Developing Mastery in Phonemic Awareness, Phonics, and Morphemic Awareness: A Multiple Case Study of Preservice Early Childhood Educators

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Developing Mastery in Phonemic Awareness, Phonics, and Morphemic Awareness:
A Multiple Case Study of Preservice Early Childhood Educators

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presented to
the faculty of the Department of Teaching and Learning
East Tennessee State University

In partial fulfillment
of the requirements for the degree
Doctor of Philosophy in Early Childhood Education

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by
Ruth Facun-Granadozo

December 2014

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Keywords: Literacy Teacher Preparation, Preservice Teachers, Phonemic Awareness, Phonics, Morphemic Awareness, Reflective Thinking
ABSTRACT

Developing Mastery in Phonemic Awareness, Phonics, and Morphemic Awareness: A Multiple Case Study of Preservice Early Childhood Educators

by

Ruth Facun-Granadozo

The purpose of this study was to explore the experiences and perceptions of early childhood preservice teachers in a southeastern university as they worked for mastery of phonemic awareness, phonics, and morphemic awareness. Mastery was set at 90% accuracy in a series of tests, which required them to perform different tasks related to the said concepts. One aim of the study was to investigate the preservice teachers’ description of their experiences as they worked for mastery of phonemic awareness, phonics, and morphemic awareness. Another aim was to examine how working for mastery of said concepts influenced their perceptions of preparedness to carry out literacy instruction.

This research used a multiple case study method involving 8 preservice teachers who were taking their first literacy methods course. Data were gathered through an online survey, analysis of answered test papers, written responses, individual interviews, and a focus group interview.

Qualitative analysis of data revealed the experience brought about awareness of insufficient knowledge, apprehension to teach, and perplexities related to phonemic awareness, phonics, and morphemic awareness among the participants. The most salient perplexities were found to be
related to phonemic awareness tasks, application of phonics key terms to real words, and splitting words into morphemes.

Findings also revealed that improved understanding of phonemic awareness, phonics, and morphemic awareness enhanced the participants’ perception of preparedness to teach these concepts. Engaging in reflective thinking while working for mastery of these concepts deepened their awareness of unpreparedness, reconnected them to their goal to be effective teachers, and caused them to deliberately act on their challenges in obtaining content knowledge required for quality literacy instruction.

The results of this study will have relevance for teacher educators, policy makers, school administrators, and researchers as they address issues related to literacy instruction during teacher preparation, especially in terms of acquisition of strong content knowledge.
DEDICATION

This work is dedicated to my Tatang, my first teacher and number one fan. He taught me to never stop seeking for understanding. He showed me, on a day-to-day basis, how faith and wisdom make one a better person. It is likewise dedicated to my dearest husband, Edwel, whose love, understanding, encouragement, support, and care sustained me through this journey.

This research project is also dedicated to future teachers and learners. They are the ones who inspired me to seek answers to my questions. I hope they will find this research beneficial as they strive to further understand.

Finally, I dedicate this piece of knowledge to God, who is the very reason why I do my best in everything I undertake. To God, I hold myself accountable.
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I sincerely thank my committee chair Dr. Kathryn Sharp for guiding me through this journey. With her mentoring each stage of an otherwise enormous task became manageable and a meaningful learning experience. Likewise, I express my deepest gratitude to my committee members, Dr. Rosemary Geiken and Dr. Pamela Evanshen. Their thoughts on this research project were equally invaluable.

I would like to convey my sincerest thanks to the participants in this study. They have been so patient to finish the course of the study with me. I have learned so much from them.

I also express my appreciation to my benefactors, the General Board of Global Ministries of the United Methodist Church, ETSU College of Education, and ETSU School of Graduate Studies. Without their financial support, embarking on this journey would have been impossible.

I especially thank my ETSU friends who encouraged me to carry on despite bumpy roads. Their smiles and words of encouragement gave me strength to keep on working on my project. I also express my heartfelt gratitude to my family and friends from all over the world who supported me in prayers throughout this undertaking.

Two of my Filipino mentors volunteered to edit my work. They also contributed important thoughts. My sincerest thanks to my Ninang, Dr. Judith M. Bunyi, who edited my paper all the way from Iowa; and to my former professor, Dr. Carolyn Victoria Uy Ronquillo, who edited my work all the way from South Korea.

Most of all, I express my deepest gratitude to my dearest, Edwel. He prepared me sumptuous food every day, stayed up late with me, cheered me up during low moments of dissertating, kept quiet whenever he saw me brewing thoughts in my mind, and gladly served as my research assistant. His presence and unconditional love sustained me through this journey.
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CHAPTER 1

INTRODUCTION

This chapter is a presentation of the conceptualization of the study. Specifically, the trends, issues, and statistics that led to the conception of the research questions are discussed in the background of the study; the gaps in the extant literature are identified in the statement of the problem; the purpose of the study and research questions are outlined; the foreseen significance of the study is discussed; and terms related to the study are defined.

Background of the Study

Initiatives and Advocacies

Reading has been recognized as a tool for optimal learning by the government and different professional organizations. Awareness of the importance of reading has been the focal point of several educational initiatives, legislations, and position papers. The No Child Left Behind Act of 2001 (NCLB, 2002) mandates for all children to be readers by the end of third grade. Also, this law requires that children be taught only by highly qualified teachers. Section 9101 of the Elementary and Secondary Education Act [ESEA] defines a highly qualified teacher as “someone who holds at least a bachelor's degree; and has demonstrated, by passing a rigorous state test, subject knowledge and teaching skills in reading, writing, mathematics, and other areas of the basic elementary school curriculum” (No Child Left Behind [NCLB], 2002). Additionally, the International Reading Association (IRA, 2000) emphasized that “every child deserves excellent reading teachers” (p. 1). IRA stated teachers could impact the reading achievement of children as well as their motivation to read. In its position statement, IRA (2000) indicated excellent reading teachers are “good ‘reading coaches’” (p.1). They are able to help their students appropriately because they are knowledgeable about reading and writing development,
literacy instruction, assessment, and differentiated instruction (IRA, 2000). Further, the American Federation of Teachers (AFT, n.d.) emphasizes the importance of teacher knowledge and skills in early reading instruction. AFT specified that states and districts must ensure that teachers have the knowledge, resources, and support they need for them to implement high-quality instruction.

More recently the Response to Intervention (RTI) and the Common Core State Standards were put in place. The RTI is a framework that embodies a systemic approach to identifying students who would need additional help in specific domains of language and literacy. RTI aims to address the language and literacy needs of all students through suspending assumptions and carrying out “increasingly differentiated and intensified language and literacy instruction” (IRA, 2009, p.1). RTI should be carried out by qualified professionals because it involves continuous and informed assessment, responsive teaching, and collaboration with other professionals (IRA, 2009).

The Common Core Standards, released in 2010, address the disparate content guidelines in English language arts and math in the different states. Its purpose is to have shared expectations, focus, efficiency, and quality of assessments across the United States (Portner, McMaken, Hwang, & Yang, 2011). At this time 43 states, the District of Columbia, four territories, and the Department of Defense Education Activity (DoDEA) have adopted the Common Core Standards (Common Core State Standards Initiative, 2014). The Common Core Standards require higher level literacy skills from children because they need to read and examine more challenging texts (Shanahan, 2013). With this in place, teaching reading requires providing students with the tools they need to comprehend texts. However, before children would be able to focus on comprehending the texts they read, they should be taught to decode
systematically – from speech to print (Moats, 1998). Mastery of the early literacy skills such as phonemic awareness (Armbuster, Lehr, & Osborn, 2006; Snow, Burns, & Griffin, 1998), phonics (Armbuster et al., 2006), and awareness of language structure (Moats, 1994; Reutzel & Cooter, 2005) enables children to decode effortlessly and be more focused on making meaning and interacting with the text (Moats, 1999). Children who are skilled readers gain the most from what they are reading. Skilled readers have good comprehension skills. They also have accurate and speedy word identification skills. Moreover, they have very good phonemic awareness and phonics skills (Lyon, 1999). They are able to decode familiar words, unfamiliar words, and even pseudowords (Snow et al., 1998).

The Common Core is part of Balanced Comprehensive Approach, which offers a good alternative to the reading wars characterized by extreme swinging of the pendulum from code-based to meaning-based instruction (Walsh, Glaser, & Wilcox, 2006). Balanced comprehensive approach to literacy instruction integrates the best elements of both meaning-based (holistic) and skill-based (phonics) approach (Cecil, 2011; Walsh et al., 2006). This approach includes phonemic awareness and phonics instruction. It is characterized by direct and explicit phonics instruction; modeling of skills and strategies; decodable texts used for phonics instruction; quality literature for listening comprehension; direct and explicit instruction in comprehension strategies; free reading time with choice; writers’ workshop; using word walls, word building, word sorting, and word hunts; flexible grouping systems; as well as formal and informal assessment measures, among others (Cecil, 2011). Balanced literacy instruction also involves the use of authentic text (Walsh et al., 2006). Using balanced comprehensive literacy approach, students demonstrate excellent skills in both comprehension and word recognition. According to Massey (2007), with the strong emphasis on phonics in the primary grades, many students
become good word-callers but lack comprehension skills. Balanced comprehensive approach to literacy instruction presents a potential solution to this dilemma (Cecil, 2011).

