighe, 2005) framework, that were used in the student teaching course. The Site Coordinator and researcher used the modules to co-teach the section of the student teaching course dedicated to Backward Design (Wiggins & McTighe, 2005). The modules were taught over four weeks, with an additional two weeks reserved for TCs to plan and receive feedback on their unit plan.

TCs also consulted their mentor teacher and identified the subject and content area of the unit plan. Based upon diagnostic data and knowledge of students provided from the mentor teacher, TCs then chose the standard of focus and set a goal for achievement. Next, TCs used curricular resources and planned one two-week unit of instruction. The unit plan spanned 10 school days. Within 10 days, TCs taught eight lessons, as one day each week was reserved for ASU methods coursework. Although not all TCs at the site chose to participate in the research study, each received the innovation. The student teaching course was part of coursework requirements for all students enrolled in the iTeachAZ SYR model. The student teaching course spanned 15 weeks. However, the research study examined the six weeks devoted to the instruction of Backward Design (Wiggins & McTighe, 2005).

To ensure fidelity of implementation of the innovation, the researcher and Site Coordinator co-taught the Backward Design (Wiggins & McTighe, 2005) section of the course. The researcher set up weekly meetings with the Site Coordinator and discussed

our roles in facilitating the six weeks of instruction on unit planning. Having a plan in place, before teaching the material, helped ensure the Site Coordinator and researcher facilitated instruction in a meaningful way for TCs.

Along with receiving instruction on Backward Design (Wiggins & McTighe, 2005) TCs discussed the planning process and shifts in their pedagogical knowledge. Table 2 depicts the innovation timeline.

Table 2

Innovation Timeline

Date	Innovation Component
August 2013	Arranged a meeting with Site Coordinator. Used field notes to record discussion with Site Coordinator about the research study. Conducted a recruitment information session with TCs. Used field notes to describe recruitment event.
September-October 2013	Researcher distributed a questionnaire to get to know participants. Site Coordinator and researcher co-taught four Backward Design modules and provided an additional two weeks to plan, during class. TCs planned one, two-week unit plan. TCs received feedback from peers, Site Coordinator, researcher, and mentor teacher to enhance unit plan. Researcher collected unit plan revisions and final unit plan. Field notes were used to record observed trends.
November 2013	TCs implemented one, two-week unit of instruction. Researcher and Site Coordinator used an observation protocol to conduct the first classroom observation. The researcher completed the second observation alone. Researcher and Site Coordinator spent 15 minutes debriefing the first classroom observation.

Researcher and Site Coordinator scored TCs'
instruction using seven identified TAP indicators.
Immediately following the lesson, TCs collected
and analyzed student work samples.
Immediately following the lesson, TCs used student
work samples to complete a written post-lesson
reflection.

December 2013   Researcher conducted and audiotaped one
                       semi-structured interview with each participant.

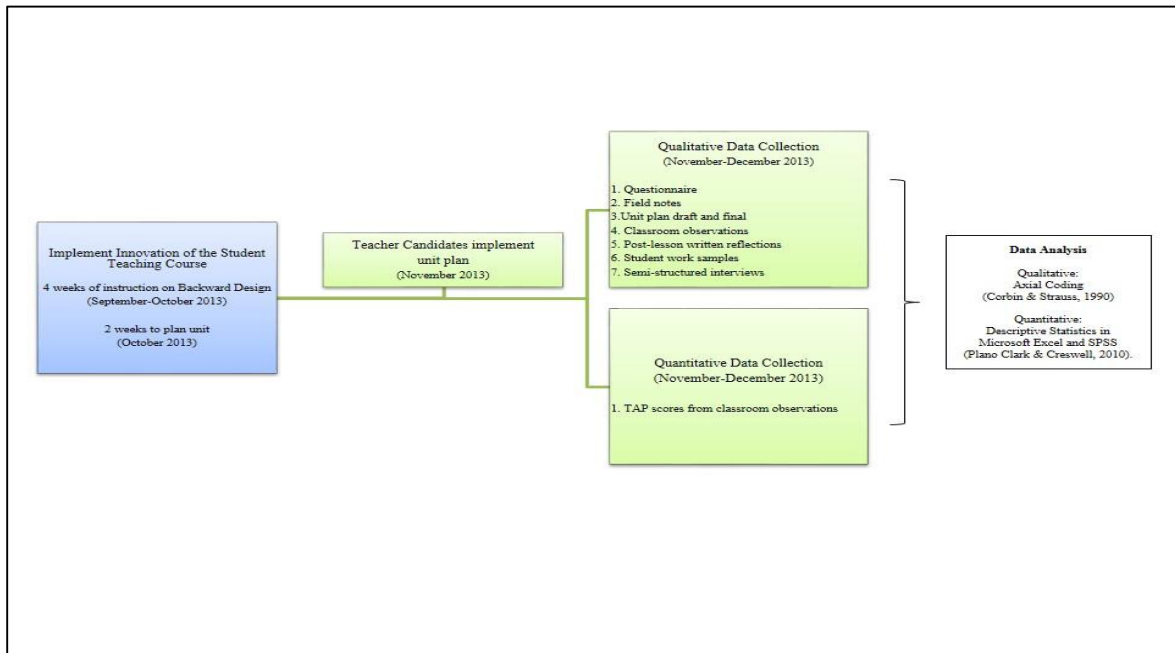Figure 4 provides an illustration of the action research study.

Figure 4. Action Research Study

Data Sources and Collection

To add to the reliability and validity of data collected, several data collection tools
were used to answer the following research questions:

1. How and to what extent are the unit planning practices of Teacher Candidates developed as they plan one, two-week unit of instruction in math, reading, social studies, science, or writing?

2. How and to what extent does unit planning inform instructional practices in the elementary classroom?

To protect data gathered from participants and the Site Coordinator, the researcher collected and kept all data in a locked filing cabinet at home. To ensure confidentiality, the researcher maintained secure, password-protected, computer files. Additionally, the researcher used pseudonyms in place of each participant's name to protect identity and provide anonymity.

Concurrent data collection began in August 2013 and continued through December 2013. Seven qualitative data collection tools included (a) questionnaire, (b) field notes, (c) unit plan draft and final, (d) classroom observations, (e) post-lesson written reflections, (f) student work samples, and (g) one semi-structured interview. One quantitative data collection tool included (h) TAP scores on seven indicators: Standards and Objectives, Presenting Instructional Content, Activities and Materials, Academic Feedback, Managing Student Behavior, Teacher Content Knowledge, and Teacher Knowledge of Students. Table 3 provides information on each data collection tool.

Table 3

Data Collection Tools

Data Collection Tool	Number	Time
Questionnaire	1 per participant	
Field notes	During duration of innovation	
Unit plan draft and final	1 draft and 1 final per participant	
Classroom observations	2 per participant	6-30 minutes
Post-lesson written reflections	2 per participant	
Student work samples	One per student, per lesson	
Semi-structured interview	1 per participant	12-42 minutes
TAP scores	7 scores per participant, per lesson	

A description of each tool, its use, and the order it was collected during the research study is provided.

 Questionnaire. At the beginning of the innovation, each participant completed a two-item questionnaire (Appendix A). Questionnaires were sent via e-mail to each participant. Each participant emailed the questionnaire back to the researcher within one week's time. The questionnaire provided demographic information and each participant's reasons for pursuing a career in education and participating in the research study.

 Field notes. The use of field notes began in August 2013. The researcher collected field notes for the duration of the innovation. After each class session, where participants learned about the Backward Design (Wiggins & McTighe, 2005) framework, the researcher documented observed occurrences. Field notes provided insight into the process participants went through as they planned a unit of instruction. Field notes were also gathered based on observations from the initial unit plan draft and observed changes to the final unit plan. They also helped document any instances of Experimenter Effect, as this was a threat to validity that posed a concern to the researcher.

54

Unit plan draft and final. As part of the innovation, each participant completed one unit plan to implement in the placement classroom. Upon completing the initial draft, participants emailed the draft to the researcher. The researcher provided one round of feedback, per participant, on the unit plan. Feedback was provided within one week's time of receiving the draft. Participants were expected to incorporate the feedback they received into the final draft. Once participants received feedback, they submitted a final draft before beginning instruction in the placement classroom.

Classroom observations. Gelo, Braakmann, and Benetka (2008) describe observations as a means for the researcher to see events occurring in a real-world setting. Conducting classroom observations allowed the researcher to determine if pedagogical practices related to Backward Design (Wiggins & McTighe, 2005) were implemented in the classroom. Each participant received two classroom observations during instruction of lessons from the unit plan. Observations lasted no more than 30 minutes. An observation protocol documented the pedagogical practices used by participants during instruction. Prior to using the observation protocol (Appendix B), the researcher discussed it with the Site Coordinator to ensure familiarity, comfort, and inter-rater reliability.

The first classroom observation was conducted by the researcher and Site Coordinator, to establish inter-rater reliability. The first observation for all participants, except Rebecca, was conducted by the researcher and Site Coordinator. Due to an unforeseen conflict with Rebecca's classroom schedule, she had to reschedule her observation. As a result, the Site Coordinator was unable to attend Rebecca's first observation, as she could not attend the make-up observation. However, prior to

Rebecca's observation, the researcher and Site Coordinator had conducted the first round of observations for the other four participants. During these first four observations, inter-rater reliability had been established with the use of the classroom observation protocol and TAP scores. Therefore, the researcher was able to conduct Rebecca's first observation without the Site Coordinator.

During the observation, specific phrases and instructional practices used during the lesson were recorded in a reflective notes section of the observation protocol. The researcher did not go into observations with pre-determined pedagogical teaching practices to observe. As participants used a particular teaching strategy or implemented a skill to teach the lesson, the researcher documented the process on the observation protocol. Furthermore, reflective notes gathered during the classroom observation helped inform interview questions.

After the first observation, the researcher and Site Coordinator conferred for at least 15 minutes to discuss and compare observation notes. Once inter-rater reliability was established, the researcher conducted the second classroom observation alone. All observations, with the exception of one were, done in-person. The observation that was not conducted in person occurred via video.

Post-lesson written reflections. Each participant completed a post-lesson written reflection after each classroom observation (Appendix C). As part of the lesson reflection, participants reflected on the lesson overall. The researcher examined responses on the reflections to help establish themes.

In addition to overall reflections, participants used the Standards and Objectives and Presenting Instructional Content indicators of the TAP rubric to evaluate each lesson.

They documented an area of reinforcement and refinement regarding their instructional practices, based on the TAP indicators Standards and Objectives and Presenting Instructional Content. Participants cited specific examples from their classroom instruction and used student work samples to substantiate the area of reinforcement and refinement.

The MLFTC adopted the TAP rubric as the official evaluation system of TCs' teaching performance. Created in the 1990s by the Milken Family Foundation (National Institute for Excellence in Teaching, 2012), TAP seeks to help "teachers become the best they can be by giving them opportunities to learn better teaching strategies" (www.http://www.tapsystem.org). The TAP rubric was a validated instrument. According to the National Institute for Excellence in Training (2012), criteria for the TAP rubric "came from both experimental design studies and correlation studies that used valid and reliable achievement tests in classrooms" (www.http://tapsystem.org). The Standards and Objectives and Presenting Instructional Content indicators were used because they fell under the *Instruction* domain of the TAP rubric. Moreover, these two indicators were appropriate as the research study examined how TCs developed and used pedagogical teaching practices as they implemented lessons from their unit plan into their classroom instruction.

Student work samples. Participants were to collect one work sample, per student, per lesson taught, from observed unit plan lessons. Student work samples were used to complete a post-lesson written reflection. Furthermore, student work samples helped determine whether the instructional practices used during the lesson assisted

students in acquiring knowledge to perform the lesson's objective. Participants provided the researcher with pictures of student work samples (Appendix K).

Semi-structured interview. Each participant received one semi-structured interview (Appendix E) at the conclusion of the unit plan. According to Gelo et al. (2008) semi-structured interviews allowed the researcher to further investigate the participant's perspective regarding the phenomenon studied. The researcher conducted all interviews in the classroom where the innovation took place. Interviews lasted between 12 and 42 minutes. With permission from participants, the researcher audiotaped interviews using Voice Memos software on an iPhone 4. Interviews consisted of five pre-determined questions developed by the researcher as well as questions developed during classroom observations. Semi-structured interviews were the chosen method as they allowed the researcher flexibility in probing deeper into each participant's answers. A sample of the semi-structured interview questions were:

1. Tell me about the process you went through to plan your unit plan.

2. Describe any changes in your pedagogical knowledge of Backward Design as you have planned and implemented your unit plan.

3. Were there any challenges you had as you planned your unit? If so, please explain what they were and at least one action you took to overcome this challenge.

TAP indicators. Each classroom observation was scored on seven TAP indicators (Appendix D). The first classroom observation lesson was co-observed and co-scored by the researcher and Site Coordinator, with the exception of one participant. The

researcher and Site Coordinator were both TAP certified evaluators, ensuring inter-rater reliability. Scores on each indicator ranged from one to five: 1 = unsatisfactory, 2 = approaching proficient, 3 = proficient, 4 = highly proficient, and 5 = exemplary. Participants' scores were calculated based upon specific descriptors observed during the lesson. Data was examined to see if changes in scores occurred over time. The second classroom observation lesson was scored solely by the researcher.

Upon completion of data collection, analysis was done to provide insight into the innovation's ability to help participants implement pedagogical teaching practices during instruction. Descriptive statistics, in the form of graphical representations and charts, were employed to code and present the quantitative data (Plano Clark & Creswell, 2010; Green & Salkind, 2011).

Data Analysis

Data analysis commenced once all data was collected. Data was analyzed in the order it was collected. Once collected, all data was stored in a separate folder on the researcher's password protected computer. To make sense of the data and analyze the research problem, results were integrated at the point of interpretation (Creswell, 2009). Gelo et al. (2008) contended that data interpretation occurs once data collection commences. Collection of each data tool helped answer the research questions:

1. How and to what extent are the unit planning practices of Teacher Candidates developed as they plan one, two-week unit of instruction in math, reading, social studies, science, or writing?

2. How and to what extent does unit planning inform instructional practices in the elementary classroom?

Table 4 displays an inventory of the data collected throughout the study.

Table 4

Qualitative and Quantitative Tools Inventory

Type	Data Collection Tool	Inventory
Qualitative	Questionnaire	1 per participant-5 total
Qualitative	Field notes	14 pages
Qualitative	Unit plan draft and final	1 draft and 1 final per participant
Qualitative	Classroom observations	2 per participant-10 total
Qualitative	Post-lesson written reflections	2 per participant-10 total
Qualitative	Student work samples	20 total
Qualitative	Semi-structured interview	1 per participant-56 pages
Quantitative	TAP indicator scores	14 scores per participant-70 total scores

Included is a description of the analysis process of each data collection tool. This information is presented first for the qualitative data, followed by the quantitative data. Results from the qualitative and quantitative data analysis will be presented in chapter four.

Questionnaires. To analyze the data, the researcher first read through each questionnaire for clarity. After reading each questionnaire, In Vivo coding was used. During In Vivo coding, the researcher wrote down verbatim phrases and key words from each participant's response. Different colored pens were then used to circle and identify common themes throughout responses. Based on the emerging themes, a total of eight codes were created (Appendix F) and will be further discussed in the results section. After creating the codes, specific examples from each participant's responses were used to create a summary for each code.

Field notes. To analyze field notes, the researcher first read through all notes taken during the innovation. After reading all field notes, In Vivo coding was used to write down verbatim phrases and key words about each participant's process using Backward Design (Wiggins & McTighe, 2005) as well as occurrences of positionality to reduce the threat of Experimenter Effect. After completing In Vivo coding, different colored pens were used to circle and identify themes. Six sub-codes were created based on the observed themes (Appendix G). After sub-codes were created, specific evidence was listed to provide a summary of each code.

Unit plan draft and final. The process for analyzing unit plan drafts came before the end of the innovation. Participants e-mailed a draft to the researcher at the end of the six weeks of instruction on Backward Design (Wiggins & McTighe, 2005). Upon receipt of the draft, the researcher read through each draft looking for alignment between the unit goal, assessment, prioritized learning standards, and daily lesson objectives. Common mistakes, made by all participants, were documented in field notes.

Analysis of the final unit plan began once all data had been collected. To analyze the final unit plan, all final plans were read and field notes were used to document common mistakes made by each participant. After feedback was documented, the researcher used Initial or Open coding to break down the data into smaller, discrete parts. This allowed the researcher an opportunity to closely examine the data and compare them for similarities and differences. Next, the researcher conducted a side-by-side comparison of feedback on each participant's unit plan draft and final submission. Similarities and differences between drafts were documented in field notes. A side-by-side comparison

was also conducted to note similarities and differences for participants individually, as a collective group, and then documented in field notes.

After finding similarities and differences for participants individually, and then as a group, the researcher used Axial coding to create overarching codes to describe similarities and differences between the draft and final unit plan. Four overarching codes, with sub-codes for each, were created (Appendix H). After creating codes, specific evidence from collected unit plans were used to write a summary of each code.

Classroom observations. Classroom observations were analyzed to document observed pedagogical teaching practices used by participants. The classroom observations also assisted in creating interview questions. To analyze the classroom observation data, the researcher first read through all of the observation notes. In Vivo coding was employed to write down verbatim phrases and key words, and pedagogical teaching practices observed during lessons. Next, Initial or Open coding was used to break down the data into smaller, discrete parts, in order to examine and compare them for similarities and differences. A side-by-side comparison of the group's pedagogical teaching practices from the first and second classroom observation was conducted. After comparing the observed pedagogical teaching practices for the group, the researcher listed similarities and differences for each participant. After completing comparisons for the group and then each participant, the researcher created codes for commonly observed pedagogical teaching practices (Appendix I). The researcher listed the frequency of the most commonly observed pedagogical teaching practices participants used in both observations. Summaries of the findings were written using evidence from the

observation notes. Lastly, data was entered into a Microsoft Excel spreadsheet to create a bar graph of the pedagogical teaching practices observed in both classroom observations.

Post-lesson written reflections. To analyze post-lesson written reflections completed by participants, the researcher first read through all data. After reading each reflection, In Vivo coding was used to write down verbatim phrases and key words from each participant's reflection. Next, Initial or Open coding was used to break down data into smaller discrete parts. Data was closely examined and compared for similarities and differences. The researcher then conducted a side-by-side comparison of the reflection, area of reinforcement and refinement for each TAP indicator, specifically Standards and Objectives and Presenting Instructional Content. Next, different colored pens were used to circle and identify themes and patterns. Based upon the themes and patterns, Axial coding was used to create distinct codes. Six overarching codes, with sub-codes for each, were created (Appendix J). After creating codes, specific evidence from post-lesson written reflections was used to write a summary of each code.

Student work samples. A total of 20 student work samples were collected and analyzed (Appendix K). Participants provided student work samples from the lessons observed by the researcher. To complete analysis, the researcher first looked at all student work samples. Descriptive coding was used to summarize, in a word or short phrase, the observed characteristics of student work samples. No specific codes were created for student work samples. Instead, the researcher completed a summary describing each student work sample, per participant.

Semi-structured interviews. The researcher completed transcription of each semi-structured interview. A total of 56 pages of interview transcriptions were analyzed.

To begin analysis, the researcher first read through all interviews. After reading each interview, In Vivo coding was used to write down verbatim phrases and key words from each participant's response to the interview questions. The next step was to use different colored pens to circle and identify patterns and themes. Patterns and themes were turned into distinct codes (Appendix L). Summaries of each code were written, using evidence from the semi-structured interviews.

This section described the first level process of coding information. Once all data was initially coded, Axial coding was used to conduct second level coding. Axial coding was used to code data from the unit plans, classroom observations, post-lesson written reflections, and semi-structured interviews. Through Axial coding, three overarching categories emerged (a) planning, (b) implementation, and (c) reflection. Data will be discussed using the three themes.

TAP indicators. Descriptive statistics were used to analyze and compare quantitative data scores for participants (Plano Clark & Creswell, 2010). TAP scores, for seven indicators ranging from one to five, were analyzed by the researcher. First, the researcher entered TAP scores from the two classroom observations into an SPSS output document. Next, SPSS was used to determine the mean and standard deviation of each indicator, per participant, and for the group. Additionally, a paired sample t-test was run to determine the presence of statistical difference between observation one and two. Once all tests were completed in SPSS, data was exported to an Excel spreadsheet to create graphical representations.

Summary

   This chapter has presented the research design of the study along with information regarding the setting, participants, role of the researcher, innovation, data collection tools, and data analysis procedures. The proceeding chapter presents the results of the qualitative and quantitative data.

CHAPTER 4

DATA RESULTS

The previous chapter presented information on the study's design and

methodology. This chapter provides results of the research study. Qualitative data results

will be presented first, followed by quantitative results. Qualitative results will be

presented from (a) field notes, (b) unit plan draft and final, (c) classroom observations,

(d) post-lesson written reflections, (e) student work samples, and (f) semi-structured

interviews. Quantitative results will be presented from the TAP indicator scores.

Qualitative Data Results

Results from the qualitative data collection tools produced three distinct themes

and will be presented in the following order (a) planning, (b) implementation, and

(c) reflection. Results from different qualitative tools will be used when discussing each

theme.

Planning

Through data analysis, planning emerged as the first theme from the qualitative

tools (a) field notes, (b) unit plan draft and final, and (c) semi-structured interviews.

Results related to this theme will be presented from each tool.

During the research study, participants planned one, two-week unit of instruction

in the placement classroom. As noted by Darling-Hammond (2006) teacher preparation

programs must increase the planning skills of pre-service teachers to be effective upon

entry into the teaching profession. To address this concern, participants spent four weeks

learning to plan a unit and two weeks engaging in the planning of it. They received

feedback from the researcher, Site Coordinator, peers, and their mentor teacher. To plan,

participants first needed to comprehend the content knowledge to teach before

transforming into ways their students could understand.

Comprehension and transformation are the first and second steps in the Model of

Pedagogical Reasoning and Action Steps (Shulman, 1987). According to Shulman (1987)

content knowledge includes the "knowledge, understanding, skill, and dispositions that

are to be learned by school children (pp. 8-9). Once comprehended, teachers transform

the content in a way that students can understand.

Backward Design Process

In general, field notes taken during the research study were used to document the

Backward Design (Wiggins & McTighe, 2005) planning process. Field notes produced

the overall code Backward Design Process. This code produced six sub-codes

(a) Backward Design knowledge, (b) emotions, (c) mentor teacher control, (d) personality

traits, (e) positionality, and (f) support (Appendix G).

The Backward Design (Wiggins & McTighe, 2005) process varied by participant.

During the process, participants needed help getting started with planning. For example,

during one instance, the researcher wrote:

> Casey shared that she didn't know where to begin with her unit plan. Sensing that
> she was unclear on where to begin, I asked her what the goal was. She stated that
> she didn't know but did know that she was working on the unit seasons. To that I
> asked her which standards she'd draw from. She responded by saying social
> studies and science. This probing helped lead us into a conversation of how to
> locate the standard and where to begin.

In addition to the initial stages of planning for the unit, writing daily lesson objectives

was another step in the process as documented in field notes. For example, field notes

showed:

Participants were supposed to come prepared to write daily objectives for the day. However, this posed a challenge for Casey and Crystal. Although Jessica did not have any questions related to her goal or assessment, she did begin to question how to write her daily objectives. She wasn't sure about breaking down a standard into a smaller objective. One of Rebecca's biggest challenges was aligning the early learning standards to her daily objectives.

Backward Design knowledge. During the first class meeting of the innovation, the researcher asked participants to document their knowledge of Backward Design (Wiggins & McTighe, 2005) before they began planning their unit of instruction. Their responses ranged from having no knowledge to a very vague definition of the term. Three of the five participants, Jessica, Alexandra, and Crystal, had vague knowledge of using the Backward Design (Wiggins & McTighe, 2005) framework to plan. Their responses were:

Jessica: Backward design: Planning in reverse, setting a goal before you plan, and not sure.

Alexandra: Plan assessment first. Work lesson around your assessment.

Crystal: Backwards planning is where you start with what you want your students to know at the end of the lesson and work backwards until you get to the beginning of your lesson.

The remaining two participants, Casey and Rebecca, had no prior knowledge. Responses were:

Casey: We covered backwards plan once in class but that was the first time I had ever been taught how to use it. So really I don't know that much info on how it works.

Rebecca: I am not very familiar at all with backwards design.

Emotions. Field note documentation depicted that going through the Backward Design (Wiggins & McTighe, 2005) process evoked emotions of frustration among three of the five participants. Alexandra expressed the anxiety she felt with narrowing the

number of standards into a number she could realistically teach during the designated two weeks of the unit plan. She stated, "I stress out about everything! I need to know every single detail." Her desire to plan a good lesson for students and do a good job planning her unit added to the anxiety she felt. However, as the innovation went on, she began to work with Jessica. She remarked, "Working with Jessica helped me know what to plan in my unit."