**Student Performance and Teacher Retention**

Even if the policies were in place and the need for quality teachers and teacher-preparation have been recognized, there has been minimal improvement in the scores of fourth graders since 1992. The National Center for Education Statistics [NCES] (2011) shows the reading scores of fourth graders have increased by only 4 points since 1992 and it has been the same since 2007. The scores even decreased in mid-90s to 2000 and increased minimally since then. Reading failure was identified by the National Institute of Child Health and Human Development [NICHD] not only as an educational crisis, but a public health crisis, because it impedes American students from reaching their optimum potential (Lyon, 1999). Reading epidemic, which was evidenced by students not reading on grade level, is one of the identified problems facing American education (Boyer & Hamil, 2008). It is also characterized by stagnant and declining national reading scores and increasing dropout rates among adolescent learners (Boling & Evans, 2008).

The alarming rate of teacher attrition was also identified as a problem facing American education (Boyer & Hamil, 2008). Teaching comes with an overwhelming bulk of expectations and responsibility. Novice teachers are expected to accomplish tasks such as planning and implementing lessons that address the varied needs of learners; classroom management and discipline; assessment and inclusion; finding information about the school system; filling-out paperwork, and so on. They are forced to thrive in a “sink or swim” attitude prevailing in so many schools (Anhorn, 2008, p. 15). This problem is related to reading epidemic because the
fundamentals of teaching reading, which is one of the biggest tasks for teachers, are not taught in many teacher education institutions (Boyer & Hamil, 2008; Walsh et al., 2006).

**Literacy Teacher Preparation**

The policy trends, issues, and statistics mentioned earlier have implications for teacher education. If all children are to be skilled readers, they should be taught only by teachers who are knowledgeable of language structure and are well-versed with the principles of language learning (Moats, 1994; Moats 1999; Moats & Lyon, 1996; NAEYC, 1998; Snow et al., 1998), as well as pedagogical knowledge (Grossman & Schoenfeld, 2005). In response to the call for high quality literacy teachers, the IRA and the National Council for Accreditation of Teacher Education [NCATE] emphasize the need for strong content knowledge among preservice teachers (IRA, 2003; IRA, 2010; NAEYC, 2011) for them to be able to offer the best learning experiences for their students. The number of literacy method courses should be more than the national average of six credit, with the goal to graduate teachers who are more equipped to handle the huge responsibility that literacy teachers, experienced or new ones, assume (IRA, 2007).

Despite the standards put in place and addition of literacy courses in teacher preparation, preservice teachers viewed their preparation inadequate (Bos, Mather, Dickson, Podhajski, & Chard, 2001; Salinger et al., 2010). Teachers were also found to be lacking important content knowledge for literacy instruction. This has been found to be true among preservice teachers (Mather, Bos, & Babur, 2001; Spear-Swerling & Brucker, 2003; Spear-Swerling & Brucker, 2006; Washburn, Joshi, & Cantrell, 2011), new teachers (Cheesman, McGuire, Shankweiler, & Coyne, 2009; Spear-Swerling & Brucker, 2004), as well as experienced ones (Al-Hazza, Fleener, & Hager, 2008; Crim et al., 2008; Brady et al., 2009; Cunningham, Perry, Stanovich, & Stanovich, 2004; Moats, 1994; Spear-Swerling, Brucker, & Alfano, 2005). In the National
Council on Teacher Quality [NCTQ] study, only 15% of the 72 schools that were surveyed were found to be providing teacher education students with minimal exposure to the science of reading instruction (Walsh et al., 2006). Teacher-education literacy methods instructors were also found to be lacking knowledge necessary for early literacy instruction (Joshi et al., 2009).

**Tools for Effective Literacy Instruction**

Three of the very important skills preservice and inservice teachers should master are phonemic awareness, phonics, and morphemic awareness (Brady & Moats, 1997; Moats, 1994; Moats 1999). The first two, phonemic awareness and phonics, are among the identified major components of literacy instruction by the National Reading Panel (NRP, 2000). The third, knowledge of the English language structure or morphemic awareness, leads to vocabulary development and comprehension (Brady & Moats, 1997; Moats, 1994; Moats, 1999; Reutzel & Cooter, 2005), which are also identified as major components of literacy instruction (National Reading Panel [NRP], 2000). If children are knowledgeable about these three, they will be freed from the task of decoding while reading a passage; and instead, concentrate on comprehension, which is the main purpose of reading (Armbruster et al., 2006; Reutzel & Cooter, 2005).

Children who have good phonemic awareness skills become very good in spelling and word recognition (NRP, 2000). Explicit phonics instruction, on the other hand, helps children, regardless of their background, learn the letters of the alphabet and to spell and decode new words. Having these skills leads to significant gains not only in word recognition, but in comprehension as well (NRP, 2000). If children are to master these skills, they should be taught by teachers who have a solid knowledge about phonemic awareness, phonics, and morphemic awareness (Brady & Moats, 1997) and who are able to “deliver high-quality, scientifically-based reading instruction” (Smartt & Reschly, 2007, p.7). Teachers who have good disciplinary
knowledge are able to teach effectively (Bransford, Derry, Berliner, Hammerness, & Beckett, 2005; IRA, 2003; IRA, 2007).

**Literacy Teachers Need Help**

But “teaching reading is rocket science” (Moats, 1999, p.1) and teachers need support (AFT, n.d.). Teaching reading is a task for experts and it is not learned naturally (Moats, 1999). Research evidence shows teachers have insufficient knowledge to teach reading effectively. Because teachers are skilled readers, reading became an automatic activity for them. Automaticity, or being literate, actually desensitized teachers from the basic structures of spoken and written language. They are no longer conscious about the cognitive processes that happen as they decode words. Thus, they could no longer effortlessly see the processes children have to undergo before they will be able to read and comprehend (Moats, 1994; Scarborough, Ehri, Olson, & Fowler, 1998). This is a disadvantage of having great deal of knowledge about one’s discipline (Bransford et al., 2005). *Expert blind spots* happen when one has advanced content knowledge but does not have well-developed knowledge of the learning and teaching of novices. This could lead to notions of learning, which are not appropriate for students’ developmental processes (Nathan, Koedinger, & Alibali, 2001; Nathan & Petrosino, 2003).

Reading teachers, to be effective, should surmount their expert blind spots in reading. They have to have a solid knowledge of the structures of spoken and written language for them to be able to instruct their students properly (Brady & Moats, 1997). Developing knowledge of language structure and adjusting views on the relationships between spoken and written language takes time, even among adult learners (Moats & Lyon, 1996). Further, the knowledge, skills, and attitudes essential to teach children optimally evolve within a significant period of time – not
within a semester-long methods course (Wolf, Carey, & Mieras, 1996) and not even during the whole duration of the program (Hammerness et al., 2005; Snow et al., 1998).

Teacher education programs should carefully examine and choose what to teach preservice teachers. They should also think of effective means to help preservice teachers understand these concepts better. Preservice teachers need to develop metacognitive habits, or awareness of how their learning takes place, so that they may control their own learning, as they make guided instructional decisions and reflect on their practice (Hammerness et al., 2005). The development of knowledge essential to effectively teach reading should be addressed carefully during preservice teacher training. Teacher education curriculum should provide preservice teachers with knowledge of scientifically based reading instruction (Smartt & Reschly, 2007), which includes understanding of phonemic awareness, phonics, and morphology. Further, they should “have a deep understanding and knowledge of the elements of a balanced, integrated, and comprehensive literacy curriculum” (IRA, 2010, p.8) – three of which were examined in this study.

**Statement of the Problem**

While several studies have been conducted to examine the phonological awareness, phonemic awareness, phonics, and language structure knowledge and attitudes of teachers, certain gaps were identified, which this study is intended to fill. First, most of the studies done on these topics used quantitative research design. Their primary data sources were responses to surveys and pre- and posttests involving tasks related to phonological awareness, phonemic awareness, phonics, and language structure. The teachers’ performances were gauged based on their test scores and self-reported attitudes or knowledge calibration. The participants did not play an active role in the changes noted on their pre- or posttest performance. Studies involving
knowledge calibration reported that teachers do not know what they do not know and this may make them resistant to new information (Al-Hazza et al., 2008; Cunningham et al., 2004; Cunningham, Zibulsky, & Callahan, 2009).

This qualitative study examined the phenomenon using the lens of constructivism, which is a theory about how people acquire knowledge. It “is not a theory about how to teach, but it helps inform teaching” (Kroll et al., 2005, p. 58). In the study preservice teachers brought their perplexities or areas of concern to their awareness and consciously dealt with these. Participants actively engaged in reflective thinking (Dewey, 1933) about their experiences as they try to achieve 90% accuracy on a series of tests on phonemic awareness, phonics, and morphemic awareness. Reflective thinking involves two phases. These are “(1) a state of doubt, hesitation, perplexity, mental difficulty, in which thinking originates, and (2) an act of searching, hunting, inquiring to find material that will resolve the doubt, settle and dispose of the perplexity” (Dewey, 1933, p. 12). The study facilitated this kind of thinking among its participants. Thus, the focus was on the process – their experiences and formed perceptions, and not their performance on the tests. The participants were engaged in a constructive nature of knowing, which Piaget (1952) had put forward, as the participants mentally interacted with the materials and their experiences. Also, Vygotsky’s (1978) idea of socially-mediated learning was experienced as the participants listened to each other’s points of view. “Looking at the processes by which students actively attempt to learn is very different from simply testing them on facts and skills seeing what they don’t (for the moment) know” (Bransford et al., 2005, p.52).

Second, most research done on the topic involved inservice teachers (Al-hazza et al., 2008, Bos et al., 2001, Brady et al., 2009; Cheesman et al., 2009; Crim et al., 2008; Cunningham et al., 2004; McCutchen et al., 2002; Moats, 1994; Moats & Foorman, 2003; Podhajski, Mather,
Nathan, & Sammons, 2009; Spear-Swerling & Brucker, 2004; Spear-Swerling et al., 2005).

Some studies involved preservice teachers who are near the end of their teacher preparation, i.e.,
after a methods course with field work, after the last method course, or student teaching (Bos et
al., 2001; Gormley & Ruhl, 2007; Salinger et al., 2010; Spear-Swerling & Brucker, 2006;
Washburn et al., 2011). Looking at the preservice teachers’ knowledge and skills on these
matters toward the end of their program using survey or pre- and posttest reports will not impact
preservice teachers’ preparation significantly. Aside from the fact that they are not given a voice
and active role during the process, it would be quite too late to remedy identified deficiencies.
This study involved preservice early childhood education teachers who were having their first
literacy methods course. This was done for the participants to have more opportunities to address
identified areas of concern in their future literacy courses and practicum.

**Purpose of the Study**

The purpose of this study was to explore the experiences and perceptions of early
childhood preservice teachers in a southeastern university as they worked for mastery of
phonemic awareness, phonics, and morphemic awareness. Mastery, in this context, was set to
90% accuracy in a series of tests that consisted of similar sections but different questions. Using
multiple case study research, the study was conducted to investigate the preservice teachers’
description of their experiences. It was also conducted to describe how these experiences
influenced their perceptions of preparedness to teach phonemic awareness, phonics, and
morphemic awareness.
The Research Questions

The following questions guided the study:

1. How do preservice teachers describe their experiences as they work for mastery (designated as 90% accuracy) in phonemic awareness, phonics, and morphemic awareness?

   1.1. What areas of concern were identified? How did the participants address these?

2. Why do preservice teachers think they achieve or do not achieve 90% accuracy in phonemic awareness, phonics, and morphemic awareness?

3. How are preservice teachers’ perceptions of preparedness to teach phonemic awareness, phonics, and morphemic awareness influenced by achieving (or not achieving) 90% accuracy in phonemic awareness, phonics, and morphemic awareness tests?

4. How do preservice teachers think teachers’ knowledge on phonemic awareness, phonics, and morphemic awareness impacts literacy instruction?

5. How have the preservice teachers’ perceptions about their roles as literacy teachers been influenced by this experience?

Significance of the Study

This study is significant for the participants and their future students. Through this study participants were given opportunities to consciously develop understanding of phonemic awareness, phonics, and morphemic awareness. In the process they were able to identify their strengths and weaknesses related to these areas. Thus, they will have a working knowledge about these when they begin their teaching experiences in field practicum and inservice contexts. After
all, teacher preparation is a “career-long continuum of development” (Snow et al., 1998, p.283). Cunningham et al. (2004) stated that if teachers know what they know and do not know, it would be easier for them to find suitable help.

This study is significant for teacher educators. When teacher educators know the areas where their students are weak or confused, they will be able to provide them the right knowledge and experiences. Crim et al. (2008) acknowledged that it is only after assessing teachers’ understanding could effective literacy training opportunities be developed.

By using qualitative methods of inquiry, this study contributes a different perspective to the existing literature pertaining to teacher preparation for quality literacy instruction. This is different from how previous studies on this area were conducted. The participants’ points of view were most important in this study; thus, the findings will add to the research base of a topic that is not examined frequently.

**Definition of Terms**

The following terms, which are key in this study, are defined in this section. Examples were also provided to facilitate better reader understanding.

1. **Blending:** This is done by combining phonemes to form a word (Armbruster et al., 2006; Reutzel & Cooter, 2013). For example, the sounds /d/ /o/ /g/ /s/ will form the word *dogs* when blended.

2. **Comprehension:** This is the active and purposeful process (Armbruster et al., 2006) of constructing meaning from what one reads or listens to. Meaning will be largely influenced by prior knowledge and experiences as the reader attempts to make connections between his or her existing knowledge and the new information presented to him or her (Morrow, 2012).
3. **Consonant Blend or Clusters**: These are formed when two or more consonants are put together but each individual letter’s sound representation may be heard (Reutzel & Cooter, 2005). Examples include *bl* in the word *blue*, *str* in the word *strike*, and *sk* in the word *sky*.

4. **Consonant Digraphs**: These are formed when two consonants are placed together in a syllable and they represent a sound that is unlike the individual sound representation of any of the letters combined (Morrow, 2012; Reutzel & Cooter, 2005; Yellin, Blake, & De Vries, 2004). Some of the common consonant digraphs are *ch*, *th*, *ph*, and *sh*.

5. **Decoding**: This is a skill that enables students to figure out unfamiliar words in print by sounding them out (Moats, 2010; Reutzel & Cooter, 2013). A good knowledge of phonics, or the sound-symbol correspondences, and structural analysis is essential for students to decode words properly (Moats, 2010; Morrow, 2012).

6. **Dialect**: This refers to the language variation that is shared by a group of people or an ethnic group. It is also influenced by geographical factors (Gleason & Ratner, 2009; Reutzel & Cooter, 2013; Yellin et al., 2004). Dialect influences children’s ability to process and produce the sounds of spoken English (Reutzel & Cooter, 2013). Some examples are *milk* and *murk*, *tomatoes*, *tuhmadoes*, and *maters*.

7. **Diphthong**: This is formed when two vowels are placed together in a word and they produce a single, glided sound (Reutzel & Cooter, 2013) like /ou/ in *bounce* and /oy/ in *toy*.

8. **Fluency**: This is an ability that is evidenced when a student reads text quickly and accurately. Fluency is achieved only when a student has good decoding skills. A
fluent reader also reads with appropriate volume, phrasing, intonation, expression, and pace (Armbruster et al., 2006; Cecil, 2011; Morrow, 2012; Reutzel & Cooter, 2013).

9. **Grapheme**: A grapheme is a letter or a letter combination that represent a speech sound. It “is the smallest part of written language that represents a phoneme in the spelling of a word. A grapheme may be just one letter, such as b, d, f, p, s; or several letters, such as ch, sh, th, -ck, -igh” (Armbruster et al., 2006, p. 3).

10. **Morpheme**: This is the smallest unit of words that has grammatical function or meaning (Delahunty & Garvey, 2010). They could be *bound* or *free*. Bound morphemes, like –ness, -ly, and -es need to be attached to root words to have a meaning; whereas free morphemes, such as happy, love, and potato can have meaning on their own (Reutzel & Cooter, 2005).

11. **Morphemic Awareness**: It is the understanding that words are composed of morphemes. It is characterize by the ability to analyze word structure by identifying the free and bound morphemes. For example, re, visit, and ed in the word revisited.

12. **Morphology**: It is “the study of the structure and form of words in language or a language including inflection, derivation, and the formation of compounds” (Snow et al., 1998, p. 22).

13. **Onsets and Rimes**: These are “parts of spoken language that are smaller than syllables but are larger than phonemes (Armbruster et al., 2006, p. 3). An onset is the part that comes before the vowel (Reutzel & Cooter, 2005) sound of a syllable, whereas rime contains the vowel and all that follows it (Armbruster et al., 2006, p.3). In the word place, pl is the onset and ace is the rime.
14. **Phoneme**: This is “the smallest part of spoken language that makes a difference in the meaning of words” (Armbruster et al., 2006, p. 3). For example, the word *stretches* has seven phonemes. These are: /s/, /t/, /r/, /e/, /ch/, /e/, /z/.

15. **Phonemic Awareness**: This is “the ability to hear, identify, and manipulate individual sounds – phonemes – in spoken words” (Armbruster et al., 2006, p. 3). It is demonstrated by the ability to segment phonemes or break a spoken word into individual sounds, or blend sounds to sound out a word (Armbruster et al., 2006).

16. **Phonemic Segmentation**: This is done by breaking a word into separate sounds (Armbruster et al., 2006). It is the ability to identify and isolate all the sounds within a word (Cecil, 2011).