Casey and Crystal visibly dealt with the frustration felt while planning. Casey exhibited emotions of frustration and stated the confusion she felt as she planned her unit. During a conversation with the researcher she expressed, "I just want to go home and cry because I don't know what I'm doing. I just don't know. I don't know what I'm doing." There were at least two conversations, while planning the unit, where Casey displayed frustration through tears. During another discussion regarding how to prioritize standards and then create daily lesson objectives, Casey needed to take a break from the conversation to gather herself. She left the room crying because of the frustration she felt when planning the unit. The researcher used field notes to document this exchange with Casey. Below is an account of the exchange:

> She began to cry again. I tried to coach her through breaking down the standard into an objective. She was unwilling to try as she said, "I just don't know. I don't know what I'm doing." At this point, I tried to give her a mini-lesson on objective writing. She was too distraught to comprehend anything that I was telling her. I tried to continue, but she just began crying more and excused herself again. When she returned, I told her that I would work with other participants but check on her later. She agreed this was okay.

Initially, Crystal's frustration was expressed as confusion on how to take a pre-packaged curriculum, in the form of a FOSS kit, and translate it into a unit of instruction for her students. Crystal also expressed frustration with the number of standards and

concepts students were to learn in the FOSS kit and how she could fit them into the two week unit plan she was preparing. During one point, she stated, "There are just so many objectives. I don't know what to focus on and what not to focus on."

Mentor teacher control. Another sub-code that emerged from field notes during the planning of the unit plan was mentor teacher control. Participants discussed the influence the mentor teacher had upon what and how they planned. Two of the five participants, Casey and Crystal, discussed the mentor teacher's impact. During the innovation, Casey often expressed needing to go back and discuss the unit plan with her mentor teacher. For example, during one-on-one work time with the researcher, she often said, "I need to speak to my mentor teacher before I finalize the goal. I want to make sure we are on the same page." During another conversation she stated, "I'm excited to go back and talk to my mentor teacher now that I know what I'm supposed to be doing."

Crystal also experienced mentor teacher control when creating her unit plan. She often expressed the need to get, "approval from my mentor teacher before I can plan my unit because she knows what she wants us to teach and we have to follow what she wants." There was one distinct conversation between Crystal and the researcher that exhibited her struggle with the amount of control her mentor teacher had as she planned the unit. The researcher documented the account in the field notes.

> Today I stayed with Crystal for about 45 minutes asking about her progress. She expressed serious frustration; not so much with the process of backwards planning her unit, but more so with her mentor teacher. She has to get approval from her mentor teacher to plan a unit of study around what the mentor deems appropriate. So she expressed extreme frustration about not being able to plan what she wants to do because it's under the control of her mentor teacher.

Personality traits. Another sub-code which emerged from field notes was personality traits. The researcher used field notes to take descriptive notes on observed changes each participant experienced during the planning process. Additionally, notes were used to help provide a richer description of each participant. Refer back to chapter three for a description of each participant. While going through the process, distinct personality traits emerged about each participant. Below are examples of personality traits documented by the researcher during the planning of the unit plan.

> Jessica seems very laid back and even-tempered. She appears confident in planning and doesn't need much help. She has remained calm during this planning process and appears to take things in stride. Jessica doesn't appear flustered with learning to plan her unit.

> Alexandra is very spunky and outspoken. From my first introduction to her, she has presented herself as one of the outspoken students of the cohort. She is very bubbly, yet takes things very seriously. She often expresses that her stress level is at a constant high because she needs to know every minute detail. Alexandra seems more stressed by details and the need for perfection.

> Casey requires more support than the other participants. She becomes visibly frustrated and has resorted to crying twice. I believe her need for perfection and wanting to do a good job can lead to her feeling overwhelmed. She seeks to do a good job, but needs more help when beginning to plan.

> Rebecca is more quiet and reserved. She doesn't seek approval from others, but will ask questions, when necessary.

> Thus far, Crystal seems very quiet. She doesn't immediately seek help. I need to make a concentrated effort to check in on her so she doesn't "slip through the cracks." She also appears very shy.

Positionality. Positionality was a concern during the research study for two reasons (1) the researcher had no prior contact with students and thus could be viewed as an outsider coming in and (2) a desire to see participants perform well could cloud the researcher's judgment to want to create the unit plan for participants if they experienced

71

difficulty. To combat the aforementioned threats, the researcher kept field notes to document personal feelings and occurrences during the innovation. The first concern of being viewed as an outsider dissipated as time went on. Refer back to chapter three for a richer description of the researcher's role.

Documentation also helped the researcher record and combat the Experimenter Effect threat to validity. There were instances during the innovation where participants expressed frustration with not having all the clarity necessary to complete the unit plan. Instead of jumping in to "save the day," the researcher allowed participants to grapple with the process and checked her own feelings. For example, during one work session a participant failed to bring the necessary documentation to continue progressing in her unit plan. Field notes documented the researcher's feelings.

> She said, "Oh I forgot it so I can't do any work today." I can't lie, I was quite disappointed because I spent so much time with her last week and wanted to capitalize on the momentum we began last week so that she would plan her lessons out. I wanted so badly for her to continue her momentum because I saw her go from discouraged to encouraged and didn't want her to feel discouraged. However, I quickly reminded myself that this unit plan is not about me and what I want, but it's about her and her achieving proficiency in writing unit plans. Remembering that helped me step away from her and move onto other participants.

During another instance, the researcher noticed one participant who sat through a class session and did little work. Instead of rushing in to do it for her, the researcher used field notes to document feelings.

> After asking if I could help, the participant said, "No." I wasn't sure whether to push the issue or not. Instead of pushing the issue and wanting to do it for her, I left the issue alone and went to work with another student. I do need to make sure I follow up with her later, though, to see how she's doing.

Support. The final sub-code, support, emerged from the researcher's field notes to document the planning process. During the innovation, field notes displayed the impact support had on the participants' ability to develop a unit plan. Participants expressed that support from peers, mentor teachers, ASU instructors, and the researcher was beneficial as they planned the unit.

For example, during a work session, the researcher spent at least 10 minutes answering questions or clarifying misunderstandings with each participant. In one particular instance, Jessica and Alexandra were working together. When the researcher asked how they were doing, Alexandra stated, "I'm working with Jessica and that has helped because I have someone to bounce ideas off of." Jessica agreed with Alexandra and began to ask the researcher questions about the type of assessment she should use. She was unsure of how to develop an appropriate assessment for her unit plan. During the discussion, Jessica and Alexandra discussed a "visual assessment we can give the kids." They asked for the researcher's input as to the format of the assessment. Below is a summary of the conversation and the researcher's thoughts, as taken in field notes, to document the benefit of peer support during the unit planning process.

> Jessica, Alexandra, and I discussed the type of assessment they could give their students. First, they pondered how they could have students show the different types of transportation they learned. I suggested they use a visual, as it may have been more appropriate for their age group. Simultaneously, they both stated that they were thinking of using some sort of visual during their lessons and thought it may be a good idea to use one in their assessment. They discussed the assessment. Jessica agreed that using a visual was a fair assessment to give students and stated that their next step would be to begin crafting the assessment. Alexandra and Jessica have built a strong rapport. They know that their unit plan is derived from the social studies and science standards, which may make it easier to plan their unit plan.

Unlike Jessica and Alexandra, Rebecca did not require as much support from peers, her

mentor teacher, ASU instructors, or the researcher. The researcher documented another

conversation with Rebecca as she developed her unit plan.

> Some participants required more or less help planning based on their needs.
> Rebecca is one participant who probably doesn't require, need, or want as much
> help as the others. When asked how I could best support her, she expressed that
> she was okay and didn't have questions. I asked her if I could see parts of her unit
> plan and she agreed. From a quick glance of her notes, I did indeed see that she
> had begun planning her unit. She was beginning to write solid objectives as she
> had at least two which were derived from her content standards. She stated that
> she would let me know if she had other questions, but was okay at this time.

Another instance documented the level of support Casey and Crystal received from the

Site Coordinator and researcher. During discussions with both participants, they stated

how the assistance received from the Site Coordinator and researcher helped clarify how

to write the unit plan. The following two instances depict support Casey and Crystal

received.

> Casey and I sat down for 25 minutes to work on her unit plan. This was the third
> intensive session where we sat together and worked on her plan. She really
> wanted to talk through each of the different components. Last week I spent about
> 30 minutes with her discussing her unit and how to identify standards. She
> expressed that the Site Coordinator spent more time with her during the week to
> help her flesh out what her unit plan would look like.

> I spent a good part of the work time today with Crystal. We probably spent about
> 35 minutes together talking about how she could combine some of the standards
> in the FOSS kit to create a manageable and realistic two-week unit plan. When we
> were done, she said she felt good about the way we grouped standards and was
> eager to share with her mentor teacher to see if she agreed.

Overall, data analysis showed the use of field notes helped the researcher document

common occurrences as participants began using the Backward Design (Wiggins &

McTighe, 2005) framework to plan the unit of instruction. Next, results from the unit

plan draft and final will be presented.

Unit Plan Draft

Data from unit plans will be presented in the following section. First, results from the unit plan drafts will be presented, followed by the final unit plan. Through Axial coding, it was discovered that four major codes emerged from examining the unit plan draft and final (a) unit plan draft-comments, (b) final unit plan-changes, (c) final unit plan-additions, and (c) final unit plan-no changes. Ten sub-codes were developed for the unit plan draft, three sub-codes for changes made to the final unit plan, four sub-codes for additions made to the final unit plan, and five sub-codes for no observed changes to the final unit plan (Appendix H). Results from each code will be presented.

Unit plan draft-comments. Participants submitted a copy of the unit plan draft to the researcher. The researcher made comments on each plan and returned to each participant. Upon examination of the unit plan draft, it was discovered each of the five participants made common planning mistakes. Akin to the Jones et al. (2011) study, participants in this research study made common planning mistakes. Through coding, 10 common mistakes were found amongst participants' unit plan drafts. Of the 10 common mistakes, five common mistakes were made by each of the five participants. The most commonly found mistakes made by all five participants included (a) activity-driven daily lesson objectives, (b) missing daily lesson objective to identified standard (c) not including a unit plan summative assessment, (d) unclear big goals/desired results, and (e) unclear daily lesson objectives (Appendix H).

Activity-driven daily lesson objectives. The first common error made by each of the five participants was creating activity-driven daily lesson objectives. Activity-driven daily lesson objectives are those which are more product-driven, than academic focused.

Instead of focusing on acquiring a specific skill, activity-driven objectives give priority to the product or activity students will create in the lesson. These type of objectives were found in each participant's unit plan draft. Examples of activity-driven daily lesson objectives observed in unit plan drafts were:

> SWBAT extend understanding of air transportation by completing writing activities related to air transportation.

> Students will be able to create an illustration that has a theme of the season of fall and winter.

> Students will be able to remember finger plays, rhymes, or short stories relating to Harvest.

> SW mix sawdust and shavings with water.

> Cut and paste the picture in the correct season and label some of the pieces.

Missing daily lesson objective to identified standard. The next common mistake made by each of the five participants was not creating daily lesson objectives for the identified standard or big ideas of the unit. For example, Jessica and Alexandra both included standard c, shown below, as a unit plan standard but did not create daily lesson objectives to address it.

> c. With modeling and support, demonstrates understanding of and uses words that indicate position and direction; e.g., in, on, out, under, off, beside, behind.

Crystal also listed standards in the planning of the unit, but did not write aligned daily lesson objectives to teach the standard. For example, she listed the standard below, but did not plan for how it would be taught in her unit plan.

> S1.C1.2 Asks questions based on experiences with objectives, organisms, and events in the environment.

Alexandra also included the following standard, but did not write a daily lesson objective

to teach the standard.

> Strand 3: Measurement and Data Concept 1: Sorts and Classifies (The child sorts
> and groups objectives by a variety of characteristics/attributes)
> a. Sorts and classifies objects by one or more attributes (e.g., size, color, shape,
> texture, use)

No summative assessment. The next most common error made by each of the five

participants was not including a summative unit plan assessment. According to Wiggins

and McTighe (2005) the second step of the Backward Design framework is to determine

acceptable evidence. Acceptable evidence is determined through use of an aligned

assessment. While each participant did consider the standards to assess, none submitted

an initial summative assessment with the unit plan draft. The researcher provided

feedback to each participant requesting an aligned assessment.

Unclear big goal/desired results. Data analysis showed that all five participants

created an unclear big goal. Step one of Backward Design (Wiggins & McTighe, 2005)

states that teachers are to identify desired results. Desired results come in the form of the

big ideas or content to be taught during the unit. During the innovation, participants

received instruction on how to create the big goal. An effective big goal met the

following criteria:

> Measurable: How will you determine if students have met the goal? How will the
> assessment allow you to measure the goal?

> Ambitious: Does the goal encourage students to achieve a level beyond their
> current academic performance?

> Feasible: Does the goal consider students' starting points? Does it represent an
> attainable measure of student progress?

> Aligned: Is the goal connected and aligned to the identified grade level standards?

However, when participants submitted the big goal, it was determined that the goal

lacked clarity about the aforementioned criteria. Examples of unclear big goals were:

> Students will be able to identify and describe keep [*sic*] facts about the 4 seasons.

> The Goal of this unit plan is to introduce, discuss, and explore Harvest and its many wonders.

> All students will reach at least 8 out of 11 goals on the assessment checklist.

> By the end of our unit plan SWBAT identify and sort 3 types of mode transportation (air, water, and ground).

> ***Unclear daily lesson objectives.*** In addition to creating activity-driven daily

lesson objectives, data analysis showed that each of the five participants created unclear

daily lesson objectives. Unclear daily lesson objectives were classified as those lacking

detail about the exact student outcomes participants attempted to reach through their

instruction. Examples of unclear daily lesson objectives were:

> SWBAT recognize new vocabulary through experimenting with types of ground transportation.

> SWBAT name and apply different modes of transportation (land, air, and water).

> I can tell you about fall and winter worksheet.

> Students will realize when we read stories, that their life is similar and their feelings are similar.

> SWBAT gain experience with wood.

Final Unit Plan

To combat the mistakes found in the unit plan draft, participants received

feedback from the researcher within one week. Upon receiving the final unit plan, the

researcher reviewed each to note any similarities or differences from the initial draft.

Examination of the final unit plan determined that participants made changes, added more information, or made no changes based on feedback. Results will be first displayed for final unit plan-changes, followed by final unit plan-additions, and will end with final unit plan-no changes.

Final unit plan-changes. The three most common changes made from the unit plan draft to the final were participants (a) clarified the big goal/desired results, (b) clarified daily lesson objectives, and (c) eliminated irrelevant standards that did not align to the big goal.

Clarified the big goal. Three of the five participants, Jessica, Alexandra, and Crystal, clarified the big goal to align better to the anticipated learning outcomes students were to achieve. They added more clarity to ensure the goal was measurable, ambitious, feasible, and aligned to standards.

> Jessica *before:* By the end of our unit plan SWBAT identify and sort 3 types of mode transportation (air, water, and ground). SWBAT identify and sort 3 modes of transportation, air, water, and ground) 9 different times at 100% accuracy.
>
> *After:* By the end of our unit plan SWBAT identify and sort 3 types of mode transportation (sky, water, and road). SWBAT identify and sort 3 modes of transportation (sky, water, road) at 100% accuracy. Students will sort nine different images according to their mode, on a tree map. The tree map will have three different modes labeled (sky, road, water) and students will be given nine different images of different types of transportation used from the vocab. Students will have to identify and sort what mode the image will fall under.
>
> Alexandra *before:* By the end of our unit plan SWBAT identify and sort 3 types of mode transportation (land, air, and water.)
>
> *After:* By the end of the unit of instruction, 100% of students will be able to identify and sort three modes of transportation (land, sky, and water) with at least 100% accuracy.
>
> Crystal *before:* All students will reach at least 8 out of 11 goals on the assessment checklist.

After: All students will reach at least 9 out of 11 goals on the assessment checklist- a copy of which is provided at the end of this document. The checklist will be completed throughout the unit. The date the skill is observed will be noted for each child. If a child is witnessed reaching a goal on the checklist more than once, all data will be listed.

Unlike the other participants, Casey's final unit plan submission incorporated little to no changes based upon feedback from the researcher.

  Clarified daily lesson objectives. Two of the five participants, Jessica and Alexandra, clarified some of the daily lesson objectives to make them more specific and measurable. Examples of before and after objectives were:

  Jessica *before:* SWBAT recognize transportation that they know by drawing and identify the transportation they come to school in, in their target books.

  After: SWBAT describe transportation they know by drawing and identify the transportation they come to school in, in their target books.

  Alexandra *before:* SWBAT identify and understand land, air, and water transportation with new vocabulary.

  After: SWBAT identify and cite examples of land transportation with new vocabulary.

  Eliminated irrelevant standards. Data analysis showed that three of the five participants, Jessica, Alexandra, and Rebecca, eliminated irrelevant parts of the standard that did not align to the unit goal or plan.

  Initially, Jessica and Alexandra listed ELS Strand 1-Language, Concept 3-Vocabulary: The child understands and uses increasingly complex vocabulary as an aligned standard. Within the strand and concept, they listed performance objectives a, b, c, and d as relevant to the unit plan.

    a. With modeling and support, uses age-appropriate vocabulary across many topic areas and demonstrates a wide variety of words and their meanings with

each area; e.g., world knowledge, names of body parts, feelings, colors, shapes.

b. With modeling and support, determines the meanings of unknown words and concepts using the context of conversations, pictures that accompany text or concrete objective.

c. With modeling and support, uses category labels and names objectives with a category; e.g., fruit, vegetable, animal, transportation, etc.

d. With modeling and support, demonstrates understanding of and uses words that indicate position and direction; e.g., in, on, out, under, off, beside, behind.

However, upon receiving feedback, Jessica and Alexandra eliminated a, b, and d, as they did not align to the overall goal of the unit plan.

In her draft, Rebecca did not list specific standards. Instead, she listed tasks students would perform. For example, she wrote:

Children will invent rhyming words. Children will name the letters: Vv and Oo. Children will match capital and lower case letters. Children will dictate to adults about food.

These tasks were unaligned to her unit goal and were not derived from the early learning standards. In her final draft, she eliminated the aforementioned examples and replaced with:

Language Strand 1-Concept c: Children will observe and ask questions about nature.

Visual Arts Strand 1-Concept a: Children will use a variety of techniques and processes to create a work of art.

Final unit plan-additions. Data analysis showed two common additions to the unit plan. The common additions were (a) more details about the formative assessments, how they would be used to measure progress toward the unit goal, and what they would measure and (b) an included aligned unit plan summative assessment.

Formative assessment details. The first addition included formative assessment

details. It was found that three of the five participants, Jessica, Alexandra, and Crystal

added detail about the unit's formative assessments, how those assessments would be

used, and what they would measure. For example, they indicated that formative

assessments, such as checklists and anecdotal records, would be used to monitor student

progress during the unit plan. Below are examples of before and after descriptions of the

formative assessments included in the unit plan.

> Jessica *before:* Progress will be measured through observation, checklists, and
> exit tickets.

> *After:* Progress will be measured through observation and checklists. Through
> observations, students will have to portray a knowledge of transportation
> when asked questions and complete activities. Checklists will be used to
> determine a summative assessment. The checklist will include the child's name
> and the images they sorted correctly on the tree map.

> Alexandra *before:* Progress will be measured through observations and checklists.

> *After:* Progress will be measured through observation and checklists. Through
> observations students will have to portray knowledge on where they see that type
> of transportation why [*sic*] asked a variety of questions.

> Crystal *before:* I will use the assessment checklist.

> *After:* A circle map will be completed whole group to access prior knowledge. I
> will use the assessment checklist as listed above to measure student progress. I
> will also use observation[s] during experiments with wood and paper.

Aligned summative assessment to standards. Finally, data analysis showed that

three of the five participants, Alexandra, Rebecca, and Crystal, included an aligned

summative unit plan assessment. This was a significant change from the unit plan draft,

as zero of the five participants included a final summative assessment. Alignment was

displayed between the identified unit standards and summative assessment. For example,

Alexandra listed "with modeling and support, uses category labels and names objectives within a category; e.g., fruit, vegetable, animal, **transportation,** etc." as a prioritized standard to teach in the unit. To assess students, she aligned nine items on the summative assessment to the standard. Alexandra's students were to name the mode of transportation category of specific items. For land, students were to name items such as a car, bus, truck, and train. To demonstrate knowledge of the sky, students had to name an airplane, helicopter, hot air balloon, and rocket. Water transportation required students to identify and name a boat, ship, and submarine.

To demonstrate performance, Rebecca created a series of checklists for each of the identified standards in the unit plan. Each checklist listed each student's name, yes if they performed the standard, no if they did not perform the standard, and an emerging category if students had some understanding of the standard. Although Rebecca included aligned checklists to measure students' performance of the standards, she included two additional standards and assessment checklists that did not align to any identified standards.

Crystal aligned the prioritized unit standards to the assessment checklist. She listed each student's name, the standard, and the intended performance students were to complete. If students were able to perform the task, they received a check mark next to their name. Each standard included an aligned assessment item. However, Crystal did include standards in the summative assessment that were not taught as daily lesson objectives.

Final unit plans-no changes. Unit plan drafts were examined for no changes made to the final unit plan, after participants received feedback from the researcher. Data

83

analysis showed five common trends regarding a lack of changes. The common trends were (a) activity-driven daily lesson objectives, (b) lack of clarity and detail about the formative assessments, how they were used, or what they would measure, (c) no unit plan summative assessment, (d) unclear daily lesson objectives, and (e) misalignment between daily lesson objectives and identified standards.

Activity-driven daily lesson objectives. First, three of the five participants, Casey, Rebecca, and Crystal, still included activity-driven daily lesson objectives in the final unit plan. Examples of such objectives found in the final unit plan were:

Casey: Students will be able to work together and create a science experiment about how to make rain.

Rebecca: Students will be able to use different techniques and processes to make their own art.

Crystal: Observe how wood interacts with water.

Lack of clarity about formative assessments. Next, data analysis showed that two of the five participants, Casey and Rebecca, did not clarify the formative assessments, how they would be used, or what they would measure. For example, Casey listed using journal pages, a chart of all the different seasons, observation notes, anecdotal notes, and worksheets as ways to measure students' progress toward the unit goal. Rebecca listed checklists, observations, anecdotal notes, pictures, and artifacts as formative assessment tools but did not provide detail on how those assessments would be used or what they would measure.

No summative assessment. The third common error was two of the five participants, Jessica and Casey, still failed to complete step two of the Backward Design

(Wiggins & McTighe, 2005) framework. They did not include a summative assessment with the final unit plan.

Unclear daily lesson objectives. Writing unclear daily lesson objectives was the fourth common error found in the final unit plan. Analysis showed that four of the five participants, Jessica, Casey, Rebecca, and Crystal, still included unclear objectives in the final unit plan. A few examples were:

> Jessica: SWBAT express new vocabulary through experimenting with types of road transportation.

> Casey: Students will be able to match items correctly to the accurate season.

> Rebecca: Students will realize when we read stories, that their life is similar and their feelings are similar.

> Crystal: Wood circle map.

Unaligned standard to daily lesson objectives. The last common error was made by two of the five participants. Casey and Crystal still showed misalignment between the identified standard and daily lesson objective. For example, Casey showed misalignment between the following objective and standard:

> *Objective:* Concept 3: Changes in the Earth and Sky-Understand characteristics of weather conditions and climate.

> *Standard:* Students will be able to make a sandcastle that will help them understand the season summer.

Crystal also showed misalignment, as illustrated in the following example:

> *Objective:* S1.C2.1.1: Demonstrate safe behavior and appropriate procedures (e.g., use of instruments, materials, and organisms) in all science inquiry.

> *Standard:* Transform the shape of wood using sandpaper.

Overall, data analysis showed common errors made by each of the five participants as they planned the unit plan. Next, results from semi-structured interviews will be presented to further support the planning theme which emerged.

Semi-Structured Interviews

Semi-structured interviews were completed at the end of the research study and produced seven codes (a) Backward Design benefits, (b) Backward Design process, (c) challenges, (d) collaboration, (e) control, (f) pedagogical teaching practices, and (g) support. The code pedagogical teaching practices produced four sub-codes (a) assessment practices, (b) connections, (c) differentiation, and (d) monitor and adjust instruction.

This section will present results from the codes (a) Backward Design benefits, (b) Backward Design process, (c) challenges, (d) collaboration, and (e) support, as they support the planning theme.

Backward Design benefits. When planning using Backward Design (Wiggins & McTighe, 2005), there are three sequential steps. Step one is to identify desired results. The desired results help teachers determine what students should know and be able to do. Step two is to determine acceptable evidence in the form of an assessment. The last step is to plan learning experiences and instruction that will lead students to achieve the desired results outlined in step one (Wiggins & McTighe, 2005). As part of the innovation, participants received instruction on the Backward Design (Wiggins & McTighe, 2005) framework before planning and implementing their unit of instruction. Coming into the innovation, each participant had a way of planning. During the

interview, each participant reflected on the benefits of planning using the Backward

Design (Wiggins & McTighe, 2005) framework.

Step 1-Identify desired results. Seeing the big picture, before planning and

teaching, was a benefit discussed by each of the five participants. Knowing the end goal

helped them structure their planning and stay focused on creating a series of lessons

connected to the end results. For example, Jessica stated, "I'm the big picture person and

once I saw the vision I had for the unit, it was easier for me to plan." Alexandra stated,

"Knowing that at the end this is what I want them to know, I think gave me that

foundation to know where to go back now and start."

Rebecca agreed by stating:

…Just knowing, having the goals in front of me first so I know what to do helped. Like if you're just planning aimlessly you may be like, 'Oh, I'm going to have them color today. I don't really know what standard that goes with or what goal for them to reach with that, but the markers are out so I'm going to have them color.' If you just see the goal in front of you it's easier to plan something and they'll enjoy it more when there's a meaning behind it. (Rebecca, personal communication, November 25, 2013)

Considering the end goal also benefitted Crystal as she recalled, "It was helpful

for me to think about what I wanted them to know at the end. Okay, so I need them to

know this, how am I going teach them?"

Step 2-Determine acceptable evidence. Prior to receiving instruction on the

second step of Backward Design (Wiggins & McTighe, 2005), each of the five

participants often did not consider creating an assessment. For example, Alexandra

discussed not planning an assessment.

I don't even know how I'm going to start or what I'm trying to get at. I know I have my objective, but I really need to plan my assessment. What do I want to see out of them at the end? (Alexandra, personal communication, December 3, 2013)

Like Alexandra, Casey did not usually include an aligned assessment with her

plans, as demonstrated in the excerpt taken from her semi-structured interview.

> I always skipped the assessment part. I would always get my standard, objective, and then I would have nothing to assess. It was more of a fun activity. Now that the assessment's at the beginning, I was like, okay, this is what I need to hit. Have I even possibly got there? (Casey, personal communication, November 25, 2013)

Like Alexandra and Casey, Crystal stated:

> Okay, this is the standard and this is how I can teach the standard, but then I don't really know how to have them show what they know necessarily all the time. I feel like that helped me to pay attention to what I want them to know at the end. (Crystal, personal communication, December 3, 2013)

Step 3-Plan learning experiences and instruction. A common theme, as

expressed by each of the five participants, was the idea of planning the lesson, first,

without considering the end goal or ways to assess the lesson. Through engaging in the

Backward Design (Wiggins & McTighe, 2005) framework, participants discussed how it

helped them plan for more purposeful and structured instruction. As Alexandra recalled,

"I already know what I want my kids to know at the end. [It] really helps you plan a lot

better and then plan for your differentiation." Rebecca also discussed this idea in her

interview.

> Just knowing what I'm doing, just like being prepared. Knowing I want them to hit this now so I'm going to do this. When you're up there in front of all those kids, even though they're three and four…I should probably know what I'm doing. It's still a big deal. (Rebecca, personal communication, November 25, 2013)

Crystal stated, "This is what I want them to know by the end, so this is how I need

to get there."

Backward Design process. Each of the five participants reflected on their

journey as they planned using the Backward Design (Wiggins & McTighe, 2005)

framework. Experience varied among the five participants from never having heard of

Backward Design (Wiggins & McTighe, 2005), having little understanding of what it

meant to begin with the assessment before planning, and never using the process to plan a

unit of instruction. During the semi-structured interview, participants recounted the time

and thought it took to plan using this process. Jessica recalled:

> Planning it took a lot more thought than I expected. You can't just take a topic and then it's done. I really had to think about my kids and does this relate to them. Planning a unit isn't really scary. It's more helpful than scary. (Jessica, personal communication, December 2, 2013)

When planning her unit, she also discussed the importance of choosing a topic

that was relatable and fun for the students. She settled on transportation because she

could "teach the vocabulary standards through using students' previous experiences."

Casey expressed the frustration she felt with learning a new concept and then

applying it to her placement classroom.

> It was kind of stressful because I didn't quite understand what to narrow into. I did get overwhelmed. One day I did get upset in class just because I got frustrated with the middle section [daily lesson objectives of the unit plan template]. (Casey, personal communication, November 25, 2013)

Casey had to see the unit plan as "more than a lesson plan." Once she understood

where to identify standards and how to translate them into daily lesson objectives, she

planned the unit. As she stated, "Once the light bulb went off…I went home that night,

thought about what you had said in class, stared at the computer for like twenty seconds

and went, 'Oh, duh!' and knocked it out within an hour."

Like Casey, Backward Design (Wiggins & McTighe, 2005) was a new process for

Crystal.

I had never actually planned that way before so it was kind of weird for me to plan starting with the assessment and then working the other way. It takes time. You have to actually know what you're wanting to teach…and what you really want the kids to know and then you can kind of work your way forward. (Crystal, personal communication, December 3, 2013)

Alexandra and Rebecca had different experiences than those expressed by the other three participants. During the interview, Alexandra discussed the idea that she had always considered an assessment but never associated planning in that manner with Backward Design (Wiggins & McTighe, 2005).

Whenever I used to lesson plan I would like to know what my assessment would be for my kids. So I feel like I always kind of did it that way, but I never really knew like, oh, I'm backward planning. (Alexandra, personal communication, December 3, 2013)

Rebecca discussed minimally using the Backward Design (Wiggins & McTighe, 2005) framework to help her plan. When asked about the process, she stated, "I considered it [Backward Design] a little bit. It worked just thinking of the target that I wanted them to reach and then it helped my craft idea."

Challenges. Challenges experienced when planning the unit was the next theme discussed by each of the five participants. Jessica discussed the challenge of finding appropriate books that aligned to the unit plan goal. "I struggled so much with the book reading part. I don't know if I just couldn't find the books or my books were just unrelatable. I want my students to enjoy this while they're learning, but *books were hard.*"

Alexandra mentioned the challenge of creating lesson objectives for each standard. During the interview she stated, "I think the biggest challenge is always the standards and then trying to come up with an objective."

90

Casey experienced the challenge of making the unit plan more interdisciplinary.

> We can't just write. It's not just math. I need to do science and social studies. I
> know my standard was science but my mentor wanted me to include other
> standards, which I know I did not add all the way. (Casey, personal
> communication, November 25, 2013)

Rebecca recalled the challenge of not knowing exactly what to plan for. During

her interview she stated:

> When I was making the unit plan I kind of just made it as if what I would do if I
> was the teacher and that was just extra ideas if I got a chance to do it. If she said,
> 'You know what, you can take Tuesday, do Tuesday,' then I would have the extra
> ideas. But if not, whatever. (Rebecca, personal communication, November 25,
> 2013)

Crystal experienced the challenge of planning prioritized standards to help

students reach the end goal.

> I knew what the items on the checklist were and then matching it to standards and
> then matching that to the lesson itself was kind of hard because I felt that there
> were so many standards that applied. It was hard to match and figure out which
> ones were most important. (Crystal, personal communication, December 3, 2013)

Collaboration. Another theme that emerged in two of the five participants'

interviews was collaboration. Both Jessica and Alexandra described the importance of

collaborating with one another as they planned the unit. Casey and Rebecca discussed the

impact of collaborating with their mentor teacher as they planned the unit.

Jessica and Alexandra worked together to create the unit big goal. They created

the same goal for their students, but tailored their assessment and daily lessons to meet

the individual needs of their classes. Each discussed the role collaboration played when

planning the unit and mentioned the other during her interview. Jessica stated:

> I consulted Alexandra. Our classes will be different but we can feed off each
> other. It made it easy to do it together. If I got stuck somewhere she had ideas for

it. Working with another person was really great. (Jessica, personal communication, December 2, 2013)

Alexandra shared Jessica's sentiment. "I had the support of Jessica. I was lucky to have her because we definitely did not do anything the same, but I think since we had the same big goal, I think it kind of helped us brainstorm."

Casey and Rebecca reflected on the importance of speaking with their mentor teacher and paraeducators to receive input. Casey talked with her mentor teacher who helped her identify an appropriate assessment to administer at the end of the unit plan, while Rebecca discussed how to plan learning experiences that were not redundant for students. Casey recalled, "My mentor and I sat down a couple days before and really hit it hard. She asked questions like: If you do this, what's going to happen here? Why are we doing this? She really kept me on target." Rebecca stated, "I talked to them, the paraeducators and my mentor teacher, about different crafts that they haven't tried just to see what would work or what wouldn't work or what I can try again or that I haven't tried."

Support. Like collaboration, support emerged as a theme discussed by three of the five participants. Jessica, Alexandra, and Casey discussed the support received from their peers. As peers, participants were able to support one another as they went through a new process. Peer support specifically helped Jessica. She recalled that "being able to ask other girls" about what they were going to teach or how they were planning was beneficial. Alexandra said, "I think I was really lucky because I had the support of Jessica." Casey also stated, "I sat down with some of the other girls. We pulled together real fast and said, okay, let's focus on this. What are we doing here?"

92

Three of the five participants, Alexandra, Casey and Crystal, stated that mentor teacher support was paramount as they went through the planning process. Alexandra stated, "Receiving positive support and affirmation, from my mentor teacher and paraprofessionals, not only helped me plan my unit, but increased my self-confidence." As a self-proclaimed "negative person" it was comforting to Alexandra to know that she was on the "right track with teaching."

Casey also discussed the support she received from her mentor teacher when planning her unit. She discussed the importance of receiving ongoing support as she plans future units in her own classroom.

> I think implementing support is going to my co-workers, maybe looking online, or email Janet [Site Coordinator] or you [researcher]. Once I talked to my mentor and actually pinpointed what we were doing, it was like, *I can do this*. (Casey, personal communication, November 25, 2013)

Like Casey, Crystal discussed the importance of mentor teacher support, once she and her mentor were on the same page about the unit plan. Guidance, through the process, was important for Crystal. "I feel like having my mentor teacher there helped too because she had done it several times. If we weren't quite sure she was able to jump in and kind of explain it in a different way."

Unlike Alexandra, Casey, and Crystal, Rebecca did not request as much assistance when planning. She planned her unit more independently after she spoke to her mentor teacher about the direction to take. Rebecca used her mentor teacher's previous curriculum as a starter when planning her unit. Once she did that, she translated the curriculum into something that was her own.

This section has presented qualitative results from field notes, unit plan draft and final, and semi-structured interviews to support the planning theme. To support the implementation theme, the next section will present qualitative results from classroom observations and semi-structured interviews.

<p style="text-align:center">**Implementation**</p>

The second of the three themes discovered through data analysis was implementation. The implementation theme emerged from the qualitative tools (a) classroom observations and (b) semi-structured interviews. Results related to this theme will be presented from each tool.

During implementation of the unit plan, participants instructed lessons connected to the unit. Instruction is the third step in the Model of Pedagogical Reasoning and Action Steps (Shulman, 1987). During this step of the process, information is transformed and presented to students and displays "what teachers should know and know how to do" (Shulman, 1987, p. 19).

Classroom Observations

This section will present the pedagogical teaching practices observed during classroom observations. Additionally, classroom observations led to the creation of interview questions. A list of questions will be included toward the end of this section.

Data analysis showed 17 different pedagogical teaching practices used by participants during observation one and two. Figure 5 displays the results.
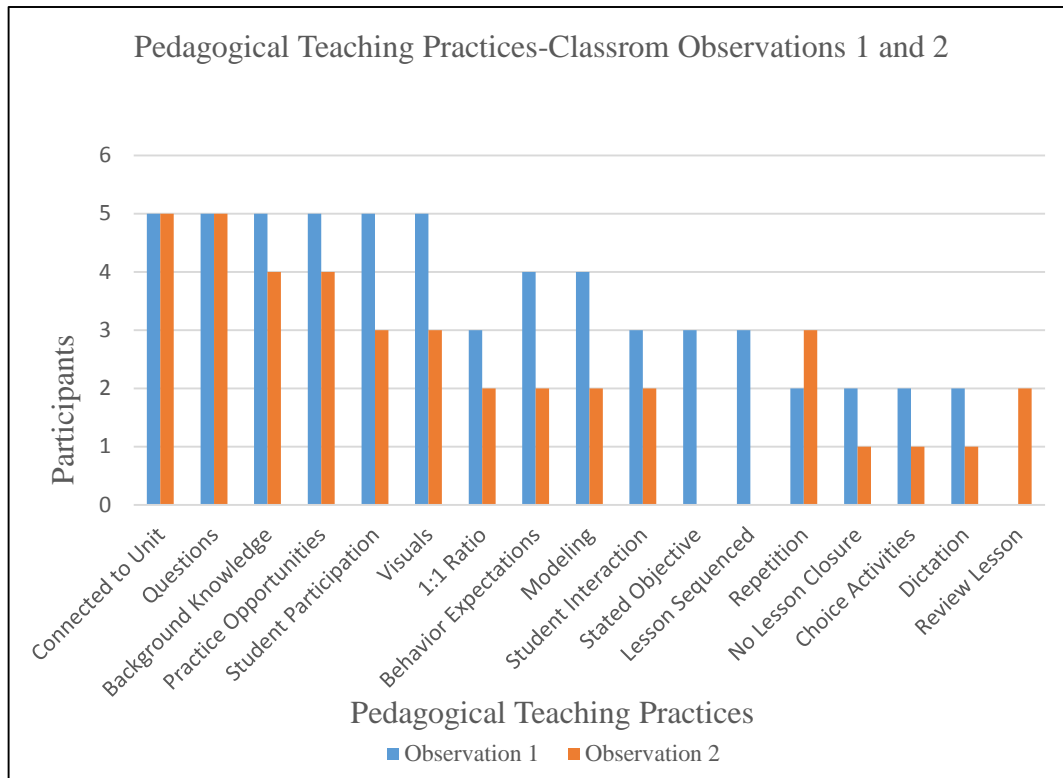
Figure 5-Pedagogical Teaching Practices for Classroom Observation 1 and 2

Classroom observation one. During observation one, each of the five

participants used six of the 17 commonly observed pedagogical teaching practices. The

most commonly observed practices used by each of the five participants during classroom

observation one were (a) the lesson was connected to the overall unit plan, (b) questions

were used to help students input knowledge being taught, (c) participants accessed

students' background knowledge by reviewing information previously taught in the unit,

(d) students had opportunities to practice the skills being taught, (e) students participated

in the lesson through answering questions and recalling previous information learned, and

(f) visuals were used to teach and reinforce concepts.

Connected to the unit. Each of the five participants connected the first observed

lesson to the unit plan. During Jessica's lesson, she taught students the different modes of

95

transportation found in the sky, on land, and on the water. During the lesson, students identified the different modes of transportation and discussed where each type belonged.

Like Jessica, Alexandra focused her unit on transportation. The first observed lesson taught students the different types of water transportation. Students identified a boat, ship, and submarine. She used the water sensory table to have students name and count the transportation type.

Casey also connected the first observed lesson to the unit plan. Her unit plan focused on teaching students how to identify characteristics of the four seasons. Casey read a story about things found in the fall. After reading the story, she completed a bubble map with students where they discussed and listed characteristics of the pumpkin.

Rebecca focused her unit on a harvest theme. During her first observed lesson, she read the book *The Leaves are Falling One by One*. Students ripped pieces of colored construction paper to simulate leaves found in the fall and then used them to make leaf wreaths.

Crystal taught a wood and paper science unit. During the first observed lesson, students discussed different types of wood such as plywood, particle board, and pine wood. They also discussed the characteristics of each type and identified examples in the classroom.

Questions. During the first classroom observation, each of the five participants used a form of questioning to help students input knowledge being taught. Included are examples of questions asked by each participant. All student names have been changed and replaced with pseudonyms.

Jessica: "Michael, what is this?"
Student: "A bus."
Jessica: "Where does it belong?"
Student: "The sky."
Jessica: "In the sky? Friends, help him."
Class: "On the street!"
Jessica: "On the street, that's right."

Alexandra: "What is this? Let's look." (shows a picture of a ship)
Class: "A ship!"
Alexandra: "A ship! And where does this ship go?"
Class: "In the water!"
Alexandra: "In the water! Good job boys and girls."

Casey: "What is something that would describe a pumpkin?"
Student: "Circles."
Casey: "Some are circles and some are ovals. We can say that they are round. I'm going to draw a circle and write the word round. R-r-r…what is the first letter?"

Rebecca: "The leaves are falling one-by-one! Where do they fall from?"
Student: "Trees."
Rebecca: "Yes. Then they tumble down just like that song we sing. And who is in the leaves?"
Student: "The dog."

Crystal: "The next one I have is this one. (shows a piece of plywood) You see the lines on that one? This is a sandwich wood. Do you remember another scientific name for it?
Student: "Plywood."
Crystal: "Yes, plywood. Is there plywood in the forest?"
Class: "No."
Crystal: "No. It's glued together by man to make the sandwich wood, or plywood."

Background knowledge. Each participant accessed students' background knowledge during the first classroom observation by reviewing previous learning. Engaging in this practice connected the current lesson to lessons previously taught within the unit plan. Below are examples of how each participant reviewed previous learning with students.

97

Jessica: "Who can tell me what we've been doing?"
Student: "Transportation."
Jessica: "That's right, Stacy. Let's clap it out."
Together: "Trans-por-ta-tion."

Alexandra: "Okay, remember how we've been talking about water transportation?"
Class: "Yes!"
Alexandra: "Today we're going to be doing more than water transportation. We're going to count our boats one-by-one over there." (pointing to the water sensory table)
Alexandra: "What is this my friends?" (She showed a submarine, ship, and boat and asked students to review names of each before continuing in the lesson.)

Casey: "Remember yesterday when we worked in our month's journal? Raise your hand if you can tell me what month we worked on."
Student: "October."
Casey: "That's right, October. We are going to review the months and then read a story."

Rebecca: "Okay guys, what have we been talking about?"
Two students: "Harvest!"
Rebecca: "You're right. Harvest! (The class clapped out the syllables har-vest together). We talked about harvest and what types of vegetables?"
Class: "Pumpkins."

Crystal: "How many pieces of wood did we work with yesterday?"
Students: "Five."
Crystal: "Yes, five. Can anybody name them?" (She called on students to name each type of wood and asked where it came from.)

Practice opportunities. During the first observed lesson, each participant connected practice opportunities to the lesson's objectives. Students were able to practice the objective through a pre-planned activity. Jessica had students draw their favorite mode of transportation in their target books. Alexandra's students named and counted different types of water transportation at the water sensory table. Casey encouraged her students to practice the objective by having them write sentences. After writing the sentences, students drew a corresponding picture. Rebecca's students practiced the

98

objective by completing fall leaf wreaths. Throughout the lesson, they discussed different leaves they saw in the fall. Lastly, Crystal had students find multiple objects in the classroom made of different types of wood. They also engaged in discussion with peers. Additionally, they discussed and drew objects in their home made of the wood they studied in the lesson.

Student participation. Each of the five participants solicited their students' participation during the lesson. Participation came primarily in the form of answering questions and completing guided practice activities. The following are excerpts taken from observation notes that illustrate how students participated during the lesson.

> Students are actively engaged in clapping out the syllables. Jessica is being very purposeful about asking each student what she is showing them a picture of. This is a means to keep them actively engaged and focused. Students are helping her draw a hot air balloon and are suggesting colors to add. She is asking them to add details to the drawing in the form of clouds.

> Students were active participants throughout the lesson. For example, in the beginning, Alexandra had them place the water transportation pieces on a created water poster. They were able to go to the Smart Board to count the number of water transportation items they saw on the board. They were also enticed to discover what was in the magic box. Once revealed, the students exclaimed that there were water boats and that boats were found in the water.

> Throughout the lesson, so far, students attentively participated and kept their eyes on the teacher. During calendar time, Casey had students participate by stating the months of the year, days of the week, and counting the number of elapsed days in October.

Visuals. Visuals were used by all five participants during the first observed lesson. For example, Jessica used pictures of a truck, rocket ship, airplane, bus, cruise ship, helicopter, car, train, bike, hot air balloon, and submarine to review vocabulary words and types of transportation. Alexandra brought in a toy submarine, boat, and ship

to teach types of water transportation. She also used a magic box and sensory table to help students comprehend the lesson's objective.

Casey brought in real-life examples of pumpkins and leaves to discuss characteristics of the fall. During instruction, students used adjectives to describe the pumpkins and leaves. She then wrote the adjectives on a circle map. Like Casey, Rebecca used replicas of different colored leaves found in the fall. Each student received a leaf and described its color. After describing its color, students pretended to be a tree whose leaves were falling.

Lastly, Crystal brought in different wood samples. Students touched the wood before looking for examples made of particle board and plywood in the classroom. After finding the object in the classroom, students found a partner and discussed the object they touched and stated which type of wood it was made from.

Classroom observation two. During observation one, there were six commonly used practices by each of the five participants. However, results from classroom observation two showed that of the six commonly used practices observed in classroom observation one, each of the five participants only used two during classroom observation two. The two most commonly used pedagogical teaching practices used during classroom observation two were (a) the lesson was connected to the overall unit and (b) questions were used to help students input knowledge being taught from the unit.

Connected to unit. Each of the five participants connected the second observed lesson to the overall unit plan. For example, during Jessica's lesson students identified the different types of transportation found in the water. Students discussed their favorite transportation type and then drew in their target books. Target books were composition

notebooks where students drew new concepts learned. After drawing the type of transportation, each student dictated the sentence to the teacher. For samples of student work, refer to Appendix K.

During Alexandra's second observed lesson, students reviewed the modes of transportation previously learned. Alexandra created a poster sectioned off by land, water, and sky. She showed students a picture of a bus, rocket ship, submarine, airplane, ship, hot air balloon, train, helicopter, truck, car, and boat. After showing them the pictures, she asked students where the item belonged. She then chose one student to place the picture in the correct area on the poster.

Casey worked with a small group of five students during the second observed lesson. She reviewed characteristics of the fall, such as leaf colors and clothing worn. In their journals, students drew a picture of themselves in the fall and then wrote a sentence to describe the illustration.

Rebecca read the book *The Very First Thanksgiving Day* during the second observed lesson. After reading the book, students had the choice of making hand turkeys with Rebecca or completing a different center activity. Two of the five students in the classroom completed the hand turkey activity (Appendix K).

Crystal's second lesson was more of an inquiry-based lesson where students experimented with materials. They used paper clips, water buckets, and rubber bands to determine how many paper clips would sink a particular type of wood. She reviewed the different types of wood before explaining the activity at the beginning of the lesson. They spent the rest of the lesson predicting how many paper clips would sink the wood.

Questions. As observed in classroom observation one, each of the five

participants used questions during observation two. Examples of questions used by

participants are below.

> Jessica: "I'm going to draw my submarine under the water. First, I'm going to draw water. What color is water?"
> Student: "Blue."
> Jessica: "Blue. You're right! I'm going to draw. Does that look like water? I'm going to draw a submarine. What shape did I draw? Do you remember what that one is called? It's an oval."

> Alexandra: "Boys and girls, what's up here?" (pointing to the sky on the poster board)
> Class: "The sky!"
> Alexandra: "The sky. What's down here?" (pointing to the yellow striped street cutout)
> Class: "The land."
> Alexandra: "And AJ, what is over here?" (pointing to the water)
> Student: "The water."
> Alexandra: "The water, that's right! Now I need your help. What is this?" (pointing to a picture of a bus.)
> Class: "A bus!"

> Casey: "What happens to the weather when it turns fall? Is it super hot? How does it feel today?"
> Student: "Warm and cool."

> Rebecca: "Alright, what holiday is coming up soon?"
> Student: "December."
> Rebecca: "December? What's in two days?"
> Student: "Thanksgiving."
> Rebecca: "That's right, Thanksgiving."

> Crystal: "Why do you think it's [piece of wood sinking] doing that?"
> Student: "Maybe because it's too heavy."
> Crystal: "What part is too heavy?"
> Student: "The bottom is heavy."

Data analysis was also conducted to report the decline and increase of observed

pedagogical teaching practices from classroom observation one and two. The next section

discusses those results.

Decline of Observed Practices

Analysis of the data showed a decline in the number of participants using 11 of the 17 pedagogical teaching practices observed between lesson one and two. Refer to Appendix I for a chart listing differences between each pedagogical teaching practice used during lesson one and two. The practices (a) stated a lesson objective and (b) sequenced the lesson into a step-by-step process showed the highest decline between observations.