17. **Phonics**: This involves the understanding that there are single speech sounds (phonemes) represented by each letter or letter combination and also the ability to form correspondences between letters and sounds and to recognize spelling patterns” (Smart & Reschly, 2007, p.5). It also refers to the instructional practices that stress the systematic relationship between spellings and speech sounds (Snow et al., 1998).

18. **Phonological Awareness**: This refers to one’s “awareness of the sound structure of language” (Morrow, 2012, p.157). It is an umbrella term that includes phonemic awareness, as well as working with rhymes, words, syllables, and onsets and rimes (Armbruster et al., 2006; Morrow, 2012).

19. **R-controlled Vowels**: These are vowels that appear before the letter r (Cecil, 2011; Reutzel & Cooter, 2013). They are “usually neither long nor short but tend to be overpowered or ‘swallowed up’ by the /r/ sound” (Reutzel & Cooter, 2013, p. 96). Some examples are *stir, part, and purple.*
20. Residency I and II: The participants in the study will need to complete Residency I and II in order to finish the requirements for their degree. Residency courses are characterized by intensive school-based field experience that lasts for 15 weeks each semester. During their Residency, candidates plan, implement, and evaluate developmentally appropriate instruction.

21. Syllable: In print, it is a word part that contains a vowel (Armbruster et al., 2006). In spoken language, it is the unit of pronunciation that contains a vowel sound (Cecil, 2011). All English words have at least one syllable.

22. Vocabulary: These are words that human beings should know to be able to communicate (Armbruster et al., 2006). There are four types of vocabulary. These are listening, speaking, reading, and writing vocabulary (Reutzel & Cooter, 2013).

23. Vowels: These are the letters a, e, i, o, and u. Each of the vowels represents both a long and a short sound. The long vowel sounds are like their letter names. The letters w and y sometimes exhibit vowel characteristics (Morrow, 2012; Yellin et al., 2004).

24. Vowel Digraphs: These are formed when two adjacent vowels stand for a single sound. The sound could be that represented by either vowel or a new sound (Morrow, 2012; Yellin et al., 2004). Some examples would be boat, rain, beat.

25. Word Recognition: This is a skill characterized by instantly recognizing words as wholes (Reutzel & Cooter, 2013). It enables children to become “fast and accurate readers” (Yellin et al., 2004, p. 210).
CHAPTER 2

REVIEW OF LITERATURE

This chapter is a presentation of the literature that supports the conception of the study. Specifically, the need for strong preparation for teachers to implement high quality reading instruction is discussed; the early literacy skills essential for learning to read, which is the topic of the study, are outlined; the essential knowledge for reading instruction is identified; studies involving preservice and inservice teachers’ knowledge of essential elements of early literacy instruction are discussed; the benefits of teacher preparation and professional development are given; and teachers’ feelings and perceptions of preparedness are cited. The chapter also gives an overview of the theoretical lens used to give light to the research questions.

High Quality Teachers Need Strong Preparation

Effective teacher preparation is long range. It is a gradual process. Completing a teacher-education program does not fully prepare a person to teach effectively and efficiently (Hammerness et al., 2005). Teacher-education programs should lay a foundation for willingness to be involved in a career-long quest for development (Snow et al., 1998). Teachers should be prepared not only to be efficient but innovative as well (Hammerness et al., 2005). They do not only need to have a solid content knowledge, but they should also be able to think of varied ways to address the needs of diverse learners in their classrooms. They should strive to learn not only for understanding of concepts but also for the optimal enactment of the same. Preservice teachers should be given opportunities to develop metacognitive habits of mind, which will help them make careful decisions and constantly reflect on their practice (Hammerness et al., 2005). As they engage in metacognition, which pertains to monitoring and control of one’s thoughts (Martinez, 2006) or awareness of one’s cognitive processes (Flavell, 1979), preservice teachers
will be able to identify their strengths as well as their weaknesses and perplexities. They are also able to identify ways by which they can best resolve their disequilibrium (Piaget, 1952).

According to Hammerness and colleagues (2005) teacher development is not only a function of gaining understanding of concepts and putting these into action. Developing a vision for teaching is the first step. Teacher disposition, which pertains to the “habits of thinking and actions regarding teaching and children” (Hammerness et al., 2005, p. 386) is also an important element for optimal teacher development. Schussler, Stooksberry, and Bercaw (2010) proposed that dispositions bridge the gap between having and enacting knowledge and skills acquired during teacher preparation. It also causes teachers to reflect and build self-awareness. Dispositions are exemplified by the tendencies by which teachers act and react under certain circumstances (Katz & Raths, 1985), such as increased accountability brought about by different government and educational initiatives and advocacies, and dealing with the ever-increasing multilayered diversity of learners.

**Learning to Teach Reading Needs Extra Work**

With the increased accountability placed on the educational system came a stronger emphasis on reading education, especially for youngest children (NCLB, 2002). While teaching reading is one of the most delicate tasks of teachers (NCLB, 2002; Snow et al., 1998) the processes teachers undergo as they learn to teach reading and cultivate the knowledge and skills essential to perform this task effectively were not given much research attention in the past (Anders, Hoffman, & Duffy, 2000). Researchers in this field, however, are beginning to shift their interests to this matter and they contend that teaching reading “is more than using ‘best practices,’ good classroom management, or certain material” (Anders et al., 2000, p. 719). Moats (1999) claimed that “teaching reading is a rocket science” (p.1) and it requires knowledge of
language structure. More specifically, teachers must be helped to have a thorough understanding of phonemic awareness, phonics, and morphemic awareness, among others (Brady & Moats, 1997). Teachers do not learn to teach reading naturally (Moats, 1994; Moats & Lyon, 1996; Moats, 2009a; Moats, 2009b), as much as children do not learn to read and write naturally (Brady & Moats, 1997; Moats, 1999; Lyon, 1999). “The language structures that are processed during reading and writing are challenging for teachers to learn” (Moats, 2009, p. 379). They have to undergo explicit and intensive training on becoming analytical about the spoken and written structure of language (Crim et al., 2008; Moats, 2009b) in order to be able to provide their students right guidance as they help them learn the major conduit for all learning – that is, reading (Brady & Moats, 1997; Podhajski et al., 2009). Reading is an important tool for flourishing in technologically and economically advanced societies (Snow et al., 1998).

This preparation has to begin during their preservice years and has to be sustained through professional development programs during their inservice years (Brady et al., 2009; Crim et al., 2008; Moats, 1999). In their preparation and professional development programs teachers should become knowledgeable and skillful on the essential knowledge for learning to read (Snow et al., 1998). They need to have a sufficient understanding of the similarities and differences between spoken and written language and the structure of English words so that they may be equipped to teach these systematically to struggling readers (Bos et al., 2001). Teachers should be provided with the knowledge and skills needed to teach reading in a context of supported practice (Moats, 1999). These will help them to successfully impart and cultivate the knowledge and skills they need to teach children (Moats & Foorman, 2003). Teachers who are knowledgeable about the structure of language have a greater potential to impact children’s literacy development (Crim et al., 2008; Reutzel & Cooter, 2005). Teachers’ knowledge of
language structure makes them interpret student errors – their reading, writing, and spelling, and helps them make wise decisions in terms of differentiated instruction (Moats, 2009). Moreover, it helps them to provide corrective feedback, design appropriate learning experiences, and critique instructional materials (Brady & Moats, 1997).

Bos and colleagues (2001) found that preservice and inservice teachers expressed positive attitude towards explicit and implicit code instruction, but they demonstrated limited knowledge of phonological awareness, terms related to phonics, and language structure. Further, they perceived themselves as only somewhat prepared to conduct early literacy instruction for children, especially for the struggling ones. Besides limited content knowledge and weak perception of preparedness to teach, confusion between phonics and phonemic awareness was also found among novice teachers (Cheesman et al., 2009). Inservice teachers also reported the same (Bos et al., 2001).

Children deserve no less than excellent (IRA, 2000) and highly qualified teachers (NCLB, 2002) in order to be successful learners. Teacher preparation for literacy instruction should be a priority in research and education. This is a call that has been reported by Bond and Dykstra (1967; 1997) four and a half decades ago: “future research might well center on teacher and learning situation characteristics rather than methods and materials... To improve reading instruction, it is necessary to train better teachers of reading rather than to expect a panacea in the form of materials” (p. 123; 416). Moats and Lyon (1996) expressed that teachers who have knowledge of language are needed; and this call was reiterated 13 years later (Moats, 2009b). Teacher preparation, therefore, is central to preventing reading failure among children (Snow et al., 1998).
Essential Knowledge for Learning to Read

Instruction is essential for human beings to learn to read and write (Brady & Moats, 1997). Three of the important skills for beginning and struggling readers are phonemic awareness, appreciation of morphemic structure of words, and phonics (Brady & Moats, 1997; Hougen, 2012; Moats, 1994; Moats, 1999; Moats & Lyon, 1996; Spear-Swerling et al., 2005). Teachers should have an in-depth understanding of these to carry out effective instruction, especially for struggling readers (McCutchen et al., 2002; Snow et al., 1998). Each of these is discussed extensively in this section.

Phonemic Awareness

Phonemic awareness is the ability to recognize (Dow & Baer, 2007), appreciate (Brady & Moats, 1997; Moats, 1994) and manipulate (Ehri & Roberts, 2006) spoken words as a sequence of individual sounds. Phonemic awareness involves being able to hear and identify distinct sound, as well as segment and blend individual sounds in a spoken word (Armbruster et al., 2006; Moats & Lyon, 1996; Morrow, 2012; Hougen, 2012). Phonemes are not seen. They are heard because phonemes are sounds and not letters (Morrow, 2012). Phonemic awareness is a listening skill and it is typically taught without print (Hougen, 2012). This skill is one requisite to learning to read (Hougen, 2012; Lyon, 1999; Snow et al., 1998) and spell (Hougen, 2012). This has been identified to be the root cause of failure to learn to read (Walsh et al., 2006). Children must first understand that spoken words are made of distinct sounds, and they should be able to identify (Armbruster et al., 2006) and appreciate (Moats & Lyon, 1996) these. This way, they will be able to distinguish that pencil is different from stencil; or broom is different from brook. Children must be aware that a slight change in phonemic composition or structure changes the meaning of a word.
Phonemic awareness could be taught in many ways. Some of the phoneme manipulation strategies are: isolation, identity, categorization, blending, segmentation, deletion, addition or substitution. Using these strategies, children are encouraged to think about individual sounds in words and manipulate them. Phonemic awareness can help all children, especially beginning and struggling readers, to learn to read and spell (Armbruster et al., 2006; Brady & Moats, 1997; Ehri & Roberts, 2006; NRP, 2000; Snow et al., 1998). It also helps with the development of reading accuracy and fluency (Philips & Torgesen, 2006). Explicit phonemic awareness “allows the accurate and complete match of symbols to sounds during the encoding of printed words” (Moats & Lyon, 1996, p.74). Children must learn that phonemes are not the same as graphemes (letters), in order to be clear about the nature of speech-print correspondence (Moats & Foorman, 2003). Phonemic awareness is a requisite for effective phonics instruction (Armbruster et al., 2006; Snow et al., 1998), but the two are not the same (Morrow, 2012; Reutzel & Cooter, 2005). Phonemic awareness could be learned and practiced without written words. It is the most basic skill in learning to read (Armbruster et al., 2006; Reutzel & Cooter 2005). As phonemic awareness increases, readers become increasingly focused on comprehending reading materials (Brady & Moats, 1997).

**Phonics**

Phonics pertains to the relationship between graphemes, or the letters of the alphabetic writing system, and phonemes (Armbruster et al., 2006; Fox, 2010; Hougen, 2012). It also refers to the approach used for teaching these predictable relationships and it “is the best-known word-study strategy” (Morrow, 2012, p. 165). It plays a major role for children to become independent readers (Morrow, 2012). Understanding these relationships through systematic and explicit phonics instruction facilitates word recognition, spelling, and eventually comprehension among
children (Armbruster et al., 2006; Fox, 2010; NAEYC, 1998). Phonics is helpful for beginning readers (Armbruster et al., 2006; Fox, 2010; Lyon, 1999; Moats & Lyon, 1996). Further, phonics is particularly beneficial for struggling readers (Fox, 2010; Moats & Lyon, 1996), especially if it was introduced to them early – during kindergarten or first grade. It should last for about two years to be sufficient (Armbruster et al., 2006). Phonics instruction is found to be beneficial for students in kindergarten to grade 6 and for students with learning disabilities. It benefits all children regardless of socioeconomic status (NRP, 2000). Laborious decoding and word recognition impede reading comprehension. Thus, beginning readers must have not only good phonemic awareness but phonics knowledge as well (Lyon, 1999). When they encounter an unfamiliar word, children use phonics to think of the sound associated with each of the letters and then blend these sounds to sound out a familiar word (Fox, 2010) with more ease.

Code emphasis instruction would be most effective for beginning and struggling readers when it is implemented by knowledgeable teachers skillfully (Moats & Lyon, 1996). By skillful implementation, it is assumed that instruction in decoding skills is integrated into meaningful contexts and higher-level reasoning is emphasized (Moats & Lyon, 1996). Phonics instruction is more effective when coupled with phonemic instruction (Armbruster et al., 2006, NRP, 2000). It must be integrated with phonemic awareness, fluency, and comprehension instruction (NRP, 2000).

**Morphemic Awareness**

Another skill essential for beginning or struggling readers and spellers is appreciation and awareness of morphemic structure of words (Moats & Lyon, 1996). Morphemes are the smallest unit of words that has grammatical function or meaning (Delahunty & Garvey, 2010). These may be whole words (e.g., happy, dog) or affixes (e.g., inter, ly, ment, al). Morphemes could either be
free or bound. A morpheme that stands on its own as a word (e.g., wonder, high, walk) is said to be a free morpheme; whereas, a morpheme that has to be affixed to another unit as a word part (e.g., -ful, -ly, -ed) is called a bound morpheme (Delahunty & Garvey, 2010). Awareness of the morphemic structure of words is an important skill used when reading and spelling (Moats, 1994; Moats & Lyon, 1996). Understanding of morphemic structure makes one aware that a meaningful word part can be spelled the same even if it is pronounced differently (Moats, 1994; Moats & Lyon, 1996). A good example of this would be nation and national.

Having knowledge of word structure helps teachers to explain, identify, classify, and use print conventions, such as -ed for past tense or -s for plural form, to children. This way, children may focus on word recognition and vocabulary (Moats, 1999). Knowledge of the word bases, their meaning, and the meaning of their affix(es) facilitates comprehension of a passage being read or listened to and the flow of ideas for someone who tries to write.

**Essential Knowledge for Reading Instruction**

An insufficient understanding of the written and spoken structure of language would impede teachers from explicitly teaching these to beginning and struggling readers (Moats, 1994); while a good content knowledge base enables teachers to make wise decisions on what, when, and how to teach concepts and skills to whom (Moats, 1994; Moats, 1999). According to Moats (1994) teachers who have a solid content knowledge on the structure of spoken and written language have an advantage because they have the ability to: (1) interpret student errors correctly and respond to them appropriately, (2) choose the most appropriate word examples for teaching decoding and spelling, (3) organize and sequence information for instruction, (4) use knowledge of morphology to explain spelling, and (5) integrate the components of language arts instruction. If teachers are able to do these things, they will also be competent in determining the
proficiency level of their students in relation to each of the five components, assess progress of each of their students and evaluate the effectiveness of their instruction, implement explicit and systematic instruction, and modify instruction if deemed needed (Smartt & Reschly, 2007). These are important for teachers to learn in addition to adequate knowledge of the five essential components of reading, i.e., phonemic awareness, phonics, vocabulary, fluency, and comprehension (Armbruster et al., 2006).

Teachers need to know specifics about phonemic awareness, phonics, and English morphology to be able to help their students learn to read optimally. Their understanding of how language works enables them to teach beginning readers and spellers appropriately (Podhajski et al., 2009). In terms of phonemic awareness, Brady et al. (2009) reported that they should understand the importance of knowing individual speech sounds in learning about the alphabetic principle and orthography. Their students should be helped to realize that being skillful in phonemic awareness facilitates understanding of the written language. In order for teachers to be able to do this, they need to know:

(a) what the speech sounds of English are; (b) how phonological awareness develops and the characteristics of advanced levels of phoneme awareness; (c) what kinds of activities foster development; (d) what speech sounds (and in which combinations) are easier for children to segment and identify, as well as which are harder and why; (e) what constitutes an adequate level of phoneme awareness for literacy purposes; and (f) how weaknesses in phoneme awareness are evident in reading and spelling errors (Brady et al., 2009, p. 427).

In order for teachers to be able to implement effective literacy instruction, they should be provided with solid preservice preparation and inservice training opportunities targeting skills in
phonemic awareness, phonics, and English language structure among others (Brady & Moats, 1997; Moats, 1994; Snow et al., 1998). They should be prepared to implement multiple effective word-level instructional strategies (IRA, 2007). There should be more intensive preservice preparation for literacy instruction (Spear-Swerling et al., 2005) that includes explicit instruction in skills essential for early literacy instruction (Al-Hazza et al., 2008) and professional development programs addressing the need for teachers to master these essential concepts (Moats, 1994; Moats, 1999; Smart & Reschly, 2007; Spear-Swerling et al., 2005). In addition to explicit instruction, good examples or modeling (IRA, 2007) and ample opportunities for practice would be very helpful (Brady et al., 2009; IRA, 2007; Moats & Foorman, 2003). As Moats (1994) emphasized, “Lower language mastery is as essential for the literacy teacher as anatomy is for the physician” (p. 99). Teachers of beginning and struggling readers must have a command of spoken and written word parts to be able to unambiguously present and interpret these to their students (Moats, 1994). Information about how written language represents spoken language, languages structure, and what children need to become skilled readers should be included in teachers’ training (Brady & Moats, 1997), and they should be given supervised practical experiences related to the information taught to them. Preparing teachers for teaching beginning reading should be a top priority (Snow et al., 1998).