During observation one, three of the five participants, Jessica, Alexandra, and Casey stated the lesson's objective. However, during observation two, zero of the five participants stated the lesson's objective.

Analysis of observation one showed that three of the five participants, Alexandra, Casey, and Crystal, sequenced the lesson in a step-by-step process. However, during observation two, zero participants sequenced the lesson in a step-by-step process.

Increase of Observed Practices

Data analysis showed an increase in the number of participants using two of the 17 pedagogical teaching practices observed between lesson one and two. Results showed an increase in using (a) repetition during the lesson and (b) the lesson as a review. Review lessons were described as those where no new content was taught.

Repetition. During observation one, two of the five participants, Jessica and Alexandra, used a form of repetition during lesson instruction. However, during observation two, this number increased by one, resulting in three of the five participants, Jessica, Alexandra, and Crystal, using repetition.

Jessica followed the same protocol when she discussed each type of transportation. She called on a student, showed a picture of the transportation type, and asked the student to name and describe where it belonged.

> Jessica: "I'm going to ask Stacy now. Stacy, can you tell me what this is a picture of?"
> Stacy: "Airplane!"
> Jessica: "An airplane. And where does the airplane belong?"
> Stacy: "The sky."
> Jessica: "In the sky. Right." (Jessica then placed the airplane under the heading sky on the poster board. She repeated this process four more times with each student.)

Alexandra used the Smart Board to assist in lesson repetition. After revealing the boats in the magic box, she used the Smart Board. The Smart Board displayed different types of water transportation one-at-a-time. First, she displayed seven pictures of a submarine, followed by eight pictures of a boat. After displaying the number, she asked students to identify it by name, turn to a partner, name the type of transportation shown, and then count together as a group.

> Alexandra: "Let's look at the next one. What are these?"
> Students: "It's a boat!"
> Alexandra: "Turn to a friend and tell them it's a boat. I need your help counting these boats. Start over here. (pointing to the boats displayed on the Smart Board) 1-2-3-4-5-6-7-8. (Students counted with her. She repeated this process three more times with the class.)

Crystal also used repetition as students discussed the different types of wood. Before beginning new instruction, Crystal used repetition to review past learning. She showed students a piece of wood, had them help her place it in the correctly labeled bag, and asked students to recall if it was nature or man-made.

> Crystal: "There are two woods that look the same. The one with the dot is the brass wood. Can you put our pine wood in the right bag? Is that man-made or nature?" (She repeated this process three more times with the class.)

104

Review lesson. Two participants, Casey and Rebecca, used the second classroom observation as a review lesson. During this lesson, participants did not teach new content to students. Instead, they reviewed past learning from other lessons connected to the unit plan.

Casey worked with a small group of five students to review characteristics of fall. During the lesson Casey stated, "Yesterday, we discussed seasons. Let's review some of the stuff we talked about to review our writing." Rebecca read a story to students to reinforce holidays celebrated during harvest time. During the lesson she said, "We're going to read a story to talk about the holiday in harvest."

Semi-Structured Interview Questions

In addition to observing pedagogical teaching practices during implementation of lessons from the unit plan, the researcher crafted additional interview questions based on observed occurrences.

1. Were there any challenges you had as you implemented your unit? Please cite at least two examples?

2. Did you adjust your unit plan to accommodate for students with special needs? Did you consider them when planning your unit?

3. Did you consider the end goal when teaching this particular lesson?

4. Do you think students achieved the objective of the lesson? How do you know?

Analysis of semi-structured interviews, related to the aforementioned questions, produced three common themes. The implementation related themes were (a) challenges, (b) control, and (c) pedagogical teaching practices.

Challenges. During the implementation of the unit plan, analysis showed that three of the five participants, Alexandra, Casey, and Rebecca experienced different challenges, as discussed in their interviews.

Alexandra discussed the challenge of ensuring instruction helped students reach the unit's end goal. She declared, "I think the biggest challenge is always the standards and then trying to come up with an objective. It's like, what do you want the kids to know that day? What do you want them to leave knowing?

Casey discussed the challenge of making learning exciting for students. She stated, "I would say the biggest challenge was getting them excited to even learn about seasons and getting the students interested."

Although Rebecca experienced challenges when implementing the unit plan, her challenges were not related to the areas expressed by Alexandra and Casey. Instead, Rebecca discussed challenges in two specific areas (a) time and (b) mentor teacher control. Throughout the interview, Rebecca recalled the challenge of not having enough time to always implement lessons from her unit plan. As she discussed challenges, there were three separate instances where she referred to time as a barrier.

"I wouldn't get to share it with everyone."

"[I] wouldn't be able to share it with everyone. [I] wouldn't be able to share it with the class because of her set schedule."

"It's just finding the time to do it with our busy schedule. It's nice for them [students playing outside] but that takes away from doing lessons that I probably will need to do. So it's just knowing how to manage your time."

The second challenge Rebecca faced as she implemented the unit plan was mentor teacher control. During the interview, she discussed the challenge and frustration she

experienced of wanting to teach her own ideas under the control of the mentor teacher.

She recounted the challenges experienced with her mentor teacher on four separate

occasions.

> "My mentor teacher didn't exactly let me do every single thing on there. I didn't use everything or I didn't get to use it the way I wanted to use it. I used it the way she would allow in her classroom."

> "I didn't want to overwhelm myself with all these things that I knew I probably couldn't do because of my spot in the classroom."

> "I just made it [unit plan] as if what I would do if I was the teacher and that was just extra ideas if I got a chance to do it."

> "Other things she had in mind weren't even related. Instead of the sensory table with leaves and sticks, she used rice and it didn't really have anything to do with the unit."

Control. The second theme that emerged was the feeling of control. Four of the

five participants, Jessica, Alexandra, Casey, and Crystal, discussed the benefit of

assuming control of the classroom for consecutive lessons. Participants used the phrases

"decision-maker," independency," "empowered," "made it my own," and "actual

teacher."

> For example, Jessica stated:

> I got to take over the class a lot, which hadn't happened until I planned my unit. I was in control of it….I was the decision-maker, which hadn't happened in my teaching yet. When you're student teaching, the teacher is there teaching you how to teach. Whereas, like my unit, I got to go over everything. So I was that person. (Jessica, personal communication, December 2, 2013)

Like Jessica, Alexandra discussed the independence she felt as she implemented

her unit plan. "Being able to have that control, helped me build independency. Before my

unit plan, I would say *I'm not doing this right.* During this whole process, not just my

unit plan, I've grown and learned so many new skills." During a separate part of the

interview she stated, "It was a learning process for me. If I failed then alright, I have to do something else to make it better."

When implementing the unit plan, Casey felt "more empowered." During another point in the interview, she declared, "It was *my* lesson. *My, my kids."*

Lastly, Crystal discussed the unit plan being her first opportunity to assume responsibility for a series of lessons. She discussed feeling more like a teacher.

> Having to teach it as a whole unit, which is what I'm going to have to do as an actual teacher, made it easier to see, okay, this is what I want them to know by the end so this is how I need to get there. (Crystal, personal communication, November 25, 2013)

Pedagogical teaching practices. During the implementation of the unit plan, the theme pedagogical teaching practices also emerged in interviews. Each of the five participants discussed other pedagogical teaching practices used. Four sub-codes emerged (a) assessment practices, (b) connections and repetition, (c) differentiation, and (d) monitor and adjust instruction. Assessment practices were described as ways participants determined whether students performed goals set forth in lessons and the unit. Connections were defined as helping students connect current instruction to previous lessons learned throughout the unit plan. Differentiation centered on modifying instruction to meet the individual needs of students. Monitor and adjust instruction included receiving feedback from students, during the lesson, to make any adjustments. Those adjustments led to helping students comprehend the daily lesson objective.

Assessment practices. Data analysis showed that participants used assessment practices as they implemented lessons during the unit plan. Four of the five participants,

Jessica, Alexandra, Rebecca, and Crystal, discussed the use of checklists. Jessica recalled:

> I had a checklist. I literally wrote water, water, water, road, road, road, sky, sky, sky, and if they did it, I just checked it. If they didn't I just x'd it out. If they needed a choice, or if they said submarine but didn't know where it went then I'd say, 'Does it belong on the water or in the sky?' Then I just wrote choice next to it or prompt needed. (Jessica, personal communication, December 2, 2013)

Alexandra also used checklists as she implemented lessons from the unit plan. During the interview, she discussed their use during her lessons. "It was a checklist. So when they did it I checked it off."

Rebecca chose checklists as they provided a way for her to see which students understood the assessment. "I assessed them with a checklist. In the beginning I wasn't sure if that was enough because checklists are so simple. But with preschoolers it really is that simple."

Lastly, Crystal used checklists to determine if students could identify the different types of wood taught in the unit. "We had a checklist. We would ask them questions about it or look for those kind of behaviors. We would mark it off on our checklists."

Although Casey did not use checklists during the implementation of her unit plan, she discussed her use of writing samples and anecdotal records. She recalled, "They are showing me now in their writing, in their conversations to either us or their parents, or even to some of the other classes."

Connections. Data analysis showed that four of the five participants, Jessica, Alexandra, Casey, and Rebecca, discussed the importance of using repetition and connecting ideas when teaching. They recalled how they reinforced the unit's objectives throughout the day. Engaging in repetition helped their students comprehend the

objective. For example, Jessica discussed how she reviewed and incorporated the objective throughout the day. "It was something they needed to go over every day, almost a part of their routine. I learned really fast that they were seeing the pictures and knew some of them, but some wouldn't know after the second day."

Like Jessica, Alexandra discussed the idea of connecting previous learning through routine. "We would do our routine. One day I would introduce it and then the next day I want them to apply what we learned the day before." She also reinforced learning through connecting center activities and play time. She included different types of transportation students learned about in the dramatic play area. Students made life-size replicas of trains and cars they could experience during play (Appendix K). Alexandra also talked about the benefit of connecting learning to students' environment.

> When we go outside we usually ask them to walk or march. During that unit, I was trying to get them to be different transportation. So sometimes when we were doing the water stuff, I'd be like, '*Okay, it's time to row your boats'* and they would be like, '*Yeah! Row, row, row your boats!*' So they were all excited about it and it helped us walking outside. (Alexandra, personal communication, December 3, 2013).

Casey also remarked on ways she used repetition to make connections across learning opportunities. She incorporated information from unit plan lessons during their morning message. "We do a morning message and most of them will throw in a season. The morning message is where we start off with the date. We talk about the weather."

Rebecca revealed how she reinforced and connected learning to previous instruction. She used vegetables students saw the previous day to review. "The next day we talked about it. Then we had them describe it."

Differentiation. Each of the five participants discussed the need to differentiate instruction. Differentiation, as discussed by participants, allowed them to teach in a way that met the needs of all students. According to participants, differentiation came in the form of using questions to prompt students who struggled to answer questions or perform the daily lesson objective. They also included more visuals to help students with special needs and/or English Language Learners. Participants tailored activities to ensure students could perform at their own level. Lastly, they provided one-on-one support for students.

For example, Jessica provided prompts to assist students. She recalled, "The ones that she did get right, she needed the prompting." During observation of the first lesson, the researcher did observe Jessica prompting a student with clues to arrive at the correct answer.

Alexandra would "differentiate for them individually" to make sure students performed sorting activities. During the interview she recalled, "Throughout my lesson I can set them up for that success and accommodate to them and differentiate whatever I need to do for certain other students." At another point in the interview she explained, "When we did have that teacher-to-teacher time I was able to have formative things with him or reteach it to him individually."

Casey differentiated for different ability groups in her classroom. When completing writing activities, she grouped her students to provide targeted support, per group. During the interview she stated, "…the lower ones have actually gotten the words on the line. The middle group has actually stretched out their own words and my high one has started creating their own sentences with just one prompt."

Although Rebecca discussed differentiation, she did not recall specific instances where she differentiated for students. She needed to continue learning how to differentiate for students and discussed this idea during her interview.

> To be prepared is a huge thing because I also have a child who has severe autism in my class and we have specialists coming in for him. I think of all these other kids but I'm not prepared for him if he wants to do the craft. (Rebecca, personal communication, November, 25, 2013)

Crystal also discussed the importance of differentiating instruction for students. For Crystal, differentiation came in the form of more one-on-one support. Like Casey, Crystal differentiated for different ability groups represented in her classroom. She recalled, "We have a lower group and so we made sure that we were working one-on-one with the kids, as much as we could."

Monitored and adjusted instruction. Three of the five participants, Jessica, Alexandra, and Rebecca, described specific instances where they monitored and adjusted instruction as they implemented lessons from the unit plan.

Jessica discussed having to monitor and adjust her instruction to help students retain information beyond when it was taught during the lesson. Below is an excerpt from her interview.

> I realized in the middle of my unit this isn't working, I need to try this. When something isn't working you have to know how to change it and adapt it to your students. I learned that with the vocabulary for each section that we did, it was something that they needed to go over…I showed them pictures…or videos … I didn't have it [technology] like planned at all in the beginning so that was another thing. (Jessica, personal communication, December 2, 2013)

Alexandra recalled a specific instance where her pre-planned lesson did not work as she thought it would. Initially she planned to show students vocabulary cards and expected that to help them learn the different modes of transportation. However, during

112

the interview she reflected on how she monitored and adjusted her instruction when she

realized students did not comprehend the lesson objective.

> Even though you usually have a unit plan, it never really goes the way you
> actually plan it. I've learned that with anything I'm doing in the classroom right
> now sometimes I have to make like quick (snaps her fingers) adjustments. They
> weren't getting what I was trying to get out to them or try to get them to learn. So
> then a few days later I'm like, you know what, I need to make a visual for them.
> And then that's when I made that poster and I think from there it was just like
> success from then on. (Alexandra, personal communication, December 3, 2013)

Rebecca also recalled a similar experience. "Some days they take you in a

different direction, so you know I had to just scrap it and try to reach that a different

way." She further described this experience in the excerpt below.

> It was just a weird day. None of them were really doing what I was doing so I was
> going with the flow. I had to change. I didn't even hit the assessment. What I
> wanted to initially evaluate them on was them describing a vegetable. I just had
> them touch them, look at them, explore them, and paint them. (Rebecca, personal
> communication, November 25, 2013)

This section has presented qualitative results from classroom observations and

semi-structured interviews to support the implementation theme. To support the

reflection theme, the ensuing section will present qualitative results from post-lesson

written reflections and student work samples.

Reflection

Through data analysis, reflection emerged as the third theme from the qualitative

tools (a) post-lesson written reflections and (b) student work samples. Results related to

this theme will be presented from each tool.

Evaluation and reflection are the final two steps in the Model of Pedagogical

Reasoning and Action Steps (Shulman, 1987). After instruction, evaluation may begin.

Evaluation is the ongoing assessment of teaching and learning (Shulman, 1987). During

the evaluation step, teachers evaluate their own instruction to help determine student understanding. Student understanding, in turn, allows the teacher to make judgments about the pedagogical teaching practices used. After evaluating the lesson, teachers reflect on the lesson. During the reflection stage, teachers are encouraged to continue their development.

Post-Lesson Written Reflections

Results of post-lesson written reflections will be presented in this section. After planning and implementing two lessons from the unit plan, participants completed written reflections for both lessons observed by the researcher.

First, results from the reflection, area of reinforcement, and area of refinement will be presented for the Presenting Instructional Content and Standards and Objectives TAP indicators. Results from classroom observation one will be presented first, followed by results from classroom observation two.

Presenting Instructional Content-Lesson 1 reflection. Data analysis of the Presenting Instructional Content TAP indicator, from post-lesson written reflections of classroom observation one, produced four themes (a) monitored and adjusted instruction, (b) modeled expectations, (c) modeled lesson sequence, and (d) used visuals during the lesson.

Monitored and adjusted instruction. Two of the five participants, Casey and Rebecca, reflected how they monitored and adjusted instruction. For example, Casey wrote, "Knowing that some of my students still were struggling on stretching out words, I decided to dictate the sentence on the board." Rebecca reflected, "I definitely had plans

for how it would go and it did not go according to plan, so I had to improvise last minute."

Modeled expectations. Two of the five participants, Alexandra and Crystal, discussed how they modeled performance expectations for students during the lesson. Alexandra reflected, "In the lesson I made sure I had modeling. Before I asked students to do it independently I modeled on a couple different occasions how to properly count using one-to-one correspondence. Crystal wrote, "I modeled exactly what they were supposed to do, then had them do it with me, continuing to model expectations."

Modeled lesson sequence. Two of the five participants, Jessica and Crystal, modeled the lesson sequence. Jessica wrote, "The lesson was modeled by using the "I do, we do, you do," teaching strategies and performance expectations." Crystal also reflected that she sequenced her lesson. She wrote, "My lesson was logically sequenced."

Visuals. Two of the five participants, Jessica and Alexandra, reflected on their use of visuals during the lesson. Jessica wrote, "The presentation of instructional content established visuals and purpose." Alexandra recalled "The poster board that I made with the sky, water, and land visual helped to teach the lesson."

Presenting Instructional Content-Lesson 1 reinforcement. Areas of reinforcement were skills participants felt confident performing during the lesson and wanted to continue developing competencies for. Data analysis showed no common theme for the area of reinforcement. Instead, results from individual areas of reinforcement will be presented.

Jessica stated that she wanted to "continue using target book lessons in the classroom to find lessons that are relatable and engaging to students because that is when

their work shows growth and excitement." Alexandra reflected, "I will continue to model and give examples to students. This helps them have a visual of what is expected of them while they are independently working on their assessment." Casey wrote that she would like to "continue to observe ways students make connections to lesson materials." Rebecca reflected that she "saw things not working and quickly switched gears." Crystal wrote, "My area of reinforcement is logical sequencing."

Presenting Instructional Content-Lesson 1 refinement. Areas of refinement were skills participants wanted to improve upon in their practice. Data analysis showed lesson pacing as the common theme participants wanted to refine.

Lesson pacing. Two of the five participants, Jessica and Casey, listed lesson pacing as an area they would like to strengthen in their practice. Jessica wrote that she would like to "make sure my pacing is appropriate for children." Casey reflected that she would like to allow herself "more time to talk about a pumpkin and explore what is inside a pumpkin."

Although there was one common theme, Alexandra, Rebecca, and Crystal listed a different area of refinement. Alexandra reflected, "I would like to incorporate different visuals that are more engaging or relatable to the students." In her reflection Rebecca wrote, "I think an area I can improve in is planning on different accommodations." Lastly, Crystal stated, "My area of refinement is modeling by the teacher to demonstrate performance expectations."

Standards and Objectives-Lesson 1 reflection. Data analysis of the Standards and Objectives TAP indicator, from post-lesson written reflections of classroom observation one, produced four themes (a) connections to prior knowledge,

116

(b) expectations for student performance, (c) use of student-friendly language, and (d) students performed the objective.

Connections to prior knowledge. Three of the five participants, Jessica, Alexandra, and Crystal, reflected on the ways they made connections to students' prior knowledge as they taught the lesson. Jessica wrote, "Students were currently learning about transportation, so the lesson's learning objectives were connected to students' previous learning." Alexandra also connected to the students' previous learning by stating, "Ok, boys and girls remember how we have been talking about water transportation." In Crystal's reflection, she wrote, "Learning objectives were connected to what students had previously learned throughout the unit. I reminded students of their past learning at the beginning of the lesson."

Expectations for student performance. Three of the five participants, Jessica, Alexandra, and Crystal, stated expectations for student performance during the lesson. Jessica reflected, "Expectations were also announced twice. It is important that students know what is exactly expected of them." Alexandra "stated the performance expectations." Crystal wrote, "Expectations for student performance were mostly clear."

Student-friendly language. Two of the five participants, Jessica and Alexandra, reflected on the use of student-friendly language to teach the lesson. For example, Jessica wrote, "The objective was stated to the students in an understanding, age-appropriate way." Alexandra reflected that she communicated the objective by saying, "We are going to count our boats one by one in our water table. I made sure to state the objective in a child-friendly language."

Students performed the objective. Three of the five participants, Jessica, Casey, and Rebecca, reflected that students performed the objective of the lesson. Jessica wrote, "All students were able to complete and demonstrate completion of the lesson's objective as shown in their target book activity." Casey reflected, "My standards and objectives were met for the activity. Most of them were able to proper [sic] write the sentence on the paper and most of them had a pumpkin in their illustrations." Lastly, Rebecca wrote:

> I think my students really hit the mark on the standard they were trying to reach. They hit multiple objectives by acting out the book with me, using their fine motor to rip up paper, and creating an original work of art on their own. (Rebecca, personal communication, November 25, 2013)

Standards and Objectives-Lesson 1 reinforcement. One common theme emerged as an area of reinforcement. Jessica and Crystal reflected that they would like to continue to improve in the area of building on students' previous learning during lessons. Jessica reflected that she would like to, "Continue to build off of previous learning, even if it is a completely new topic of learning. I have learned that my students work best when they relate to the topic and they also enjoy their work more." Crystal wrote, "My action step is remembering to always connect the learning they will be doing in the current lesson to learning from the previous lesson."

Alexandra and Rebecca listed different areas of reinforcement. Alexandra wrote, "I will continue to state my objective in child-friendly language. When I do that it gives them the reassurance about what they will need to do at the end of the lesson." Rebecca wrote:

> I think I did well in having them create their own original works of art. They had my example to look at, but they did not follow it and it looked nothing like it at the end. I loved that. (Rebecca, personal communication, November 25, 2013)

118

Casey did not list an area of reinforcement for this indicator.

Standards and Objectives-Lesson 1 refinement. One common theme emerged as an area of refinement. Jessica and Crystal reflected that they would like to improve by communicating instruction in student-friendly language. In her reflection, Jessica wrote, "It would be beneficial to find a way to explain what standard they are learning from. If I was able to explain in an age-appropriate way it might bring more excitement." Likewise, Crystal reflected, "My action step would be to tell students [the objective] in a child-friendly language prior to beginning the lesson."

Data analysis showed that Alexandra and Rebecca listed different areas of refinement. Alexandra listed her area of refinement as stating expectations for the lesson. "I need to work on narrowing it down so that the students will be able to comprehend what is expected of them." Rebecca's area of refinement was choosing age-appropriate books for students. "I think I could have done a better job of picking out an age-appropriate book to go along with the craft. I just used my mentor teacher's books and it was a tad too long for their attention span."

As with the area of reinforcement, Casey did not list an area of refinement for this indicator.

Presenting Instructional Content-Lesson 2 reflection. Data analysis of the Presenting Instructional Content TAP indicator, from post-lesson written reflections of classroom observation two, produced five themes (a) connections to prior knowledge, (b) monitored and adjusted instruction (c) modeled performance expectations (d) student-to-student interaction, and (e) used visuals during the lesson.

119

Connections to prior knowledge. Three of the five participants, Jessica, Casey, and Crystal, reflected on how they made connections to prior knowledge. For example, Jessica reflected, "The lesson was to allow continued learning over previous learning about different types of boats." Casey wrote:

> For the lesson, we talked about the season fall the day before and came up with kid words that help us describe the season. The children then used these words to help them create a sentence and an illustration about fall. (Casey, personal communication, November 25, 2013)

Crystal recalled:

> At the beginning of the lesson, I reviewed past learning, which would be relevant to the rest of the lesson. When students broke off into centers, I reminded students about some of the things they had already found out floated, such as pumpkins. (Crystal, personal communication, December 3, 2013)

Monitored and adjusted instruction. Three of the five participants, Jessica, Alexandra, and Casey, reflected how they monitored and adjusted instruction. In her reflection, Jessica included, "I noticed during the unit plan of transportation my students struggled most when learning different types of boats. For this lesson I used target books to help them grow deeper with their understanding of boats and where they belong." Alexandra wrote, "There were moments when I checked for understanding." Lastly, Casey included, "As I was watching the students struggle trying to create their own sentences I decided to give them the notecards that have site [sic] words already written on them."

Modeled performance expectations. Four of the five participants, Jessica, Alexandra, Casey, and Crystal, discussed how they modeled performance expectations for students during the lesson. Jessica wrote, "Later on I modeled that I wanted them to draw a type of boat we looked at in their target book." Alexandra said, "In the lesson I

made sure I had visuals, examples, and modeling." Casey also remarked, "I did give the

students verbal directions on what I expected from them and show[ed] them my

example." Lastly, Crystal reflected, "I modeled what students were supposed to do prior

to having them do it."