Disciplinary knowledge is undoubtedly very important for teachers. However, Scarborough and colleagues (1998) found that phonemic awareness is not automatic with age and literacy level. Even normally reading adolescents or adults, when given tests of phonemic awareness, made segmentation errors, especially on words that contain clusters. The authors did not think these errors were due to carelessness; instead, one of the hypotheses they put forth was “after skilled decoding has been achieved, good readers’ metaphonological skills may deteriorate
or become less accessible” (p.124). Adult readers, especially teachers, should not take phonemic awareness for granted (Bos et al., 2001; Cunningham et al., 2004; McCutchen et al., 2002).

Moats (1994) found that, because teachers are skilled readers, reading became so automatic for them and they are no longer conscious about the cognitive processes that happen when they read a word. This is an example of expert blind spot, which is common among teachers (Nathan et al., 2001; Nathan & Petrosino, 2003).

Al-Hazza and colleagues (2008) found that, even if teachers identified phonics as the most important factor for skilled reading, these same teachers have not mastered the related terms and principles to effectively help children learn to read. Cheesman et al. (2009) found the same is true with novice teachers who thought instruction in phonemic awareness benefits children, but they showed weak knowledge of the same. These findings were corroborated in a study involving both preservice and inservice teachers, which was conducted by Mather et al. (2001). It is worthy of note that teacher preparation and experience could make a difference in teachers’ knowledge about important basic literacy skills (Moats, 1994; Moats, 1999; Spear-Swerling et al., 2005).

**Preservice Teachers’ Knowledge**

Preservice teachers were found to have inadequate knowledge of phonemic awareness and phonics (Mather et al., 2001; Salinger et al., 2010; Spear-Swerling & Brucker, 2003; Spear-Swerling & Brucker, 2006; Washburn et al., 2011), as well as language structure (Mather et al., 2001; Spear-Swerling & Brucker, 2003; Spear-Swerling & Brucker, 2006; Washburn et al., 2011). Course instruction (Spear-Swerling & Brucker, 2003; Spear-Swerling & Brucker, 2006), video tutorial, and online study guide (Gormly & Ruhl, 2007) were found to have increased the preservice teachers’ performances. Effectively teaching children to read, however, involves other
important factors besides knowledge of the English language structure. These include effective lesson design, behavior management, and keeping children motivated, among others.

A number of comparative studies were carried out to examine preservice teacher’s knowledge in some areas of English language structure. Spear-Swerling and Brucker (2003) compared teacher education students’ knowledge of three word structure tasks (i.e., graphophonemic segmentation [GS], syllable types [ST], and irregular words [IW]) before and after instruction. Two groups of students had instruction in language structure, while one group served as a control group. Prior teaching experiences and preparation to teach literacy were also considered. For pretests, those with prior preparation and experience scored higher in the knowledge of syllable types and irregular word tasks; however, no significant difference in performance in graphophonemic task was observed. Students who had instruction in language structure improved their knowledge as shown in their posttest performance; however, many of them still scored well below the ceiling. On the other hand, the posttest performance of preservice teachers in the control group were lower than their pretest scores: GPS: $M = 9.586$ to $8.069$; ST: $M = 4.172$ TO $3.931$; IW: $M = 5.621$ TO $5.241$ (Spear-Swerling & Brucker, 2003).

Three years later Spear-Swerling and Brucker (2006) published another study of three groups of preservice teachers in relation to their knowledge about English word structure. In this study the first group had course instruction about English word structure and participated in supervised tutoring in a local elementary school. The second group was only provided instruction, and the third did not receive any instruction related to reading, language arts, or phonics. Like Spear-Swerling and Brucker’s (2003) earlier study, the participants had pretests and posttests on a phoneme-counting task involving graphophonemic segmentation (GPS), classifying pseudowords by syllable type (ST), and detecting irregular words (IW) among set of
words. Results showed groups that received instruction had better posttest performance, except for Groups 2’s GPS. On the other hand, the comparison group’s (Group 3) pre- and posttest scores on the three measures remained flat. Groups that received instruction outperformed the comparison group in all three tasks. Group 1, that had field experience, gained a higher score than Group 2. The acquisition of word-structure knowledge of the students was found to be influenced by their basic reading and spelling skills; however, “even students with strong basic skills performed well below ceiling on word-structure tasks at pretest” (Spear-Swerling & Brucker, 2006, p. 124).

Gormley and Ruhl (2007) conducted a study that aimed to determine if completing training will improve preservice teachers’ knowledge in written and oral letter-sound association through See-Say and Hear-Write tasks. Further, the researchers examined whether they could apply such knowledge to novel tasks, as well as in identifying student errors through Irregular Word Identification (Irreg Word ID) and Child Error Identification (Child Err ID) tasks. The criterion level for mastery was set to 100% because the authors stressed that this much is required for teachers to be able to teach young or struggling readers effectively. Participants in the study were divided into instructional and control groups. The instructional group received modular training that included a 45-minute video tutorial and online study guide that included explicit teaching of English language phonemes – their organization and common spellings. Results showed “mean gains between groups were statistically as well as practically significant” for the Hear-Write and See-Say tasks (Gormley & Ruhl, 2007, p. 87). The same is true with the Irreg Wod ID task; however, there was no statistically significant difference found on the performance of the two groups on the Child Err ID task. The instructional group scored 62% accuracy while the control group had 60% accuracy. This showed that even if the instructional
group demonstrated better knowledge, they are not yet equipped to detect children’s errors. This corroborates the findings that knowledge of the language structure is essential, but definitely not enough to teach children to read effectively (Podhajski et al., 2009; Spear-Swerling & Brucker, 2006). Analysis of the errors committed by participants in the Gormly and Ruhl (2007) study showed they have had a hard time on some letter-sound correspondence (e.g., /th/, /zh/, /ol/, /al/, /ngl/, /ool/, and /ou/). Finally, the instructional group in the study rated the instruction they had as both efficient and effective and appropriate for other preservice teachers to learn.

Salinger and colleagues (2010) conducted a study sponsored by the National Center for Education Evaluation and Regional Assistance in 2007 that involved knowledge and feelings of preparedness survey of 2,237 preservice teachers from 99 institutions. The survey included knowledge of alphabétics, meaning, and fluency. Alphabétics in this sense included phonemic awareness and phonics. Meaning on the other hand included vocabulary and comprehension. The result showed that preservice teachers did not perform well in all components ($M = 57\%$ correct), and they performed poorest in alphabétics ($M = 52.96\%$).

Preservice teachers performed better in a more recent study done by Washburn and colleagues (2011). The participants garnered 91% on syllable counting; 92% of them got the definition of phoneme right; and the mean score for phoneme counting was 71%, but they had difficulty with the word “box” as was shown in prior studies. Only 59% of the 91 preservice teachers involved in the study got the definition of phonemic awareness right. The remaining 41% still mixed it up with phonics. Among these set of students, only a few were found to have an explicit understanding of the terms associated with phonics instruction and the phonics principles. In terms of morphology they performed better at identifying prefixes, root words, and suffixes than in counting morphemes in a word (Washburn et al., 2011).
Inservice Teachers’ Knowledge

Even motivated, literate, and experienced teachers were found to have weak knowledge of phonics (Al-Hazza et al., 2008; Brady et al., 2009; Cheesman et al., 2009; Cunningham et al., 2004; Cunningham et al., 2009; Moats, 1994; Spear-Swerling et al., 2005), phonemic awareness (Cheesman et al., 2009; Crim et al., 2008; Cunningham et al., 2004; Cunningham et al., 2009; Mather et al., 2001), phonological awareness (Al-Hazza et al., 2008; Bos et al., 2001; Brady et al., 2009) and language structure or morphemic awareness (Crim et al., 2008; Moats, 1994; Spear-Swerling et al., 2005). They also showed confusion about related terms or even unawareness of the meanings of the same (Al-Hazza et al., 2008; Bos et al., 2001; Mather et al., 2001; Moats, 1994; Moats & Foorman, 2003). In Moats’s (1994) seminal study on teachers’ awareness of language elements (i.e., phonemes, morphemes, phonics), the participants were found to have difficulty in counting phonemes, identifying phonic relationships, and identifying component morphemes. Only 25% of the participants were able to identify that the word ox is composed of three sounds, /o/ /k/ /s/ and not two. The participants also showed confusion on consonant blends or clusters, consonant digraphs, and silent letters (Moats, 1994). In another study Bos et al. (2001) found consonant blends, syllable structures, and digraphs to be problem areas. Another finding by Moats and Foorman (2003) was that ending consonant blends such as nt in quaint proved to be difficult for the participants. Teachers’ knowledge of print-speech correspondence was found to be challenged when the number of graphemes does not correspond to the number of phonemes. This implies many teachers are often unaware that a single speech sound could be represented by letter combinations (e.g., /ch/, /kn/, etc.). They tended to undercount speech sounds or overcount them, especially if there are more than three sounds in a word (Bos et al., 2001; Crim et al., 2008; Cunningham et al., 2004; Mather et al., 2001; Moats &
Foorman, 2003). Like Moats (2009a), Crim et al. (2008) found that teachers’ lowest performance was on the area of morpheme identification. In their study 56% of the participants did not attempt to respond to morpheme-related questions. The authors thought this could be because they lack knowledge in this area or they just felt uneasy in completing the task. Moreover, over 80% of those who responded got the majority of these items wrong; 16% of which thought the number of morphemes is the same as the number of letters that compose the word. Crim et al. (2008) further suggested “the area of word meaning (morpheme) is a component of literacy that needs strong focus in teacher professional development” (p.27). In Spear-Swerling et al.’s (2005) study, “participants confounded phonemic awareness with knowledge of letter sounds or understanding of the alphabetic principle” (p. 285). These studies strengthen the call for teachers who have knowledge of early literacy instruction and language (Moats, 2009; Moats & Lyon, 1996).

**Perceptions of Level of Knowledge**

Besides findings that teachers have inadequate content knowledge, research also found that the same teachers overestimate their knowledge levels of phonemic awareness (Cunningham et al., 2004; Cunningham et al., 2009; Spear-Swerling et al., 2004), phonological awareness (Al-Hazza et al., 2008), and phonics (Al-Hazza et al., 2008; Cunningham et al., 2009; Spear-Swerling et al., 2004). This implies that teachers often lack awareness of what they know and do not know (Spear-Swerling et al., 2004). Differences in perceived level of knowledge on phonics (Cunningham et al., 2004; Al-Hazza et al., 2008), phonological awareness (Al-Hazza et al., 2008), and phonemic awareness (Cunningham et al., 2004) resulted in statistically significant differences in scores; however, the higher set of score, which averaged 59%, was not high enough to be considered proficient. This implies teachers do not know how much they know and
do not know. An accurate knowledge calibration would be important information for designing professional development programs for literacy teachers; whereas, an inaccurate calibration may cause teachers to misrepresent phonemes and morphemes, thus causing confusion among their students (Al-Hazza et al., 2008). Also, teachers who have good calibration of their content knowledge would more likely be receptive to and seek out new information or training, while a false sense of how much they know may lead to inattention to professional development opportunities (Al-Hazza et al., 2008; Cunningham et al., 2004; Cunningham et al., 2009). While Nolen, McCutchen, and Berninger (1990) claimed “teachers could not teach what they do not know” (p. 70), Cunningham and colleagues (2004) claimed further it could be more problematic if teachers do not even know what they do not know, or they do not acknowledge that they lack important knowledge and skills requisite for teaching efficiently and effectively. Clearly, teachers with adequate knowledge of language are still wanted (Moats, 2009b).

**Feelings and Perceptions of Preparedness to Teach**

Feelings of preparedness to teach a particular subject have been found to have a positive relationship with quality of instruction. Also, professional development attendance and engaging in collaborative activities were associated with perceptions of significant improvement in teaching (National Center for Education Statistics [NCES], 1999). However, in the study conducted by Salinger et al. (2010), preservice teachers reported that, overall, they feel they are mostly prepared to teach the essential components of early literacy instruction especially in terms of fluency and meaning, even if they have been found to have weak knowledge of fluency, meaning, and alphabetics. Less than half of the participants, i.e., 46%, felt that in terms of alphabetics, they were inadequately prepared. This is contrary to the findings of a smaller-scale study conducted by Washburn et al. (2011), where the majority of the preservice teachers
involved expressed “moderate” preparedness to teach phonemic awareness and phonics to struggling readers and typically developing readers, even if they had higher scores on knowledge test. The two preceding studies show that the assessed knowledge of preservice teachers is not in sync with their feelings and perceptions of preparedness to teach. It is worth noting, however, that in an earlier study, Duffy and Atkinson (2001) found preservice teachers reported increased estimation of their preparedness to teach struggling readers after taking two reading education courses - one of which has a field component.

**Benefit of Preparation, Professional Development, and Experience**

Effective instruction during preservice preparation (Gormley & Ruhl, 2007; Mather et al., 2001; Spear-Swerling & Brucker, 2003; Spear-Swerling & Brucker, 2006) and comprehensive professional development (Brady et al., 2009; Foorman & Moats, 2004; Podhajski et al., 2009), increase teacher knowledge. Teachers expressed that their gains in phonological knowledge and phonics could have a positive effect on children’s reading performance (Foorman & Moats, 2004; Podhajski et al., 2009). Teachers reported being provided with “knowledge of ‘sounds,’ coupled with opportunities to learn and practice specific strategies,” (Foorman & Moats, 2004, p. 55) was empowering. Brady et al. (2009) found that an intensive form of professional development (with mentoring component) have increased the scores on phonological awareness and phonics of first grade teachers (42.6% pretest and 74.1 % posttest). The same was found by Podhajski and colleagues (2009). In the said study, control teachers scored 69% on the pretest while experimental teachers scored 45%. After an intensive training coupled with mentorship, both the control and experimental groups of teachers scored 81% in the posttest. Teachers in the experimental group reported that their instruction changed as a result of the training and mentorship. Their students also displayed more significant gains on the DIBELS Letter Naming
Fluency, Phoneme Segmentation Fluency, and Nonsense Word Fluency measures. In the Texas Primary Reading Inventory [TPRI] the students in the experimental group also made more significant gains on the Oral Reading test. In terms of the DIBELS Phoneme Segmentation Fluency measure, the students of teachers in the experimental group outscored those of the control group in the posttest (Podhajski et al., 2009).

Teachers who reported regular attendance to professional development courses scored higher than those who reported low or no attendance on the end of the year Teacher Knowledge Survey [mean of 17.1 vs. 14.63] (Foorman & Moats, 2004). This increased teachers’ disciplinary knowledge was found to be related to children’s overall reading achievement (Moats & Foorman, 2003). This strengthened the claim that those who know more tend to have students with better reading achievements (Bos et al., 2001; Cunningham et al., 2004; McCutchen, 2002).

As Darling-Hammond (2000) observed, “the extent and quality of teacher education matter for teachers’ effectiveness” (p.166). Schools, nowadays, have more diverse students and they are expected to meet much higher standards. Greater student diversity and higher standards call for a much greater responsibility from teachers. They should have deep and flexible knowledge, be able to present information to learners who are diverse in many ways, assess students appropriately, and adjust their instruction as needed (Darling-Hammond, 2000). Moats and Foorman (2003) found a modest predictive relationship between teachers’ level of knowledge, their observed teaching competence, and reading achievement levels of their students in their three-phased, longitudinal study to measure teachers’ content knowledge of language and reading. Using three forms of survey questions – with one as a refined version of the other, however, they found the following essential understandings to be most elusive concepts among teachers:
(a) the differentiation of speech sounds from letters; (b) the ability to detect the identity of phonemes in words, especially when the spelling of those sounds is not transparent; (c) knowledge of the letter combinations (graphemes) that represent many phonemes; (d) conceptualization of functional spelling units such as digraphs, blends, and silent-letter spellings; (e) the conventions of syllable division and syllable spelling; (f) the linguistic constitutes of a sentence; (g) the recognition of children’s difficulties with phonological, orthographic, and syntactic learning; and (h) comprehension of the ways in which the components of reading instruction are related to one another (Moats & Foorman, 2003, p.37).

Some studies found that background or prior knowledge and experience affect the scores of teachers on phonemic awareness and phonics positively (Mather et al., 2001; Spear-Swerling et al., 2005) although the advantage is not seen in morpheme-related tasks (Spear-Swerling et al., 2005), and the overall scores are still well below the ceiling (Mather et al., 2001; Spear-Swerling et al., 2005). Bos et al. (2001) found that teachers with more than 11 years of teaching experience garnered significantly higher scores in Teacher Knowledge Assessment than those with 0-5 years of experience. No significant difference was found if the two groups were compared with those who have 6-10 years of experience. In the same study it was found that inservice teachers performed significantly better than preservice teachers on knowledge of language structure (Bos et al., 2001). Other studies found no significant difference in the scores on phonological awareness and phonics of fully credentialed and not fully credentialed teachers (Cunningham et al., 2004) and of new and experienced teachers (Al-Hazza et al., 2008).
For beginning readers, instruction in word recognition skills is essential; however, it should be noted that this is not enough. Increased word recognition skills makes reading more effortless; thus, students could work on comprehension more (Podhajski et al., 2009).