Student-to-student interaction. Two of the five participants, Alexandra and

Casey, reflected on the use of student-to-student interaction during the lesson. Alexandra

recalled, "Then I moved onto the vocab words. They said what it was, shared it with a

friend, and then placed it on the board." Casey reflected:

> I had the students share with their peers at the table and most of them seemed to
> enjoy showing off their illustration and reading their sentences. I watched a few
> go back and correct or add something new to ideas that they got from their peers.
> (Casey, personal communication, November 25, 2013)

Visuals. Three of the five participants, Jessica, Alexandra, and Crystal, mentioned

the use of visuals during the lesson. Jessica wrote, "I started off by showing them

different pictures of real life boats and submarines." Alexandra "…had the poster that I

made with the sky, water, and land visual." Crystal reflected, "During the review, I used

pictures of each type of tree that the wood came from, in addition to samples of each kind

of wood."

Presenting Instructional Content-Lesson 2 reinforcement. Data analysis

showed that modeled performance expectations was the one common theme for the area

of reinforcement. Two of the five participants, Jessica and Crystal, reflected that they

would like to continue to model performance expectations in subsequent lessons. Jessica

reflected, "Before lessons I will continue to explain by modeling their expectations."

Also, Crystal declared:

My area of reinforcement is modeling by the teacher to demonstrate performance expectations. My action step for this would be making sure I always think through what I expect students to be doing at each stage of the lesson, and making sure I am modeling expectations as I get to each of those stages. (Crystal, personal communication, December 3, 2013)

Alexandra, Casey, and Rebecca listed a different area of reinforcement.

Alexandra reflected, "I will continue to provide students with visuals throughout future lessons." Casey listed her area of reinforcement as student-to-student interaction. Lastly, Rebecca wrote that her students "really enjoyed the craft and the way I presented it."

Presenting Instructional Content-Lesson 2 refinement. Data analysis showed no common theme for the area of refinement, as each participant identified a different area. Jessica listed that she would like to include more exploration time during her lesson. She wrote:

After looking through the pictures of the boats I learned that my students were still a bit confused. For future lessons I think it will be more beneficial to allow more time for exploration with the images and videos of different videos. (Jessica, personal communication, December 2, 2013)

Alexandra recorded two different areas of refinement. "If I were to redo this review lesson I would sequence the lesson more properly. Also, keep my student-to-student interaction consistent."

Like Alexandra, Casey provided two areas of refinement. Casey wrote:

What I learned from this experience is not to give the student the notecards with the site [*sic*] word already written because you get a paper full of site [*sic*] words and not a complete sentence. I also learned that during writing back-to-back of each other does not get the best product out of the students. (Casey, personal communication, November 25, 2013)

Rebecca listed choosing more age-appropriate books as an area of refinement. "I think an area I can improve on is picking a better book for my students. More age-appropriate. The one I selected was a little too over their heads."

Lastly, Crystal listed the use of visuals as her area of refinement.

My area of refinement is visuals. Although I did use some visuals, I did not use them to preview the organization of the lesson or include internal summaries of the lesson. My action step for this would be making sure that I am finding ways to present that content visually. (Crystal, personal communication, December 3, 2013)

Standards and Objectives-Lesson 2 reflection. Data analysis of the Standards and Objectives TAP indicator, from post-lesson written reflections of classroom observation two, produced two themes (a) no objective communicated and (b) students comprehended the objective.

No objective communicated. Three of the five participants, Alexandra, Casey, and Crystal, reflected that they did not communicate the lesson's objective to students during instruction. Alexandra wrote, "I didn't state an objective before beginning my class review. This review took place within circle time and I skipped that important part." Casey also reflected, "I feel I fell a little short on the objectives. I did not give them a clear understanding of what I was expecting from them." In her reflection, Crystal wrote, "I did not tell the students the state content standards or learning objectives I was focusing on for that lesson."

Students comprehended the objective. Two of the five participants, Jessica and Rebecca, reflected that their students comprehended the lesson's objective. According to Jessica, "Students were engaged in lesson objectives and all students completed the assignment by showing evidence in their target books." Rebecca reflected, "I think my

students really hit the mark on the standard they were try[ing] to reach. They hit multiple objectives by dictating ideas about Thanksgiving and creating their own work of art."

Standards and Objectives-Lesson 2 reinforcement. One common theme emerged as an area of reinforcement. Jessica and Crystal reflected that they would like to continue building on students' previous learning during lessons. Jessica reflected on a desire to "continue to build of[f] prior knowledge of prior student learning." Crystal also wrote:

> My area of reinforcement for this lesson was learning objectives are connected to what students have previously learned. Students had previous experience on the topic from earlier in the unit. I reviewed their previous learning at the beginning of the lesson. (Crystal, personal communication, December 3, 2013)

Although there was one common theme, Alexandra and Rebecca listed different areas of reinforcement. For example, Alexandra wrote, "I do not want to put anything under reinforcement because this part of the TAP rubric was done poorly and I wouldn't do it the same again." Rebecca said, "I really thought I did well in placing what I wanted them to do in the steps."

Casey did not list an area of reinforcement for this indicator.

Standards and Objectives-Lesson 2 refinement. One common theme emerged as an area of refinement. Jessica and Crystal reflected that they would like to continue communicating in student-friendly language. Jessica wrote that she would like to, "Find new ways to explain student standards, objectives, and expectations. If explained in an age-appropriate way, students may find more excitement in what they are learning."

Crystal also explained:

> My area of refinement for this lesson is learning objectives and state content standards are communicated. I did not tell students either the learning objectives or the standards for the lesson at any point. My action step for this is making sure that I figure out how to state my objectives and the standards in child-friendly language prior to teaching the lesson. (Crystal, personal communication, December 3, 2013)

Alexandra and Rebecca listed different areas of refinement. Alexandra listed her area of refinement as stating the lesson's objective. She would like to "…state an objective in the beginning of every lesson even if it's in the middle of circle time." Rebecca wrote, "I think I could do a better job of picking out an age-appropriate book to go along with the craft. I just used my mentor teacher's books and it was a tad too boring for them."

As with the area of reinforcement, Casey did not provide an area of refinement for this indicator.

Student Work Samples

In general, participants used student work samples to show the products their students created from the two observed unit plan lessons. Results of the student work samples will be presented by each participant. This is the preferred method because each participant taught different lesson objectives and determined how students would show objective performance. The number and type of work samples varied by participant. Refer to Appendix K for pictures of student work samples.

Jessica submitted eight work samples. She provided four work samples, one per student, per lesson observed by the researcher. The first observed lesson reviewed different modes of transportation. To demonstrate performance of the objective, students

125

drew a picture of their favorite mode of transportation in their target books and then dictated the sentence to the teacher.

The second observed lesson taught different types of water transportation, specifically boats and where they belong. Students drew a different type of boat in their target books to demonstrate performance of the objective. From the provided student work samples, it was determined that all students performed the objective.

Alexandra submitted eight pictures from the unit plan. Only three were included in Appendix K as they did not contain pictures of the students. The samples that Alexandra provided were of model cars, trains, and airplanes made by students. Alexandra provided student work samples that were not from the two classroom observations conducted by the researcher. However, the pictures provided were connected to her unit plan.

The two observed lessons did not have a product that students completed. Instead, students did one-on-one assessments with Alexandra. During lesson one, students went to the water sensory table to identify the mode of transportation and count how many objects they saw. Upon observation, it was evident that all five students were able to name the specific mode of transportation and then count the number of boats. Of the five students, one student needed help counting the number of boats in the water sensory table.

The second observed lesson was a review lesson conducted during circle time. During the lesson, Alexandra created a poster board that sectioned off the different modes of transportation (sky, water, and land). Students were asked to identify the different parts of the poster and specific mode of transportation. Using toy objects (cars, boats,

airplanes), students placed the object on the corresponding mode of transportation. From observing the lesson, each student successfully placed the mode of transportation into its correct category.

Casey provided two work samples. Casey did not provide student work samples from the first observed lesson. The first lesson discussed the fall season and items seen in fall, such as pumpkins. During the lesson, she read a related story. Once she completed the story, students practiced writing dictated sentences about fall. After practicing, they drew pictures about the fall that included details, such as pumpkins.

The second observed lesson was a review lesson where students wrote about seasons. Casey worked with five students who previously experienced difficulty writing sentences related to fall. Students were expected to draw a picture that depicted the fall and write a related sentence. She provided two of the five work samples. Evidence from student work samples showed that one student performed the objective. However, the other student work sample was unaligned to the objective, as the student drew and wrote a sentence detailing characteristics of the winter. The student did not perform the lesson's objective.

Rebecca provided three work samples. Rebecca's first observed lesson discussed elements of the harvest season. During the lesson she read a story *The Leaves are Falling One by One* with students at the carpet. As she read the story, Rebecca reviewed the leaves observed in the book. She discussed where leaves came from and why the colors changed. After reading the story, students went to different centers. In Rebecca's center, students completed a leaf wreath. Each student had pieces of red, yellow, green, and brown construction paper. They ripped the pieces of colored construction paper and glued

them onto a leaf pattern. Students then glued the leaves to a paper plate to make a leaf wreath. There were five students in her center. However, Rebecca only provided two work samples of a leaf wreath created by two students.

During the second lesson, Rebecca read a story *The Very First Thanksgiving Day* with students at the carpet. As she read the story, Rebecca reviewed the impending harvest holiday season and discussed Thanksgiving traditions, including eating turkeys. After reading the story, students went to different centers. Students had a choice to work with Rebecca to make hand turkeys or go outside for free play. Two students chose to stay with Rebecca to create their hand turkeys. Rebecca provided one work sample of a hand turkey created by a student. The sample showed the student performed the objective.

Crystal provided four work samples. Crystal's first observed lesson reviewed different types of wood. Students partnered to find examples of different types of wood in the classroom. When they identified a different piece of wood, they placed a piece of paper on the type of wood they found. After practicing the lesson objective, students created an illustration of something in their home that was made of wood. They then completed a cloze sentence, writing the name of the identified object. They were over 20 students in the class, but Crystal provided four work samples. Of the provided samples, all students performed the objective.

For the second observed lesson, Crystal did not provide student work samples. Students were engaged in an inquiry science lesson. The objective of the lesson was to see whether different types of wood would sink or float, based on the weight put upon

them. Students did not complete a work sample, but instead experimented with different materials during the lesson.

This section has presented qualitative results from post-lesson written reflections and student work samples. Overall, data analysis of the qualitative tools presented in this chapter have supported the three themes related to the unit plan (a) planning, (b) implementation, and (c) reflection. The next section will present quantitative results from TAP scores gathered during classroom observation one and two.

Quantitative Data Results

Results from the quantitative data collection tool will be presented. As explained in chapter three, the researcher conducted two classroom observations, per participant. The researcher scored each lesson on seven observable TAP indicators (Appendix D). Scores for each indicator ranged from one to five: 1 = unsatisfactory, 2 = approaching proficient, 3 = proficient, 4 = highly proficient, and 5 = exemplary. Each participant had a set of two scores. Descriptive statistics were used to report the mean and standard deviation scores of each TAP indicator. Results will be provided for both observed lessons. Results from the group will be presented first, followed by each participant's TAP scores.

Group results. Data analysis showed an overall mean score of 2.6 on each of the seven TAP indicators for observation one and 2.7 for observation two. The mean score slightly increased between observations, demonstrating a difference of 0.1. The overall standard deviation score of observation one was 0.606 and 0.412 for observation two. There was a difference of 0.194. Table 5 displays the mean and standard deviation scores of the TAP indicators from classroom observation one and two.

Additionally, a paired sample t-test was conducted to determine change over time across observation one and two. In general, data analysis showed the results from observation one and two were not statistically significant.

Mean scores on Standards and Objectives and Academic Feedback remained the same, at 2.6, between observation one and two. However, mean scores for the indicators Presenting Instructional Content, Activities and Materials, Managing Student Behavior, and Teacher Content Knowledge all increased by 0.2, from observation one to two. The mean score for Teacher Knowledge of Students was lower in observation two than one, decreasing by 0.2.

Table 5

Mean and Standard Deviation of TAP scores for Classroom Observation 1 and 2

Variable	Observation 1		Observation 2		t value	*p* level
	M	SD	M	SD		
Standards and Objectives	2.6	0.548	2.6	0.548	0	1.000
Presenting Instructional Content	3.0	0.707	3.2	0.447	-.535	.621
Academic Feedback	2.2	0.447	2.2	0.447	0	1.000
Activities and Materials	2.4	0.548	2.6	0.548	-1.00	.374
Managing Student Behavior	2.8	0.447	3.0	0.000	-1.00	.374
Teacher Content Knowledge	3.0	1.000	3.2	0.447	-5.35	.621
Teacher Knowledge of Students	2.4	0.548	2.2	0.447	1.00	.374
Total Mean Score	2.6	0.606	2.7	0.412		

Results by participant. The following section displays results from each of the five participant's scores on the seven TAP indicators. Data analysis showed that participants scored between two and three on each indicator. However, Jessica and Alexandra scored a four in Presenting Instructional Content during observation one. Jessica also scored a four on Teacher Content Knowledge during observation one and

two. Alexandra scored a four in Teacher Content Knowledge during observation one. Refer to Appendix D for the criteria to score a four on each indicator.

A further explanation of each participant's score is included. Analysis showed that Jessica's TAP scores remained consistent over observations. The score for Presenting Instructional Content increased from three in observation one to four in observation two. Alexandra's TAP scores decreased from observation one to observation two in Standards and Objectives, Presenting Instructional Content, Academic Feedback, and Teacher Knowledge of Student. Casey's TAP scores remained consistent over observations. The score for Teacher Content Knowledge increased from two during observation one to three during observation two. Rebecca's TAP scores remained consistent over observations as she received the exact same score on each indicator during both observed lessons. Crystal's score on each of the indicators, with the exception of Teacher Knowledge of Students, increased from two to three during both classroom observations. Scores for the indicator Teacher Knowledge of Students remained consistent at two.

Figures 6-10 display TAP scores, per participant, of observation one and two. Scores from observation one are represented in blue and scores from observation two are represented in orange.
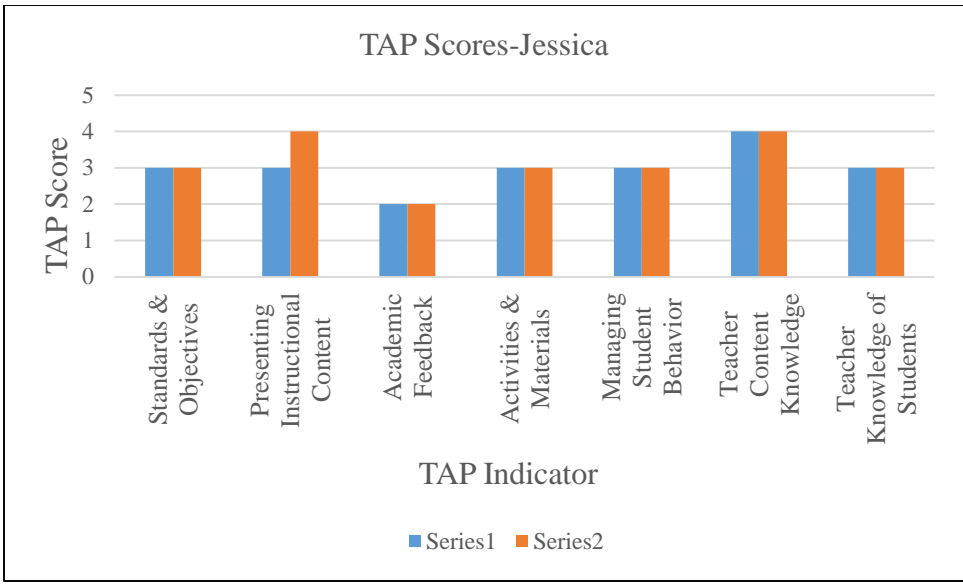
Figure 6. TAP Scores-Jessica
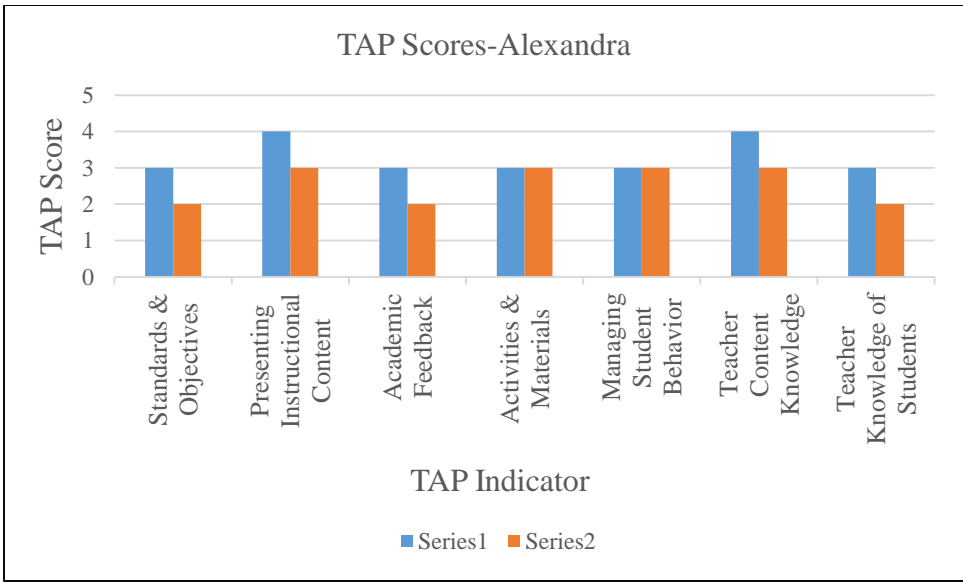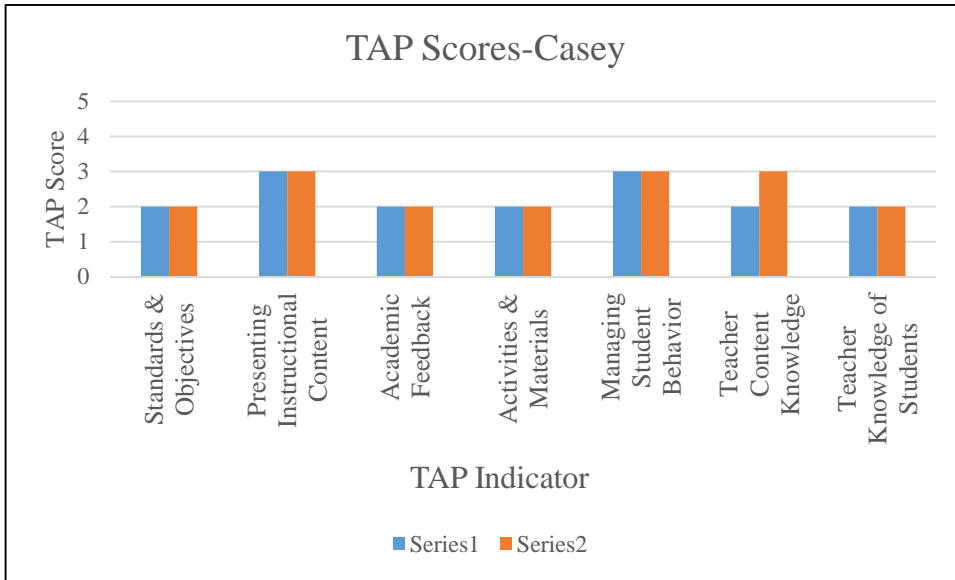

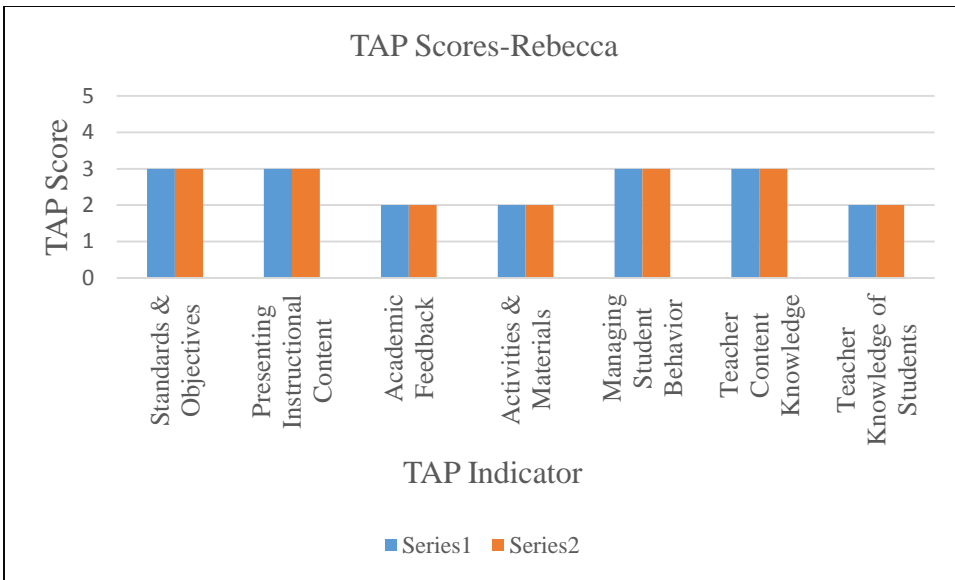*Figure 7.* TAP Scores-Alexandra

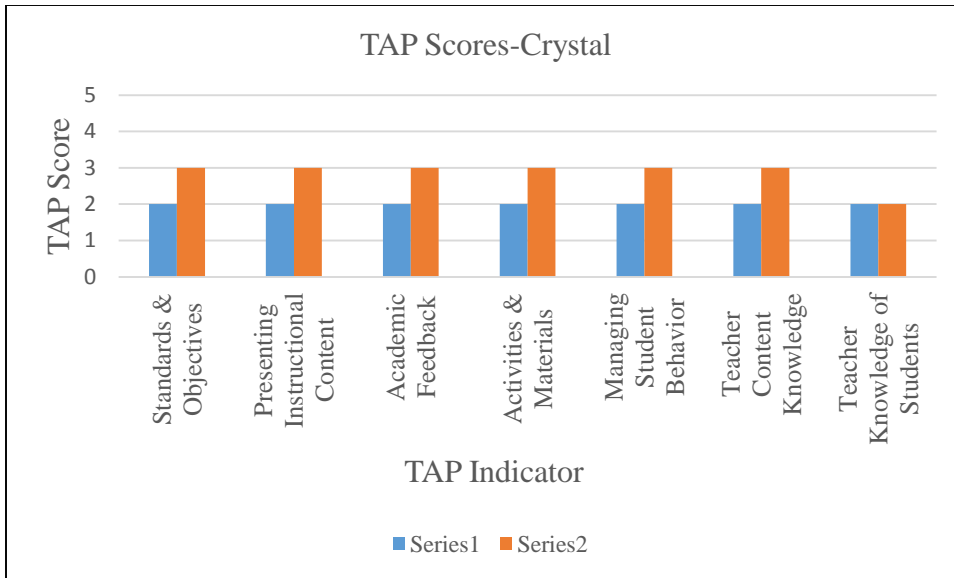*Figure 8.* TAP Scores-Casey

Figure 9. TAP Scores-Rebecca

Figure 10. TAP Scores-Crystal

This chapter has presented the qualitative and quantitative results from each data collection tool. Qualitative data showed three themes (a) planning, (b) implementation, and (c) reflection. Quantitative data provided the mean scores, standard deviation, and each participant's TAP scores on seven observable indicators. The following chapter will present the findings and warranted assertions based on all presented data. The study's research questions will be discussed in relation to the data results. Lastly, the chapter will conclude with lessons learned, implications for practice, implications for future research, limitations of the study, threats to validity, strengths of the study, and conclusion.

CHAPTER 5

DISCUSSION

The previous chapter presented results from the qualitative and quantitative data of the research study. Qualitative data analysis was presented in three sections (a) planning, (b) implementation, and (c) reflection. Descriptive statistics were used to present quantitative data. This chapter will provide a discussion of the data.

The purpose of the research study was to examine the unit planning and pedagogical teaching practices of pre-service teachers through answering the following two research questions:

1. How and to what extent are the unit planning practices of Teacher Candidates developed as they plan one, two-week unit of instruction in math, reading, social studies, science, or writing?

2. How and to what extent does unit planning inform instructional practices in the elementary classroom?

Planning for instruction is a necessary skill teacher preparation programs must teach, to produce teachers who are ready to educate the 21st century learner (Moore, 2003; Darling-Hammond, 2006; Jones et al., 2011). Through the innovation, participants used the Backward Design (Wiggins & McTighe, 2005) framework to plan a unit of instruction to teach in the placement classroom.

The research study focused on complementarity. Through complementarity, results from the qualitative and quantitative data served to "elaborate, enhance, deepen, and broaden the overall interpretations and inferences from the study" (Greene, 2007, p. 101).

135

Discussion of the data will be broken down into three sections. First, the complementarity found across the qualitative and quantitative data will be discussed. Second, warranted assertions will be presented. The final section will conclude with a discussion of lessons learned, implications for practice, implications for research, limitations, threats to validity, strengths of the study, and conclusion.

Complementarity of Qualitative and Quantitative Data

Results from the qualitative and quantitative data collection tools helped understand the "complex and multifaceted nature" of the research phenomenon (Greene, 2007). Moreover, results provided complementarity in the study. Two classroom observations and post-lesson written reflections of each lesson provided support for the quantitative data gathered from TAP scores. Each lesson was scored on seven TAP indicators (Appendix D). The qualitative and quantitative data results were complementary in two ways (a) TAP scores provided support for the pedagogical teaching practices observed and (b) TAP scores supported identified areas of reinforcement and refinement on the post-lesson written reflections.

First, TAP indicator scores provided support for the pedagogical teaching practices observed during classroom observations. This supports the theme implementation discussed in the results section. The Theory of Pedagogical Content Knowledge, "represents the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction" (Shulman, 1987, p. 8). During implementation of the unit plan, participants translated lesson content into instruction for students. Analysis of each participant's TAP indicator scores showed their

136

ability to score within the mean average during instruction of the unit plan. The average mean score was 2.6 for lesson one and 2.7 for lesson two. Furthermore, qualitative information from classroom observation notes showed participants used such pedagogical teaching practices as repetition, visuals, and modeling of performance expectations during the implementation of each lesson.

Complementarity was also evident in the reflection theme discussed in the results section. Quantitative data from each TAP indicator score related to each participant's post-lesson written reflection. After each observed lesson, participants used two TAP indicators, Standards and Objectives and Presenting Instructional Content, to reflect on their teaching. Post-lesson written reflections helped support the TAP scores received. For example, Alexandra and Crystal received a lower score between observation one and two on Standards and Objectives. They listed communicating the lesson's objectives as an area to improve upon in the post-lesson written reflection.

Moreover, each participant's score on Presenting Instructional Content, with the exception of Crystal, ranged between three and four. During reflections, participants listed teaching strategies such as modeling performance expectations and using visuals to teach content as areas of strength. The TAP rubric provided reliability between the scores participants received and what was written in their reflections

The qualitative and quantitative data showed complementarity. Through analysis, the qualitative data from classroom observations and post-lesson written reflections allowed for a better understanding of the quantitative data gathered from TAP indicator scores. Qualitative results were used to elaborate on and provide a greater understanding of the quantitative (Greene, 2007).

Warranted Assertions

Data analysis led to five assertions that helped answer the research questions.

1. Backward Design (Wiggins & McTighe, 2005) is a useful process for pre-service teachers when unit planning.

2. Writing content-driven, not activity-driven objectives, is a skill which requires practice.

3. The blending of theory and practice during a clinical experience leads Teacher Candidates to connect instruction to their students' prior knowledge.

4. The blending of theory and practice during a clinical experience leads Teacher Candidates to gain a better understanding of how their students learn.

5. A shift occurred during instruction of the unit plan where participants began to see themselves more as a teacher, than a student.

Backward Design helps planning. Assertion One-Backward Design (Wiggins & McTighe, 2005) is a useful process for pre-service teachers when unit planning. Assertion one helps answer the research question: *How and to what extent are the unit planning practices of Teacher Candidates developed as they plan one, two-week unit of instruction in math, reading, social studies, science, or writing?*

The study's innovation devoted four weeks to teaching each step of the Backward Design (Wiggins & McTighe, 2005) framework and two weeks of in-class time planning the unit. Participants first learned to identify desired results of the unit plan by setting a big goal. Next, they determined acceptable evidence through the inclusion of an assessment. Lastly, participants planned learning experiences through daily lesson plans. After learning about each step, participants planned the unit.

As discussed in the results section, prior to the innovation, participants had varying degrees of understanding of how to use Backward Design (Wiggins & McTighe, 2005) to create a unit plan. Knowledge ranged from never having heard of the framework to vaguely knowing some parts of the process. During semi-structured interviews, participants discussed the usefulness of using Backward Design (Wiggins & McTighe, 2005) and how their planning practices evolved as they used it to create a unit of instruction.

For example, during the semi-structured interview, each participant spoke to the usefulness and structure the process provided. When asked about the benefits of using Backward Design (Wiggins & McTighe, 2005) to plan the unit, Jessica declared, "I'm the big picture person and once I saw the vision I had for the unit, it was easier for me to plan. I'd rather look at an overall goal and work off of that, than the other way around." Prior to the innovation, Jessica had little knowledge of using the process to plan a unit.

Alexandra discussed how before the innovation she would always think of the assessment before planning instruction. However, she expressed that she did not know she was backwards planning, per se, but did discuss shifts in her own knowledge as she went through the process. "Now, that way [having the assessment] throughout the lesson I can set them up for that success and accommodate to them and differentiate whatever I need to do for certain other students. I plan a lot better and plan for differentiation." Additionally, she discussed how in the beginning her objectives were "mixed up" and she had standards that really "did not go with what I planned." But the more she practiced, she remarked, "The second time around, when I went and I looked through it all, I got better."

Casey recalled the transition in her planning as she went through the process.

> I always skipped the assessment part. I would always get my standard, objective, and then I would have nothing to assess. It was more of a fun activity. Now that the assessment's at the beginning, this is what I need to hit. Have I possibly got there? (Casey, personal communication, November 25, 2013)

During the semi-structured interview, Rebecca discussed how the process was useful when considering what to teach.

> It's actually helpful to think that way before because you need to know what to assess them on. So if you know that first, that's going to make your lesson plans way easier to make and not so confusing. You can connect them, have more goals in one lesson plan, and not make it as difficult as it seems. (Rebecca, personal communication, November 25, 2013)

More importantly, she also stated, "I feel like you should know what you want to assess your students on. And if you don't know, what's the point of teaching? It's just easier. It's smarter. I don't know why everyone else doesn't do it."

Crystal also discussed the usefulness of the process. Having some knowledge of Backward Design (Wiggins & Mc Tighe, 2005) already, she discussed a shift in her knowledge by actually engaging in the process to write a unit plan.

> I had never actually planned that way before so it was kind of weird for me to plan starting with the assessment and then working the other way. But I learned that it can be a good way to do it because then you know what you want your kids to learn at the end and then you can think about if I want them to know this, then how do I teach them that? (Crystal, personal communication, December 3, 2013)

Backward Design (Wiggins & McTighe, 2005) provided a framework for participants as they developed a unit plan. Through the process, participants articulated what students needed to know, first, prior to planning instruction. After determining what students needed to know, they used Backward Design (Wiggins & McTighe, 2005) to create a unit goal, determine acceptable evidence in the form of formative and summative

assessments, and plan learning experiences for students. Backward Design (Wiggins & McTighe, 2005) helped each of the pre-service teachers in the study develop their unit plans. From the presented evidence, it can be asserted that Backward Design (Wiggins & McTighe, 2005) was a useful process, thus helping to answer the research question examining how participants developed unit plans during the research study.

Objective writing. Assertion Two-Writing content-driven, not activity-driven objectives, is a skill which requires practice. Assertion two helps answer the research question: *How and to what extent are the unit planning practices of Teacher Candidates developed as they plan one, two-week unit of instruction in math, reading, social studies, science, or writing?*

The third step of the Backward Design (Wiggins & McTighe, 2005) framework is to plan learning experiences. During this step, appropriate standards-based planning commences through the development of learning objectives. Teachers consider how their daily instruction is engaging enough to move students to achieving desired results of the unit (Wiggins & McTighe, 2005). Holm and Horn (2003) contended that creating and implementing learning experiences is one of the greatest challenges teachers face. Writing learning experiences as content-driven objectives, was a challenge for participants in the research study.

As previously discussed, unit plan draft and final submissions demonstrated the struggle participants had in creating content-driven daily lesson objectives. Objectives primarily focused on the task participants wanted their students to perform, as opposed to the content they needed to learn. While participants did change some objectives based on

feedback from the researcher, there were still instances where the written objective focused on the activity, rather than the content.

As they created the unit plan, participants learned to write content-driven objectives. However, data analysis showed that participants still need more instruction in this area. Through practice, they may be able to continue to learn how to develop content-driven objectives. This helps to answer the research question regarding how unit planning practices were developed during the research study and showcases a need for more instruction to develop content-driven objectives.

Connect instruction. Assertion Three-The blending of theory and practice during a clinical experience leads Teacher Candidates to connect instruction to their students' prior knowledge. Assertion three helps answer the research question: *How and to what extent does unit planning inform instructional practices in the elementary classroom?*

As scholars suggest, explicit connections between coursework and clinically embedded practice supports the merging of theory and practice (Moore, 2003; Levine, 2005; Allsopp et al. 2006). Accessing students' background knowledge supports a more student-centered learning experience (Henderson & Gornik, 2007). Teachers must consider their students' lives, interests, dislikes, and cultural heritage when developing curriculum (Pinar, 2006). Furthermore, making connections to students' lives, through instruction, supports the Theory of Pedagogical Content Knowledge (PCK). As the theory states, PCK "represents the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction" (Shulman, 1987, p. 8).

The innovation was taught during a required course taken by participants in their clinical experience. Through the course, they planned the unit of instruction to implement in their placement classrooms. Through planning for real students, in a real classroom, participants recounted the skill it took to teach in a way that accessed students' prior knowledge, in meaningful ways.

Jessica and Alexandra discussed the importance of creating a unit plan that was relatable to students. During the interview, Jessica recalled:

> I wanted it to interest them. I didn't want to teach them something that they didn't like. They all drive in cars, or all ride on the bus, and they play with car toys. They see this somewhere in their life. (Jessica, personal communication, December 2, 2013)

In her post-lesson written reflection, she also wrote, "I have learned that my students work best when they relate to the topic."

When Alexandra planned instruction she considered what students had access to in their lives. "I feel like transportation is something they could really relate to. I saw that more and more when I actually had the visuals for them." She also discussed how students made connections to what they previously knew. "In a preschool setting, we're all about play-based learning. So when we would be outside they'd be like, "*Look an airplane's in the sky!*" I'm all about making learning fun."

To help make connections to students' lives, Crystal incorporated things students had in their homes. She described this in her post-lesson written reflection.

> I also connected their learning at the end to their personal lives. The last activity required students to think of an item in their home that was made of wood, draw a picture of it, and write it, thus connecting learning to their personal lives. (Crystal, personal communication, December 3, 2013)

Rebecca also discussed using relatable materials such as books, shapes, and colors to help students make connections to concepts they learned.

In theory, participants received instruction in the Backward Design (Wiggins & McTighe, 2005) framework during the innovation. In practice, they were able to apply what they learned by planning and implementing a unit of instruction in the placement classroom. Prior to implementing the unit plan, participants discussed the importance of and planned for ways to connect instruction to their students' prior knowledge. However, it was not until participants actually implemented the unit plan that they began to gear instruction towards helping their students make connections during instruction. Implementing the unit plan helped participants reflect on ways to change their instructional practices to best meet the needs of their students. Had they not been able to implement the unit plan in their placement classrooms, participants may not have been able to reflect on and adjust their instructional practices. Therefore, it can be asserted that through the experience of taking what was learned in coursework and applying to their placement classroom, the unit plan helped inform participants' pedagogical teaching practices, thus helping to answer the research question.

Student learning. Assertion Four- The blending of theory and practice during a clinical experience leads Teacher Candidates to gain a better understanding of how their students learn. Assertion four helps answer the research question: *How and to what extent does unit planning inform instructional practices in the elementary classroom?*

Data analysis showed that implementing the unit plan helped participants tailor their instruction to meet the learning needs of their students. As scholars suggested, teachers must develop curriculum that considers students' needs (Schwab, 1969; Bobbitt,

2004; Pinar, 2006; Vartuli & Rohs, 2008). Shulman (1986b) also suggested that PCK

helps teachers clarify challenges students may have in learning content. Post-lesson

written reflections and semi-structured interviews demonstrated ways in which

participants came to further understand how their students learned. They became

reflective practitioners, who modified their teaching, to meet the needs of their students.

Leland and Murtadha (2011) argued "Teachers need to have experiences that help

them to become reflective and analytical about their practice" (p. 903). To encourage

their development as reflective practitioners, participants discussed how they planned for

instruction one way, but realized that their plan did not always progress how they

planned. They needed to adjust their teaching to meet the needs of their students. As

Alexandra stated:

> Even though you have a unit plan, it never really goes the way you actually plan
> it. I have to understand my kids better…learn what they want from me...to give
> them this so I can set them up for success. (Alexandra, personal communication,
> December 3, 2013)

During the semi-structured interview Jessica recalled, "I realized in the middle of

my unit, *this isn't working.* I need to try this. When something isn't working and knowing

how to change and adapt it to your students is one of the biggest things to realize." She

discussed a particular example of how she adapted instruction. While teaching students

about different types of water transportation, she showed them a vocabulary card of the

word. However, this proved too abstract a concept for students. They needed help making

this abstract concept more concrete. Jessica realized that she needed to "show them

pictures and videos, through technology" to help students see types of water

transportation more concretely.

Although incorporating visuals, videos, and technology wasn't something Jessica had "planned at all in the beginning," she realized visuals were a way her students learned and committed to using them during her instruction. Along with showing visuals, she reflected in her post-lesson written reflection that she needed to facilitate student learning through explaining material "in an age-appropriate way."

Moreover, Jessica discussed that many of her students learned best through one-on-one support. Although she taught lessons whole group, Jessica discovered that follow-up support was another way her students learned. Jessica recalled, "With a small class, you usually get to do a lot of one-on-one. That's when you get to learn about your students."

Like Jessica, Alexandra realized that her students best learned through concrete, not abstract, teaching. She recalled an experience during an initial lesson from her unit plan where she did not fully understand how her students best learned.

> In the beginning, I was just thinking to myself, 'Oh, I'm just going sit through circle everyday and show them these note cards and just expect them to get it.' I would say, 'This is what we see in the air.' They weren't really getting it. They were like, *'What is air?'* So to show them the sky helped them a lot. (Alexandra, personal communication, December 3, 2013)

Initially, Alexandra used more of a lectured approach to "tell them" what they needed to learn about transportation. However, she reflected that midway through her unit plan, she needed to incorporate visuals to help students comprehend the unit goal. "My children are very visual learners." Using visuals helped make concepts more attainable for her students. Because her students were in a preschool setting, she also included visual examples during the dramatic play area to help reinforce skills she taught her students (Appendix K).

146

Along with incorporating visuals, Alexandra discovered that her students best learned through concise communication. In her post-lesson written reflection she wrote, "I need to work on narrowing it [instruction] down so that students will be able to comprehend what is expected of them."

Casey reflected on the use of repetition as a useful way to help her students learn. As she taught lessons, she discovered that covering a topic one day, during an isolated lesson, did not facilitate student learning. Therefore, she realized she had to incorporate more opportunities during the day for students to practice the objective. For her students, it was important that they did not see the skills they learned as isolated events. She recalled:

> I do know, now, how important it is now to constantly be repetitive. Anytime we had a chance, we would say, 'Hey, what's this? What's that?' We started in the morning. I had a story already picked out. We would talk about it. If it was a writing activity, we would relate the story to the writing. (Casey, personal communication, November 25, 2013)

Through reflection, Rebecca discovered that hands-on activities and one-on-one support helped facilitate her students' learning. During the semi-structured interview, Rebecca discussed the use of crafts, as hands-on-activities, and how they helped students. Through the use of crafts, she figured out "I can get them to reach that in something they like. I can get them to understand these ideas from the book with this [craft]." She also recollected the importance of preparation when considering how her students best learned.

> To be prepared is a huge thing. I have a child with severe autism. She [specialist] was talking to me about different ways to have steps broken up so he only sees one thing at a time instead of all these things in front of him. (Rebecca, personal communication, November 25, 2013)

Lastly, she reflected on the use of one-on-one support. This learning was not necessarily a result of the unit planning experience, but her experience of being in the placement classroom for three months. Rebecca said that she had to "understand the pace of the kids." By pace, she meant the level of support each needed. "You have to be one-on-one with one kid. You have to be on top of one kid helping them do it."

Crystal reflected on using visuals to make concepts more concrete for students. In her post-lesson written reflection, she wrote that she would continue "finding more ways to present that content visually."

Through the process, participants planned learning experiences and daily lesson objectives as part of the unit plan. Equipped with their prepared objectives, participants began instruction. Although they pre-planned each lesson's objective with their students in mind, implementing the lesson in a real classroom, with real students, helped provide information on ways to tailor instruction to meet their students' learning needs. Implementing lessons from the unit plan also helped participants reflect on and facilitate learning for students to make abstract concepts more concrete. Additionally, teaching lessons from the unit helped shape their teaching practices. The aforementioned evidence helps warrant the assertion that implementing the unit plan helped inform participants' instructional practices because they were able to see how their instruction did or did not lead to student learning, and ways they needed to adjust their instruction.

A shift from student to teacher. Assertion Five- A shift occurred during instruction of the unit plan where participants began to see themselves more as a teacher, than a student. Assertion five helps answer the research question: *How and to what extent does unit planning inform instructional practices in the elementary classroom?*

148

Engaging in the implementation of the unit plan helped participants begin to view themselves as a teacher. As Merrill (2002) suggested learning is promoted when knowledge is applied and integrated in the real world. In this research study, the real world was defined as the placement classroom where each participant student taught. Additionally, teaching the unit plan in the placement classroom helped participants determine what they "should know and know how to do" (Shulman, 1987, p. 19) as is required when developing one's pedagogical content knowledge.

Data analysis of semi-structured interviews reported instances where each participant began to experience the shift of moving from student to teacher as they planned and implemented lessons from the unit plan. Prior to implementing the unit plan, participants had not been responsible for leading instruction for a class of students. Instead, instruction primarily consisted of small group lessons, one-on-one support for individual students, or observing the mentor teacher. As Jessica explained, she was able to able to take over the class all day and become responsible for instruction.

> I got to take over the class, which hadn't happened until I planned my unit. That was neat because for me, being the decision-maker, which hadn't happened in my teaching yet. That was pretty exciting for me. I was in control of it. It was fun figuring out my teaching style. When you're student teaching, the teacher is teaching you how to teach. Whereas, like my unit, I got to go over everything. So I was that person that was really planning. It really put me in a real-life situation. (Jessica, personal communication, December 2, 2013)

Alexandra echoed Jessica's reflection. During her interview she stated:

> I would say I believe I grew as a teacher. And not only just like from my lesson and whether they were successful or not, but just knowing that I'm doing this. It's my thing. I had that confidence. I was proud of myself at the end of this unit. I was like, 'Oh my God! I actually made it through, first of all, alive!' I'm always just so scared. Am I going to be able to have my own classroom and be able to be on my own? But it was a learning process for me. If I failed, then alright, I have to

do something else to make it better. I *grew* from this whole being independent thing. (Alexandra, personal communication, December 3, 2013)

During her interview, Casey remarked, "I've never taught anything more than a day or two days. I kind of almost felt more like a teacher, too. I felt more empowered. It was a warm feeling to have that control." She also discussed an "aha moment" of realizing she needed to teach with a sense of urgency.

> When I always taught in the past, I just kind of encouraged them to learn because I never worked with a higher learning [grade]. I always did preschool. So I always had that we'll do it tomorrow, kind of attitude. Well now that I'm in the kindergarten setting, I know that their tomorrow may be too late for some of them. (Casey, personal communication, November 25, 2013)

While Rebecca did not specifically recall a shift from seeing herself more as a teacher, she did discuss a shift in realizing the importance of preparation. "To be prepared is a huge thing. I've never been really prepared to take on all these different types of learning. You're kind of just taught to teach it in this [mentor teacher's] way." Although Rebecca discussed the barrier of implementing the plan in her mentor teacher's classroom, she did plan the unit as what she would do if she "was the teacher."

Crystal remembered the moment she experienced the shift from student to teacher.

> I'm not just going to plan just one lesson at a time when I'm an actual teacher. So I need to know what I want them to know at the end, what I want them to know by the end of a unit, or by the end of the semester. (Crystal, personal communication, December 3, 2013)

Planning and implementing the unit plan helped inform which instructional practices participants used, as they developed a sense of themselves as teachers. As the teacher solely responsible for teaching lessons from the unit, participants assumed more control of the classroom and student learning. As the evidence suggested, the unit

150

planning process helped participants begin to view themselves as a teacher, and not just a student teacher. As the teacher, it was up to them to design and implement instruction that led their students to outcomes.

Assuming the role of the teacher also created more responsibility for participants, thus influencing the instructional practices they used to ensure student learning. They discussed how they constantly refined their instructional practices as the teacher responsible for student learning. Their students' ability to comprehend the unit goal and lesson objectives rested upon their instructional prowess. Therefore, the unit planning process helped inform their instructional practices used in the classroom.

Engaging in the planning and implementation of the unit plan helped participants assume more control of how they taught their students, thus leading to a better view of themselves as teachers. This evidence provides support to help answer the research question regarding how planning and implementing the unit plan helped inform participant's instructional practices as they began to shift their role from student teacher to teacher.

Lessons Learned

Through this action research study, I learned a powerful and very important lesson. The innovation progressed and participants began implementing lessons from the unit. I thought, "This is great! Participants are really learning to plan instruction and implement it in the classroom. Granted, they still need work in writing assessments and objectives, but nonetheless, they're doing a pretty good job." Halfway during the research cycle, I had an epiphany that shook me to the core: *I expect participants to continuously refine their instruction for students, but have I done the same?* Wow, is all I could

muster. One of the many lessons I preached to participants was, "If your instruction isn't working you have to adjust to meet the needs of your students. It's not okay for you to develop a curriculum and never revisit it. Each learner is different and each school year presents a new challenge." However, I did not "practice what I preached."

I had done due diligence to research the foundations of the course. The course was based on sound research of the Backward Design (Wiggins & McTighe, 2005) framework, but not much had changed about the course since minor tweaks were made during 2012. Here it was, 2013, and the innovation was being implemented with much of the same curriculum. It was at that moment that I realized what Henderson and Gornik (2007) and Macdonald and Purpel (1987) meant by a transformative curriculum that considered the "visions of humanity and human potential" (p. 192). I truly realized that a transformative curriculum is not stagnant, but one that constantly evolves as a result of new lessons learned, new participants, and more importantly, the changing landscape of education.

This realization led me to make a commitment to re-evaluate the innovation's design to ensure that it evolves to accommodate new learners. The curriculum should meet the needs of pre-service teachers as well as the students the pre-service teachers will teach. Therefore, I developed a renewed commitment to ensure pre-service teachers who experience the innovation's curriculum, experience a sound curriculum that models best practices for planning instruction, but also meets their individual learning needs.

Implications for Practice

      The research study led to two main implications for practice (a) a focus on theory to practice works and (b) re-evaluate steps of the Backward Design (Wiggins & McTighe, 2005) framework for pre-service teachers.

      Theory to practice. From the data, it was evident that a focus on the merging of theory to practice worked. Participants actually enacted the principles of Backward Design (Wiggins & McTighe, 2005) by creating a unit plan and implementing in their placement classrooms. During semi-structured interviews, each of the five participants reflected that they had never planned a series of lessons before to implement in the placement classroom. However, as a result of this action research study, participants took the theory of planning a unit and practiced it in the placement classroom. Engaging in this practice helped them understand what it meant to create and teach a unit plan. The idea of unit planning was a "scary thing" as discussed by Jessica, but once she actually went through the process of planning and then implementing the unit into her placement classroom, she learned that "unit plans are also fun and helpful." Like Jessica, Crystal detailed how she had never planned a unit before, but appreciated having to "actually do it and learn by doing."

      Moreover, each participant discussed the idea of using Backward Design (Wiggins & McTighe, 2005) to plan future instruction in their placement classrooms as well as their own classrooms upon graduation. While it remains to be seen if participants will carry the practice into their own classrooms, they experienced a tangible example of taking what was learned in coursework and immediately applying it to the classroom setting.

Re-evaluate Backward Design framework for pre-service teachers. During the innovation participants received instruction on the Backward Design (Wiggins & McTighe, 2005) framework. Through coaching and support, each followed the three-step process to create the unit plan. However, shifts in understanding occurred once they implemented and reflected on the lessons taught as part of the unit plan. Therefore, the research study has established a need to potentially add a fourth step to the Backward Design (Wiggins & McTighe, 2005) framework for pre-service teachers. To benefit pre-service teachers who use the framework, the fourth step would be implementation and reflection as figure 11 illustrates.

Furthermore, the researcher suggests that pre-service teachers think of Backward Design (Wiggins & McTighe, 2005) as more of a cyclical process, as opposed to a step-by-step one. As a cyclical process, pre-service teachers would consider each of the four proposed steps together, not in isolation. For example, as they go through the process, an awareness of the desired results would guide the types of formative assessments used and created during learning experiences and instruction, but also the ways instruction is implemented and reflected upon. Through each phase of design, pre-service teachers would need an awareness of all steps to create an effective unit plan.
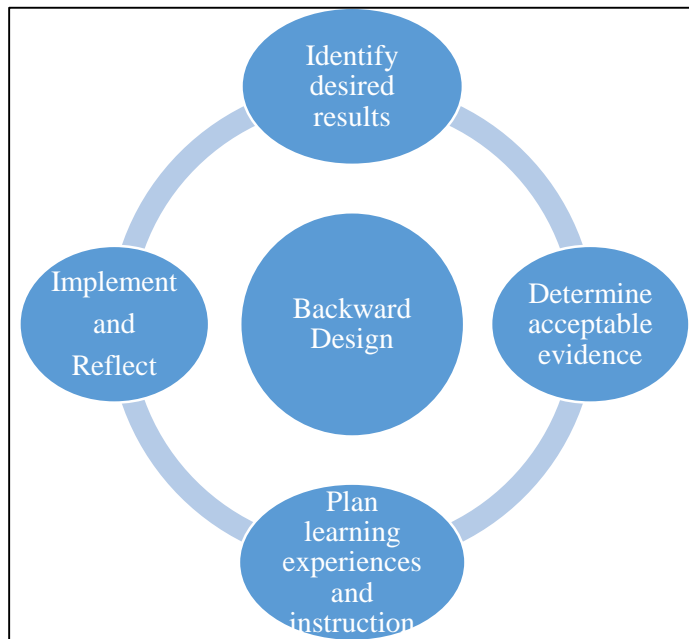
Figure 11. Recommended Backward Design Framework for Pre-Service Teachers

This action research study has shown that implementing the unit plan and reflecting on it led to shifts in participants' pedagogical teaching skills. They needed to enact what they created. Through enactment, they saw if and how the unit plan worked in a real classroom setting, with real students. As discussed by Leland and Murtadha (2011) "Powerful learning is connected to experience; it happens when learners are engaged in meaningful work that encourages them to ask questions, generate hypotheses, and pursue inquiries that address topics of interest or concern" (p. 902). The researchers argued that teachers must plan learning experiences that allow them to see learning through the eyes of their students (Leland & Murtadha, 2011).

While participants practiced the unit plan, reflecting on their practices was also beneficial. Through reflection, they discovered what worked and what adjustments they needed to make to ensure students learned. Throughout the post-lesson written reflections and interviews, each of the five participants recalled instances where they reflected on

155

their practices to improve lessons taught within the unit. As Shulman (1987) argued, reflection is a tool for continued development in teaching.

Implementation and reflection cannot be viewed as separate from the Backward Design (Wiggins & McTighe, 2005) framework. As a result of this study, the researcher hypothesizes that when planning, pre-service teachers should also consider implementation and reflection as part of the process. Each of the five participants in the study recalled how they thought about what they were planning, but did not necessarily think of how it would unfold in the classroom. It was not until they actually enacted the curriculum and saw students' responses that they began to reflect on how to teach in a way that met all learners' needs. Therefore, an awareness of how they will implement and reflect on their teaching, as they plan the unit, should be part of the overall design process.

Implications for Research

Several implications for research occurred as a result of this action research study. They were (a) add a daily reflection to each lesson taught within the unit plan, (b) conduct more observations to provide targeted coaching after each lesson taught within the unit plan, and (c) adjust the innovation to provide more time to explicitly teach how to write an aligned assessment and daily lesson objectives.

Daily reflections. If the research study were to be conducted again, the researcher would have participants complete a daily reflection after teaching each lesson in the unit plan. Throughout the two observed lessons, participants reflected on the pedagogical teaching practices used, as well as lessons learned. Completing a daily reflection may

156

have increased the development of their pedagogical content knowledge and teaching practices used.

Coaching opportunities. After observing the two lessons from the unit plan, coaching opportunities were not provided to participants. However, to encourage reflections and the development of pedagogical content knowledge, the researcher would have observed more lessons from the unit plan. More observations would have allowed the researcher additional opportunities to coach participants. Coaching opportunities would have served as a time for participants to reflect on their own teaching practices, as well as receive feedback from the researcher. For example, during the observations for Jessica and Alexandra, the researcher noted the rapid pace with which they taught their lessons. When asked about this rapid teaching pace, neither participant had noticed this and began to question whether their students comprehended that part of the lesson. Had coaching been done after these lessons, perhaps participants would have been able to immediately implement changes for subsequent lessons. Coaching, after each lesson, may have helped drive reflections and deeper understandings of participants' teaching practices.

Innovation adjustment. The innovation spanned six weeks. Weeks one through four taught the steps of the Backward Design (Wiggins & McTighe, 2005) framework. Weeks five and six served as planning sessions, where participants received more targeted support from the researcher, Site Coordinator, mentor teachers, and peers to create their unit. However, data analysis showed that during the unit plan draft submission, zero of the five participants turned in an aligned assessment and only three of the five participants included an assessment with the final submission.

157

Results from the aforementioned data suggests that the researcher spend more time during the innovation explicitly teaching how to write an aligned assessment. A review of the required coursework taken by the participants did not show an assessment course, which may have also contributed to their lack of understanding on how to create an assessment.

Along with more time spent writing assessments, the researcher would dedicate more time teaching how to write content-driven objectives. Each of the five participants developed more activity-driven daily lesson objectives in the unit plan draft and final submission. Part of writing content-driven objectives means participants have an acute awareness of the content they are teaching. Therefore, more time during the innovation would be spent examining curriculum resources, assessments, lesson plans, and sample objectives to practice content-driven objective writing. The researcher would have participants investigate and evaluate different objectives to determine if they aligned to the identified standard, before beginning to write their own. After practicing and writing an objective, the researcher would have participants practice teaching that objective during the course. After teaching the objective, participants would come back and refine the objective, as needed. As Short, Harste, and Burke (1996) suggested, "curriculum needs to be written in pencil, not pen" (p. 72). Engaging in this type of practice may have helped participants write more content-driven objectives that focused on the skill students were to acquire and not the activity to perform.

Limitations

  The research study presented three limitations (a) lack of varying grade levels represented among participants, (b) participants submitted student work samples, and (c) semi-structured interview transcriptions were completed by the researcher.

  The first limitation of the study was the lack of varying grade levels represented among participants. There were two grade levels represented: preschool and kindergarten. This was a limitation because participants at the site where the innovation occurred, were placed in classrooms up to grade three. A lack of variability prevented the researcher from determining what the implementation of a unit plan looked like at other grade levels. Additionally, the lack of variability in represented grade levels was a limitation because the researcher was unable to determine the pedagogical teaching practices that would have been implemented at different grades.

  The second limitation of the research study was each participant provided student work samples to the researcher. This proposed a challenge because four of the five participants did not submit work samples for each student. The researcher counted the number of students present during the two observed lessons, and discovered not all work samples were submitted. This was a limitation because participants could have chosen the best samples to send to the researcher.

  Finally, the third limitation of the study was the researcher conducted all semi-structured interview transcriptions. This posed a small limitation. To combat this limitation, the researcher could have provided each participant with a copy of the transcription in order to engage in member checking. However, completing the

transcriptions did help the researcher make connections with observed occurrences in unit plans, post-lesson written reflections, and classroom observations.

Threats to Validity

During the study, two main threats to validity existed (a) history and (b) maturation. Ensuing is a discussion of each threat as well as steps taken to combat it during the research study. The first threat to validity was history. It was a possibility that participants may have received instruction on Backward Design (Wiggins & McTighe, 2005) in previous coursework, prior to the innovation. To combat the threat of history, the researcher asked students during coursework instruction as well as created an interview question regarding their knowledge of Backward Design (2005) prior to receiving the study's innovation. Jessica, Alexandra, and Crystal had little prior knowledge and Casey and Rebecca had no pre-existing knowledge of using Backward Design (Wiggins & McTighe, 2005) to plan a unit of instruction. History posed no major threat to validity during the research study. Therefore, it can be concluded that the study's innovation was helpful as participants used Backward Design (Wiggins & McTighe, 2005) to plan for and implement instruction in their placement classrooms.

The second threat to validity was maturation. As discussed in chapter three, each of the five participants had been student teaching for three months prior to implementation of the unit plan. During the three months, participants observed mentor teacher practices and typically planned and implemented lessons for small groups or individual students. To combat this threat to validity, the researcher used field notes to document how participants changed over time. Chapter four communicated results of the observed changes in participants. Furthermore, the researcher created an interview

question asking participants to discuss any changes they experienced because of the research study. Each participant discussed how planning, implementing, and reflecting upon their unit plan and teaching practices, as part of the research study, contributed to changes in her practices. Their responses helped combat the maturation threat to validity.

Strengths of Study

There were three main strengths to the research study (a) the study's design, (b) use of field notes, and (c) qualitative data analysis. The first strength of the study was its design. The researcher purposely included and designed qualitative data collection tools to help answer the research questions, within the allotted 15 weeks. Each tool served its own purpose, but allowed for connections to be made. These connections helped provide more evidence in support of the research questions. As part of the design, the researcher also considered how each tool would be analyzed and coded. Having an idea of how this would occur helped the researcher intentionally and efficiently analyze data.

The study's design also helped keep the researcher on target for completion. During the study, there were instances where anxiety would occur, causing the researcher to think that data collection was not moving fast enough. However, referring back to the design helped provide reassurance that data collection was occurring at the time it needed to happen. Constantly referring back to the design also ensured that data was collected from each tool, as intended.

Another strength of the study was the use of field notes. As previously discussed in chapter three, field notes helped the researcher combat the Experimenter Effect threat to validity. Possessing an innate ability and desire to help others has always been important to the researcher. However, field notes proved beneficial when documenting

instances of researcher frustration with not being able to "save the day" for participants when they experienced struggles during the innovation. Field notes kept the researcher honest and led to participants' growth. During the semi-structured interview, each participant discussed the importance of using the study to reflect on her growth as a teacher. It can be inferred that had participants not been allowed to struggle through the process, they may not have felt as empowered to persevere when developing planning and pedagogical teaching practices as they implemented the unit of instruction.

The third strength of the study was the qualitative data analysis. Each qualitative tool helped the researcher make connections to help answer the research questions. To conduct qualitative data analysis, each tool was read, analyzed, and coded separately for each participant and as a group. After deductively looking at each tool, the researcher used inductive coding to view participants as individuals. Inductive coding also allowed the researcher to compare group results to individual results on each tool. Engaging in this manner of data analysis helped the researcher fluidly and clearly document data results as well as link the results back to the study's theoretical framework.

Along with deductively and inductively analyzing data, the researcher made connections to her observations and participants' reflections during the study. For example, the researcher observed specific pedagogical teaching practices during classroom observations that participants also discussed in their post-lesson written reflections. The researcher made observation notes about pedagogical teaching practices participants used during instruction. Furthermore, during semi-structured interviews, participants discussed some of the same practices that were observed by the researcher.

Carefully analyzing data helped the researcher support assertions with specific pieces of evidence from participants' experiences during the research study.

Overall, the aforementioned strengths helped support the study's findings and researcher's ability to answer the research questions.

Conclusion

It has been said that teaching is an art form. Art is an expression of one's passion and desire to create work that is to be admired. As artists, teachers should be prepared to design, develop, and refine beautiful work. Proper preparation is required to use their creativity in a way that could potentially change students' lives.

The nation is counting on today's teachers to use their creativity and preparation to help develop students who are capable of excelling in a rapidly evolving world. Teacher preparation programs have a responsibility to equip pre-service teachers with the knowledge, skills, and dispositions needed to successfully enter the teaching profession. Pre-service teachers must enter the profession skillfully prepared to plan and deliver instruction to all students. Moreover, they need to know how to critically reflect upon their practice to maximize student learning.

Through the innovation, this action research study sought to prepare pre-service teachers for the complexities of planning, implementing, and reflecting upon their practice during their student teaching experience. Participants created a unit plan of instruction using the Backward Design (Wiggins & McTighe, 2005) framework. Initially, the process proved challenging to understand, but results showed that Backward Design (Wiggins & McTighe, 2005) assisted participants as they learned how to plan for instruction. They merged the theory of planning with practice, and executed instruction

163

inside of the placement classroom. Implementing the unit plan presented participants with the opportunity to vary their pedagogical teaching skills to meet the needs of learners. Moreover, they reflected on their practices. Reflection helped participants refine their instruction to better meet the needs of their students. Reflection was paramount as participants matured from student to teacher.

As revealed in the study, pre-service teachers need opportunities to develop their planning and teaching practices during their teacher preparation program. They need a place to try, fail, succeed, and receive coaching. They need opportunities to see themselves shift from a student to a teacher who is ready to assume responsibility for their own classroom. This shift does not occur suddenly, but takes time. Teacher preparation programs must assume responsibility for nurturing the art form of teaching, to ensure pre-service teachers are ready to enter the profession as skilled and reflective practitioners.

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APPENDIX A

QUESTIONNAIRE

Name: Fall 2013 Grade Placement:
Age: Ethnicity:

Directions: Please answer the following questions with as much detail as possible. This is a way for me to collect demographic data that will help me tell a story about your experience related to participating in the research study.

Question 1: What led you to pursue a career in teaching?

Question 2: Why did you choose to participate in the research study?

APPENDIX B

CLASSROOM OBSERVATION PROTOCOL

Observation #:
Purpose of the Observation:
To what extent are pedagogical practices used during classroom instruction related to Standards and Objectives and Presenting Instructional Content? Descriptors from the Standards and Objectives and Presenting Instructional Content indicators will also be used to guide the classroom observation.

Role of the Observer:
Each observer will conduct a simultaneous observation of the Teacher Candidate instructing students. The observation will begin with the lesson and end at the lesson's conclusion. Each observer will script specific evidence from the lesson about the pedagogical practices observed, related to Standards and Objectives and Instructional Plans of TAP. Along with scripting notes, each observer will have a copy of the two TAP indicators to mark specific descriptors observed.

At the conclusion of the lesson, each observer will meet for a 15 minute debrief conversation to norm on the observed lesson as well as TAP scores given. This will ensure inter-rater reliability. Both observers will agree upon a score and assign it to each participant's lesson. Scores will then be used for quantitative data analysis purposes.

Date:
Location:
Start time:
End time:
Setting:

Descriptive Observation Notes (Detailed, chronological notes about what the observer sees and hears in regards to classroom instruction)	Reflective Observation Notes (Detailed, concurrent notes about the observer's personal reactions and experiences during classroom instruction. Reflective notes will be used to help guide the creation of additional interview questions and follow-up conversations with participants.)

APPENDIX C

POST-LESSON WRITTEN REFLECTION

Step 1:
Use the TAP indicators and descriptors from Presenting Instructional Content and Standards and Objectives as a guide when reflecting on your lesson. In the area below, cite specific evidence from your instruction. Use student work samples from the lesson to support your reflection.

Step 2:
After reflecting, identify one area of reinforcement and refinement descriptor, from each indicator. Briefly describe one action step you will take to address the reinforcement and refinement in future instruction.

Presenting Instructional Content
Reflection:

Area of Reinforcement and Action Step:

_____
_____
Area of Refinement and Action Step:

_____
_____

Standards and Objectives
Reflection:

Area of Reinforcement and Action Step:

_____
_____
Area of Refinement and Action Step:

_____
_____

APPENDIX D

TAP INDICATORS

Standards and Objectives	Exemplary (5)	Highly Proficient (4)	Proficient (3)	Approaching Proficient (2)	Unsatisfactory (1)
SCORE:	• All learning objectives and state content standards are explicitly communicated. • Sub-objectives are aligned and logically sequenced to the lesson's major objective. • Learning objectives are: (a) consistently connected to what students have previously learned, (b) know from life experiences, and (c) integrated with other disciplines. • Expectations for student performance are clear, demanding, and high. • State standards are displayed and referenced throughout the lesson. • There is evidence that most students demonstrate mastery of the objective.	Evidence in both columns 3 and 5	• Most learning objectives and state content standards are communicated. • Sub-objectives are mostly aligned to the lesson's major objective. • Learning objectives are connected to what students have previously learned. • Expectations for student performance are clear. • State standards are displayed. • There is evidence that most students demonstrate mastery of the objective.	Evidence in both columns 1 and 3	• Few learning objectives and state content standards are communicated. • Sub-objectives are inconsistently aligned to the lesson's major objective. • Learning objectives are rarely connected to what students have previously learned. • Expectations for student performance are vague. • State standards are displayed. • There is evidence that few students demonstrate mastery of the objective.

Presenting Instructional Content	Exemplary (5)	Highly Proficient (4)	Proficient (3)	Approaching Proficient (2)	Unsatisfactory (1)
SCORE:	Presentation of content always includes: • visuals that establish the purpose of the lesson, preview the organization of the lesson, and include internal summaries of the lesson; • examples, illustrations, analogies, and labels for new concepts and ideas; • modeling by the teacher to demonstrate his or her performance expectations; • concise communication • logical sequencing and segmenting; • all essential information and; • no irrelevant, confusing, or nonessential information.	Evidence in both columns 3 and 5	Presentation of content most of the time includes: • visuals that establish the purpose of the lesson, preview the organization of the lesson, and include internal summaries of the lesson; • examples, illustrations, analogies, and labels for new concepts and ideas; • modeling by the teacher to demonstrate his or her performance expectations; • concise communication • logical sequencing and segmenting; • all essential information and; • no irrelevant, confusing, or nonessential information.	Evidence in both columns 1 and 3	Presentation of content rarely includes: • visuals that establish the purpose of the lesson, preview the organization of the lesson, and include internal summaries of the lesson; • examples, illustrations, analogies, and labels for new concepts and ideas; • modeling by the teacher to demonstrate his or her performance expectations; • concise communication • logical sequencing and segmenting; • all essential information and; • no irrelevant, confusing, or nonessential information.

178

Activities and Materials	Exemplary (5)	Highly Proficient (4)	Proficient (3)	Approaching Proficient (2)	Unsatisfactory (1)
SCORE:	Activities and materials include all of the following: • support the lesson objectives; • are challenging; • sustain students' attention; • elicit a variety of thinking; • provide time for reflection; • are relevant to students' lives; • provide opportunities for student-to-student interaction; • induce student curiosity and suspense; • provide students with choices; • incorporate multimedia and technology and; • incorporate resources beyond the school curriculum texts (e.g., teacher-made materials, manipulatives, resources from museums,	Evidence in both columns 3 and 5	Activities and materials include most of the following: • support the lesson objectives; • are challenging; • sustain students' attention; • elicit a variety of thinking; • provide time for reflection; • are relevant to students' lives; • provide opportunities for student-to-student interaction; • induce student curiosity and suspense; • provide students with choices; • incorporate multimedia and technology and; • incorporate resources beyond the school curriculum texts (e.g., teacher-made materials, manipulatives, resources from museums,	Evidence in both columns 1 and 3	Activities and materials include few of the following: • support the lesson objectives; • are challenging; • sustain students' attention; • elicit a variety of thinking; • provide time for reflection; • are relevant to students' lives; • provide opportunities for student-to-student interaction; • induce student curiosity and suspense; • provide students with choices; • incorporate multimedia and technology and; • incorporate resources beyond the school curriculum texts (e.g., teacher-made materials, manipulatives, resources from museums, etc.)

179

	cultural centers, etc.). • In addition, sometimes activities are game-like, involve simulations, require creating products, and demand self-direction and self-monitoring.		cultural centers, etc.).		

Academic Feedback	Exemplary (5)	Highly Proficient (4)	Proficient (3)	Approaching Proficient (2)	Unsatisfactory (1)
SCORE:	• Oral and written feedback is consistently academically focused, frequent, and high quality. • Feedback is frequently given during guided practice and homework review. • The teacher circulates to prompt student thinking, assess each student's progress, and provide individual feedback. • Feedback from students is regularly used to monitor and adjust instruction. • Teacher engages students in giving specific and high-quality feedback to one another.	Evidence in both columns 3 and 5	• Oral and written feedback is mostly academically focused, frequent, and mostly high quality. • Feedback is sometimes given during guided practice and homework review. • The teacher circulates during instructional activities to support engagement and monitor student work. • Feedback from students is sometimes used to monitor and adjust instruction.	Evidence in both columns 1 and 3	• The quality and timeliness of feedback is inconsistent. • Feedback is rarely given during guided practice and homework review. • The teacher circulates during instructional activities, but monitors mostly behavior. • Feedback from students is rarely used to monitor or adjust instruction.

Managing Student Behavior	Exemplary (5)	Highly Proficient (4)	Proficient (3)	Approaching Proficient (2)	Unsatisfactory (1)
SCORE:	• Students are consistently well-behaved and on task. • Teacher and students establish clear rules for learning and behavior. • The teacher uses several techniques, such as social approval, contingent activities, and consequences to maintain appropriate student behavior. • The teacher overlooks inconsequential behavior. • The teacher deals with students who have caused disruptions rather than the entire class. • The teacher attends to disruptions quickly and firmly.	Evidence in both columns 3 and 5	• Students are mostly well-behaved and on task, some minor learning disruptions may occur. • Teacher establishes rules for learning and behavior. • The teacher uses some techniques, such as social approval, contingent activities, and consequences to maintain appropriate student behavior. • The teacher overlooks some inconsequential behavior, but other times addresses it, stopping the lesson. • The teacher deals with students who have caused disruptions, yet sometimes he or she addresses the entire class.	Evidence in both columns 1 and 3	• Students are not well-behaved and are often off task. • Teacher establishes few rules for learning and behavior. • The teacher uses few techniques to maintain appropriate student behavior. • The teacher cannot distinguish between inconsequential behavior and inappropriate behavior. • Disruptions frequently interrupt instruction.

Teacher Content Knowledge	Exemplary (5)	Highly Proficient (4)	Proficient (3)	Approaching Proficient (2)	Unsatisfactory (1)
SCORE:	• Teacher displays extensive content knowledge of all the subjects she or he teaches. • Teacher regularly implements a variety of subject specific instructional strategies to enhance student content knowledge. • The teacher regularly highlights key concepts and ideas and uses them as bases to connect other powerful ideas. • Limited content is taught in sufficient depth to allow for the development of understanding.	Evidence in both columns 3 and 5	• Teacher displays accurate content knowledge of all the subjects he or she teaches. • Teacher sometimes implements subject-specific instructional strategies to enhance student content knowledge. • The teacher sometimes highlights key concepts and ideas and uses them as bases to connect other powerful ideas.	Evidence in both columns 1 and 3	• Teacher displays under-developed content knowledge in several subject areas. • Teacher rarely implements subject specific instructional strategies to enhance student content knowledge. • Teacher does not understand key concepts and ideas in the discipline and therefore presents content in an unconnected way.

183

Teacher Knowledge of Students	Exemplary (5)	Highly Proficient (4)	Proficient (3)	Approaching Proficient (2)	Unsatisfactory (1)
SCORE:	• Teacher practices display understanding of each student's anticipated learning difficulties. • Teacher practices regularly incorporate student interests and cultural heritage. • Teacher regularly provides differentiated instructional methods and content to ensure children have the opportunity to master what is being taught.	Evidence in both columns 3 and 5	• Teacher practices display understanding of some students' anticipated learning difficulties. • Teacher practices sometimes incorporate student interests and cultural heritage. • Teacher sometimes provides differentiated instructional methods and content to ensure children have the opportunity to master what is being taught.	Evidence in both columns 1 and 3	• Teacher practices demonstrate minimal knowledge of students' anticipated learning difficulties. • Teacher practices rarely incorporate student interests or cultural heritage. • Teacher practices demonstrate little differentiation of instructional methods or content.

APPENDIX E

SEMI-STRUCTURED INTERVIEW QUESTIONS

Background Knowledge about Backward Design

1. What subject did you plan your unit for?

2. Tell me about the process you went through to plan your unit plan.

3. I noticed that when you submitted your initial unit draft you had no assessment attached. Can you tell me more about this?

Teaching Practices

1. Describe any changes in your pedagogical knowledge of Backward Design as you planned your unit plan.

2. Describe any changes in your pedagogical knowledge related to teaching as you implemented your unit plan.

3. Were there any challenges you had as you planned your unit? If so, please explain what they were and at least one action you took to overcome this challenge.

4. Were there any challenges you had as you implemented your unit? Please cite at least two examples.

Next Steps

1. Do you think Backward Design benefitted you as you planned your unit?

2. Will you use Backward Design to plan future units? Why or why not?

3. If you had to do anything differently regarding planning or implementing your unit plan, what would you do? Why?

4. What, if anything, did you learn by going through this process?

APPENDIX F

CODES: QUESTIONNAIRE

01. HPO-Help Others
02. OPL-Opportunities to Learn
03. PAR-Past Reflections
04. PEQ-Personal Qualities
05. TEC-Teaching
06. TEQ-Teaching Qualities
07. TMC-Time Commitment
08. TRP-Turning Point

APPENDIX G

CODES: FIELD NOTES

01. BDP-Backward Design Process
01.01. BDK-Backward Design Knowledge
01.02. EMO-Emotions
01.03. MTC-Mentor Teacher Control
01.04. PER-Personality Traits
01.05. POS-Positionality
01.06. SPT-Support

APPENDIX H

CODES: UNIT PLAN DRAFT AND FINAL

01. Unit Plan Draft Comments
01.01. ADO-Activity-Driven Objectives
01.02. LFD-Lack Formative Assessment Detail
01.03. LLO-Large Learning Objectives
01.04. MOS-Missing Objective to Standard
01.05. NUA-No Unit Assessment
01.06. UAG-Unaligned Assessment Guide
01.07. UBG-Unclear Big Goal
01.08. UBI-Unaligned Big Ideas
01.09. UOA-Unaligned Standard, Objective, and Assessment Guide
01.10. ULO-Unclear Lesson Objectives

02. Final Unit Plan-Changes
02.01. CBG-Clarified Big Goal
02.02. CLO-Clarified Lesson Objectives
02.03. EIS-Eliminated Irrelevant Standards

03. Final Unit Plan-Additions
03.01. AAD-Added Assessment Details
03.02. AAS-Aligned Assessment to Standards
03.03. AOS-Aligned Objectives to Standards
03.04. CBG-Clarified Big Goal

04. Final Unit Plan-No Change
04.01. ADO-Activity Driven Objectives
04.02. LFD-Lack of Formative Assessment Detail
04.03. NAA-No Assessment Attached
04.04. ULO-Unclear Lesson Objectives
04.05. USO-Unaligned Objectives to Standards

APPENDIX I

CLASSROOM OBSERVATIONS FREQUENCY CHART

Pedagogical Teaching Practice	Classroom Observation 1	Classroom Observation 2
Connected to unit	5/5	5/5
Questions	5/5	5/5
Background knowledge	5/5	4/5 Jessica, Casey, Rebecca, Crystal
Practice opportunities	5/5	4/5 Jessica, Casey, Rebecca, Crystal
Student participation	5/5	3/5 Jessica, Rebecca, Crystal
Visuals	5/5	2/5 Jessica and Alexandra
1:1 Ratio	3/5 Jessica, Rebecca, Crystal	2/5 Jessica and Alexandra
Behavior expectations	4/5 Jessica, Casey, Rebecca, Crystal	2/5 Jessica and Rebecca
Modeling	4/5 Jessica, Alexandra, Casey, Rebecca	2/5 Jessica and Casey
Student interaction	3/5 Jessica, Alexandra, Crystal	2/5 Jessica and Alexandra
Stated objective	3/5 Jessica, Alexandra, Casey	0/5
Lesson sequenced	3/5 Alexandra, Casey, Crystal	0/5
Repetition	2/5 Jessica and Alexandra	3/5 Jessica, Alexandra, and Crystal
No lesson closure	2/5 Casey and Crystal	1/5 Alexandra
Choice activities	2/5 Rebecca and Crystal	1/5 Rebecca
Dictation	1/5 Jessica	2/5 Jessica and Rebecca
Review lesson	0/5	2/5 Casey and Rebecca

APPENDIX J

CODES: POST-LESSON WRITTEN REFLECTIONS

01. Presenting Instructional Content: *Reflection*
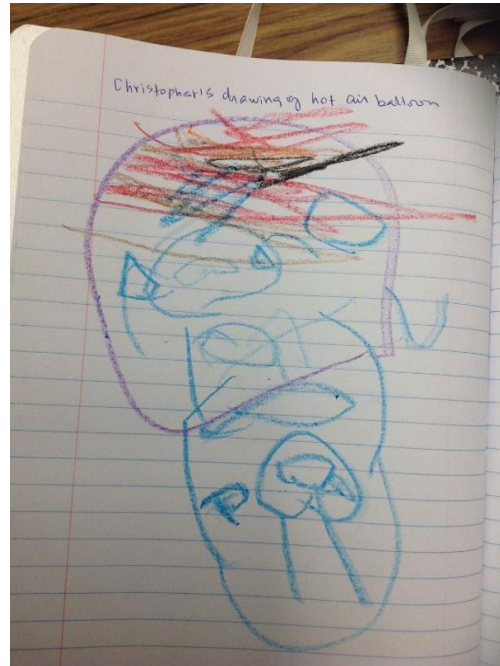01.01. CPK-Connections to Prior Knowledge (observation two)
01.02. MAI-Monitored and Adjusted Instruction (observation one and two)
01.03. MOE-Modeled Expectations (observation one and two)
01.04. MLS-Modeled Lesson Sequence (observation one)
01.05. SSI-Student-to-Student Interaction (observation two)
01.06. VIS-Visuals (observation one and two)

02. Presenting Instructional Content: *Reinforcement*
02.01 MOE-Modeled Expectations (observation two)

03. Presenting Instructional Content: *Refinement*
03.01. LSP-Lesson Pacing (observation one)

04. Standards & Objectives: *Reflection*
04.01. CPK-Connections to Prior Knowledge (observation one)
04.02. ESP-Expectations for Student Performance (observation one)
04.03. NOC-No Objective Communicated (observation two)
04.04. SCO-Students Comprehended Objective (observation two)
04.05. SFL-Student-Friendly Language (observation one)
04.06. SPO-Students Performed Objective (observation one)

05. Standards & Objectives: *Reinforcement*
05.01. CPK-Connections to Prior Knowledge (observation one and two)
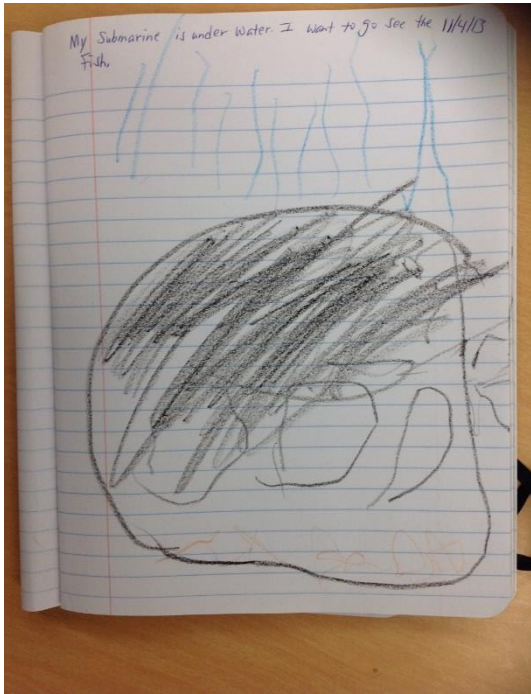
06. Standards & Objectives: *Refinement*
06.01. SFL-Student-Friendly Language (observation two)

APPENDIX K

STUDENT WORK SAMPLES

Jessica-Student Work Samples from Observation 1

Jessica-Student Work Samples from Observation 2

My Submarine is under Water. I want to go see the 11/4/13 Fish.

Submarine is underwater. propellers it pushes the boat. Bubbles fish fish

Cruise Ship 11/4
Sun
It's upon the water.
CruiseShip!
Water

Submarine 11/4
Im going in the submarine!
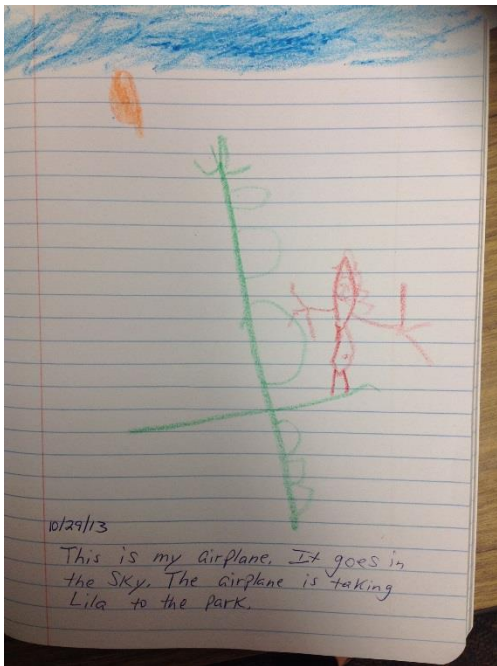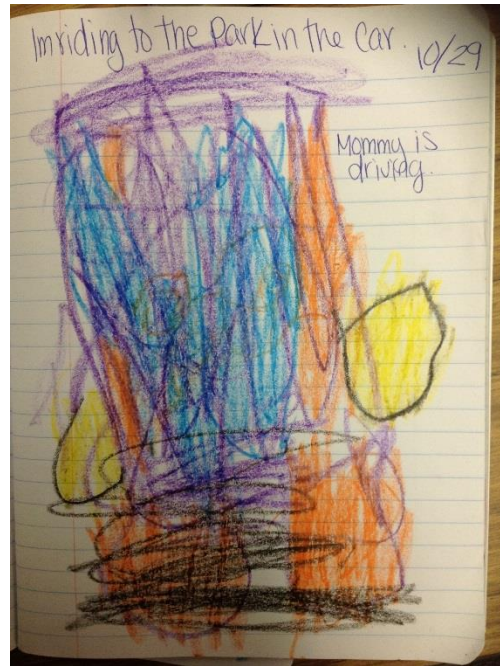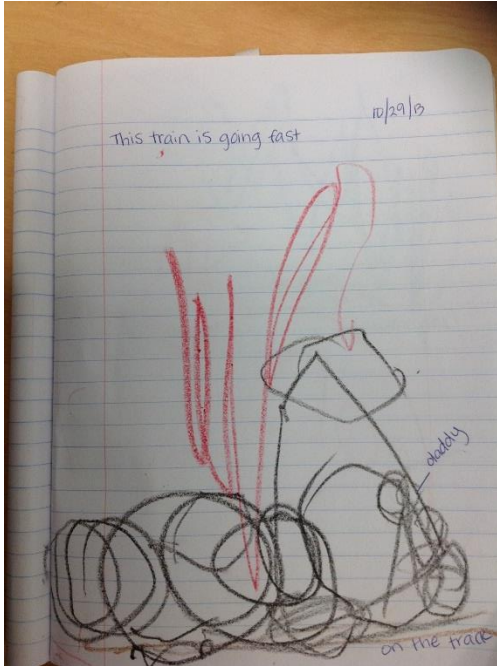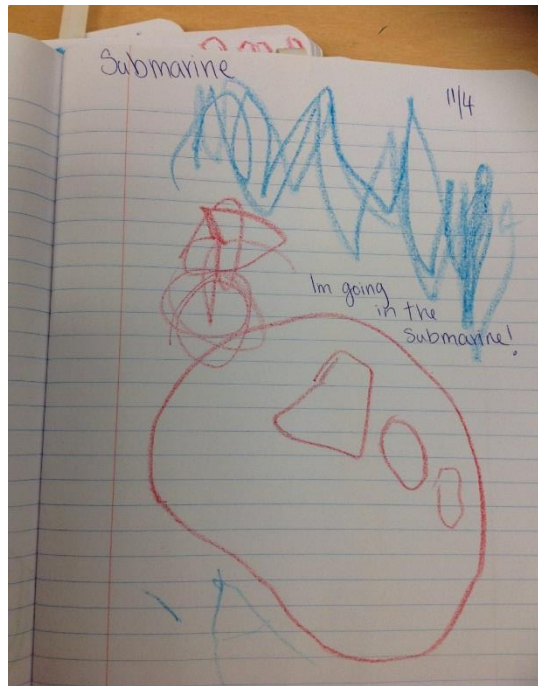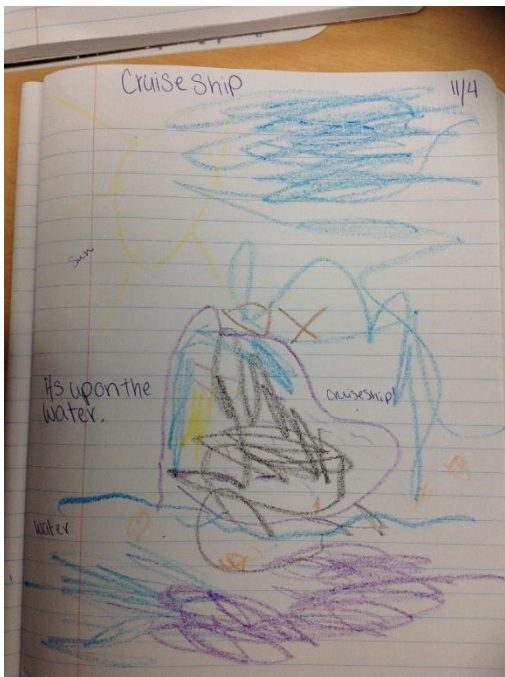
Alexandra-Student Work Samples from Unit Plan

The top picture represents a train. The bottom picture represents a car.

This picture represents individual cars.

This picture represents airplane models.
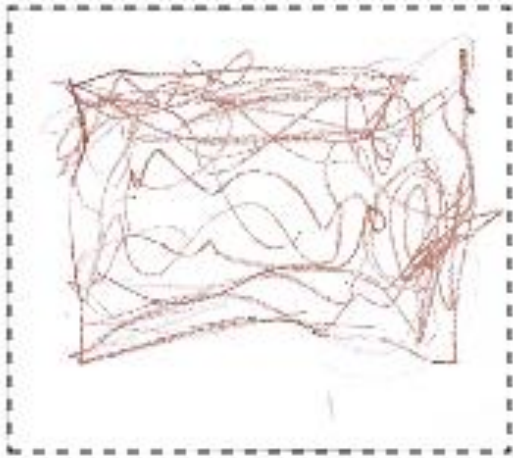
Casey-Student Work Samples from Observation 2

I like my friend an my Dad
We an my Dad r plie with the lefs

In wntrer i like to Bild
a wntrer snowman.
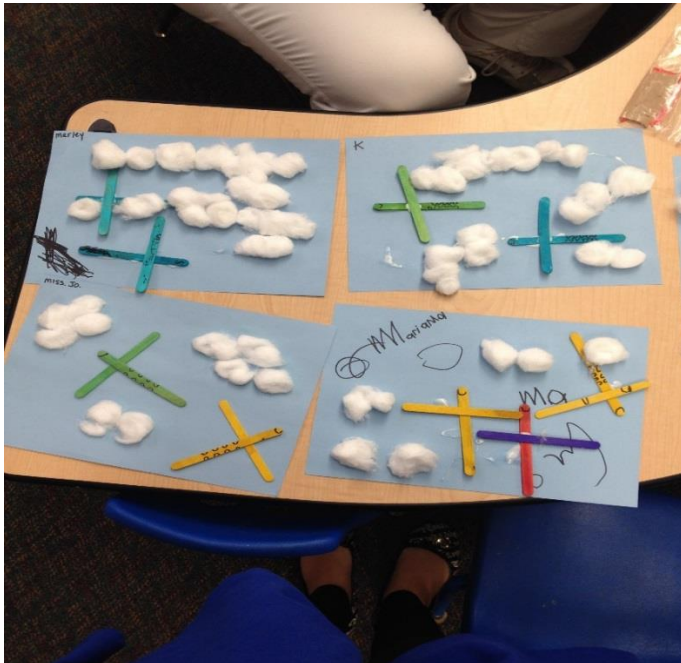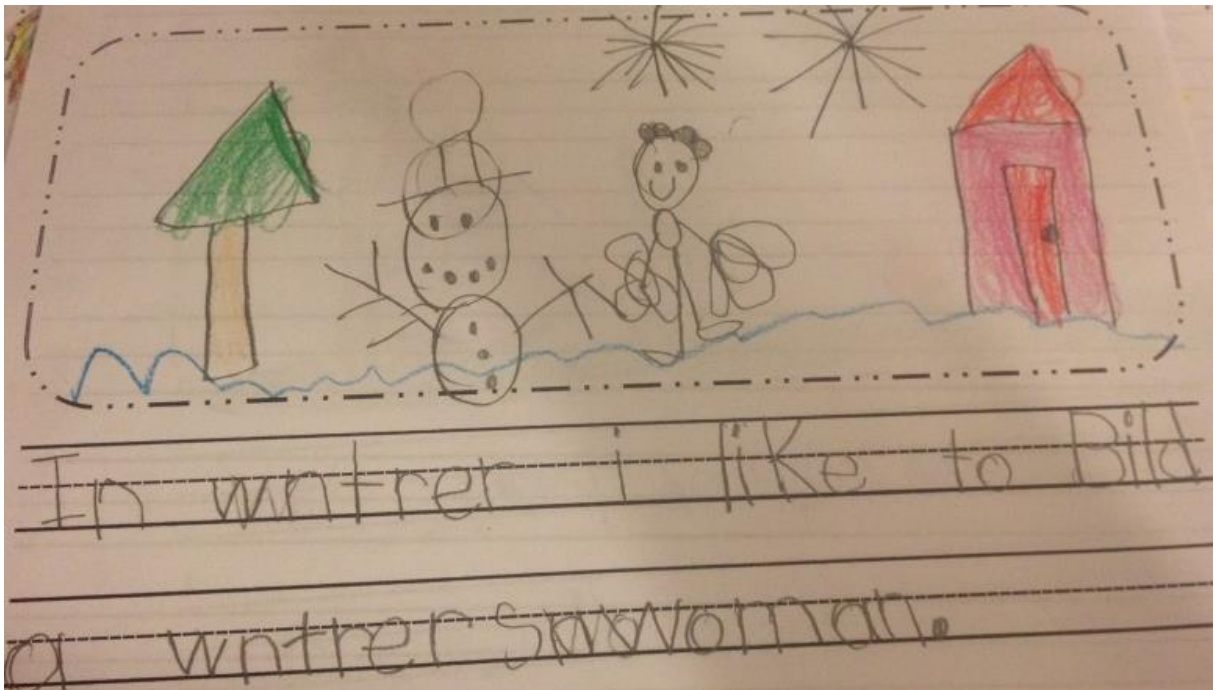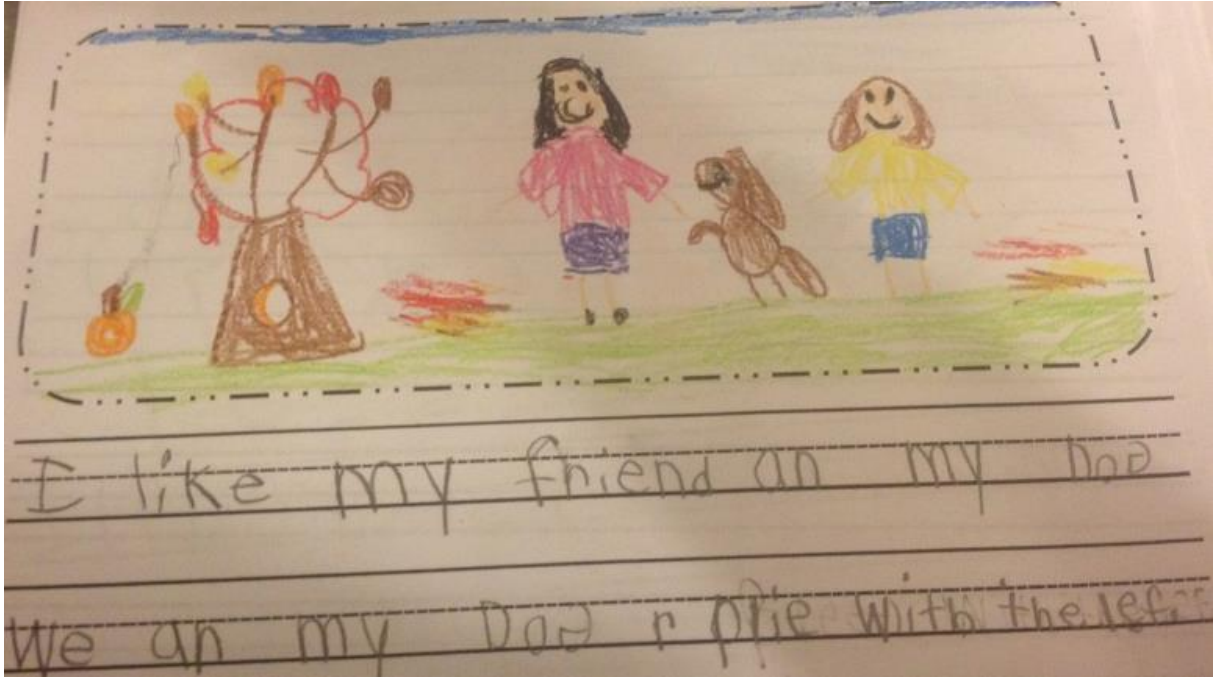
Rebecca-Student Work Sample from Observation 1
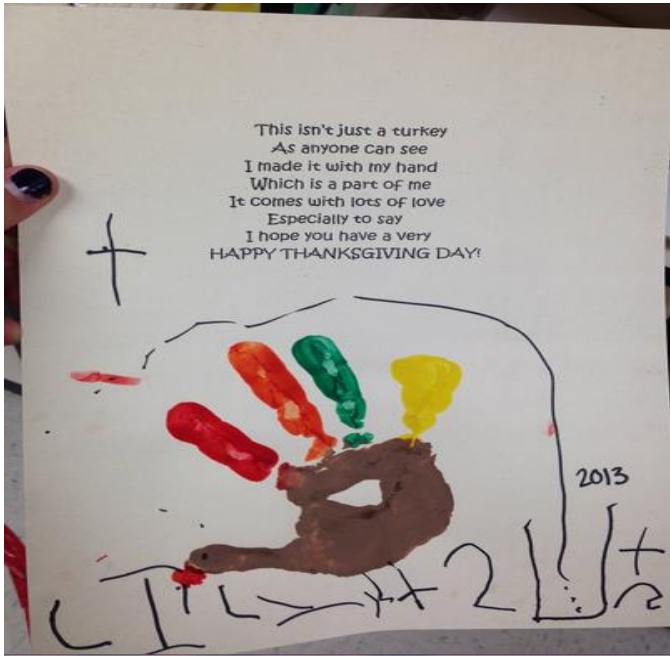
Rebecca-Student Work Samples from Observation 2
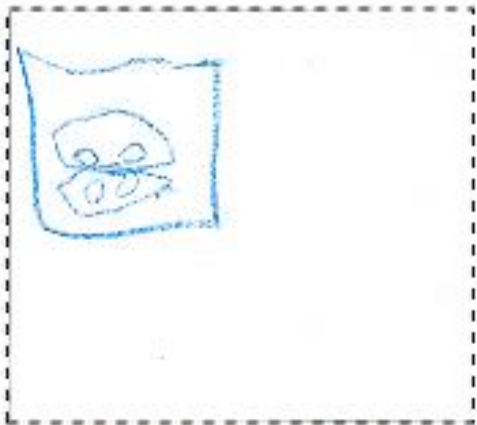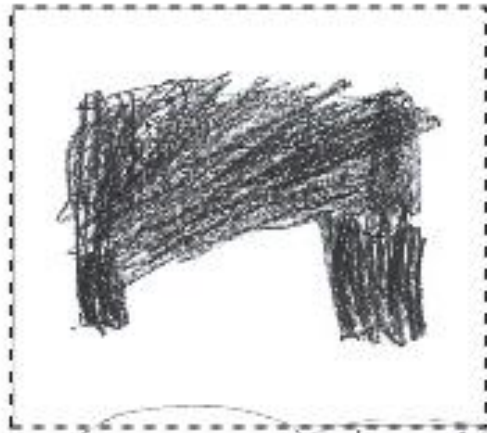
Crystal-Student Work Samples from Observation 1

My ☉OWNᴛᴦ _____ is

made of wood.

My DOᴦ _____ is

made of wood.

My DRESBER is

made of wood.

My TaBd Black

made of wood.

APPENDIX L

CODES: SEMI-STRUCTURED INTERVIEWS

01. BDB-Backward Design Benefits
02. BDP-Backward Design Process
03. CLG-Challenges
04. COL-Collaboration
05. CTL-Control
06. PTP-Pedagogical Teaching Practices
- 06.01. Assessment practices
- 06.02. Connections
- 06.03. Differentiation
- 06.04. Monitored and adjusted instruction
07. SPT-Support

APPENDIX M

IRB APPROVAL LETTER

Office of Research Integrity and Assurance

To:	David Carlson
	FACULTY/AD
From:	Mark Roosa, Chair
	Soc Beh IRB
Date:	05/31/2013
Committee Action:	**Exemption Granted**
IRB Action Date:	05/31/2013
IRB Protocol #:	1305009180
Study Title:	Planning Backwards to Go Forward: Examining Pre-Service Teachers Use of Backwards Design to Plan and Deliver Instruction

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(1) .

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.