**Nature of Constructivism and Reflective Thinking**

Major proponents of constructivism posited that learners construct their knowledge as they actively interact with their experiences (Dewey, 1938; Piaget 1967) and with one another (Vygotsky, 1978). The famous Swiss Psychologist, Jean Piaget, proposed “knowledge arises from actions and the agent’s reflection on them” (as cited in Glaserfield, 1996, p. 4). Actions and reflections in this sense are not physical, but mental activities (De Vries, Zan, Hildebrant, Edmiaston, & Sales, 2002; Glaserfield, 1996). Three words capture the essence of constructivist education: interest, experimentation, and cooperation (De Vries et al., 2002). Constructivists believe that effective learning takes place when the prior knowledge of students is engaged as they try to make sense of new experiences (Bransford et al., 2005). Students in a classroom have different prior knowledge and experiences that lead to different understandings of a similar phenomenon (Bransford et al., 2005; Dewey, 1938, Vygotsky, 1978). Thus, it is very important to catch the learners where they are and usher them from there (Vygotsky, 1978), because if not, they may not be able to grasp new information or they may learn them superficially for the purpose of testing and grades (Bransford et al., 2005). Preservice teachers should be taught the way we expect them to teach because most people teach in ways that mirror how they were taught (Bransford et al., 2005). A major way to do this is to help them develop inquiry skills (Bransford et al., 2005) and reflective thinking (Dewey, 1933).

Contemporary educators have defined constructivism more comprehensively as it applies to education. “Constructivism is a theory about knowledge and learning; it describes both what
‘knowing’ is and how one ‘comes to know’” (Fosnot, 1996, p. ix). Kroll and colleagues (2005) described constructivism as a theory of how people get knowledge. Knowledge, they believe, is “temporary, developmental, nonobjective, internally constructed, and socially and culturally mediated” (Kroll et al., 2005, p. 60) and learning happens when individuals struggle with conflicts between their existing knowledge and discrepant new information, and resolve them by constructing new representations that are influenced by their context of development (Fosnot, 1996). “Learning is a self-regulatory process” (Fosnot, 1996, p. ix) that is guided by both the individual’s internal structures and his sociocultural context of development (Kroll et al., 2005).

Kroll and colleagues (2005) further explained that knowledge is temporary and developmental because learners constantly reconstruct their understanding as they have more experiences related to the phenomenon. Different people will generate different meanings for a similar experience because knowledge is not absolute – prior experiences and knowledge affect one’s construction of knowledge to a great extent. Knowledge, then, is nonobjective, internally constructed, and socially and culturally mediated (Kroll et al., 2005).

The contemporary definitions of constructivism still reflect these words from a great educator that resonate far and wide.

The origin of thinking is some perplexity, confusion, or doubt. Thinking is not a case of spontaneous combustion; it does not occur just on ‘general principles.’ There is something that occasions and evokes it. General appeals to a child (or to a grown-up) to think, irrespective of the existence of his own experience of some difficulty that troubles him or disturbs his equilibrium, are as futile as advice to lift himself by his boot-straps (Dewey, 1933, p. 15).
When one is faced with a difficulty, suggestions for some way out will be generated in his or her mind. These will be brought up by the individual’s past experiences and prior knowledge relevant to the issue at hand. Unless a person underwent an analogous experience, confusion may still persist and thinking must be more intensive. Some individuals who face perplexity choose to engage in reflective thinking. Others might just jump to solutions and conclusions without carefully weighing the pros and cons. Reflective thinking involves one’s willingness to undergo the trouble of searching for a possible course of action and considering the best. They must be “willing to endure suspense and undergo the trouble of searching” (Dewey, 1933, p. 16).

Reflective thinking is valuable for three reasons. First, “it makes possible action with a conscious aim” (Dewey, 1933, p.17). Reflective thinking frees us from decisions based on whim and routine activities. It makes actions deliberate and intentional, guided by foresight and purpose. Reflective thought makes possible intelligent actions - “it puts the consequences of different ways and lines before the mind” (Dewey, 1933, p.17). Second, it makes possible systematic preparations and inventions, and third, it enriches things with meanings (Dewey, 1933).

The study made use of the principles of constructivist learning as the participants’ interpretation of their experiences will be drawn out using open-ended data collection measures that will enable them to use their personal lens in interpreting their experiences related to the study. Questions that would be asked will try to engage them in reflective thinking as they identify their confusions and difficulties and purposefully plan for ways to resolve them.

Chapter Summary

The important pieces of literature that were presented in this chapter led to the conceptualization of this study. Reviewed literature showed that there is a great need for teachers
to have a solid knowledge of phonemic awareness, phonics, and morphemic awareness in order for them to be able to teach beginning and struggling readers efficiently and effectively. It was also proposed by several pieces presented in this chapter that appropriate teacher development measures may help to address this need.

Whereas several studies supporting the need for teachers to gain knowledge of these areas were presented in this chapter, they were all conducted using quantitative measures. This study was conducted to gain a deeper understanding of the lack of knowledge of preservice teachers about phonemic awareness, phonics, and morphemic awareness using qualitative methods of inquiry. Through the lens of constructivism, this researcher explored preservice teachers’ experiences and perceptions related to their future role as literacy teachers while they were working for mastery of these concepts. Further, this researcher also intended to identify the participants’ areas of need while they were having their first method course in order for them to have ample time to address these in the succeeding phases of their teacher-training. The design, methods, and procedures that were used to address the research questions posed in this study are presented in the chapter that follows.
CHAPTER 3
RESEARCH METHODS

This chapter presents the methods that were used in the study. Specifically, it discusses the characteristics of qualitative research and its suitability for the study; reiterates the purpose of the study and the research questions; presents the rationale for using multiple case study method; acknowledges my role as the researcher and my experiences related to the study; presents ethical considerations; lays out the data collection and recording procedures employed in the study; discusses data analysis and interpretation procedures; and elaborates the strategies used for validating findings.

Characteristics of Qualitative Research

Qualitative research is used when a researcher is “interested in uncovering the meaning of a phenomenon for those involved” (Merriam, 2009, p.5). This strand of research is discovery oriented (Merriam, 2009). The findings are not predetermined because variables will not be manipulated; instead, it is emergent in design (Creswell, 2007; Merriam, 1998). Research questions at the onset, as well as data collection procedures or protocols may change along the way depending on what ongoing data collection and inductive data analysis reveal (Creswell, 2007). Miles and Huberman (1994) called this “serendipitous findings” (p.1) that could lead the research in new but interesting directions. Qualitative research is also characterized by collection of data through prolonged contact with a life situation in natural settings by the researcher, who is the key instrument in gathering multiple sources of data, conducting inductive data analysis, and writing a holistic or rich account of the participants’ meanings of the phenomenon under study (Creswell, 2007; Merriam, 1998; Merriam, 2009; Miles & Huberman, 1994).
The purpose of this study was not to gauge the performance of preservice teachers in phonemic awareness, phonics, and morphemic awareness. It was not to examine whether or not the participants were adequately prepared to teach these concepts to beginning and struggling readers. The interest of this researcher was on the meanings preservice teachers constructed based on, and attributed to, their experiences (Creswell, 2007; Merriam, 2009) as they went through the process of working for mastery, in this case 90% accuracy in a series of tests, in the said areas of literacy. In the process, participants were encouraged to actively engage in reflective thinking (Dewey, 1933) over their experiences. Through reflective thinking, it was hoped that they would identify and consciously deal with their perplexities and confusions as well as their planned solutions (Dewey, 1933). With this goal and design, qualitative research was imperative for this study, which sought to answer the following questions:

1. How do preservice teachers describe their experiences as they work for mastery (designated as 90% accuracy) in phonemic awareness, phonics, and morphemic awareness?

   1.1. What areas of concern were identified? How did the participants address these?

2. Why do preservice teachers think they achieve or do not achieve 90% accuracy in phonemic awareness, phonics, and morphemic awareness?

3. How are preservice teachers’ perceptions of preparedness to teach phonemic awareness, phonics, and morphemic awareness influenced by achieving (or not achieving) 90% accuracy in phonemic awareness, phonics, and morphemic awareness tests?
4. How do preservice teachers think teachers’ knowledge on phonemic awareness, phonics, and morphemic awareness impact literacy instruction?

5. How have the preservice teachers’ perceptions about their roles as literacy teachers been influenced by this experience?

**Qualitative Research Strategy**

Qualitative research can be done in varied ways. Determining which type would be used in this study was a crucial decision. Based on the literature reviewed on research methods, the research questions guiding the study, and its design, a multiple case study method was found to be most fitting. According to Merriam (1998), “a case study design is employed to gain an in-depth understanding of the situation and meaning for those involved. The interest is in process rather than outcomes, in context rather than specific variable, in discovery rather than confirmation” (p. 19). A case study method was deemed most suitable for the study because it focused on the lived experience of the participants as they experience the phenomenon, which is working for 90% accuracy in phonemic awareness, phonics, and morphemic awareness. Additionally, case study is used for “how” and “why” questions (Yin, 2014). These questions give more explanatory answers. Such questions also “deal with operational links needing to be traced over time, rather than mere frequencies or incidence” (Yin, 2014, p.10). The questions posed at the beginning of this study are “why” and “how” questions and the answers to these questions were generated through prolonged and varied interaction with the participants. Case study is also used when investigating “a contemporary set of events over which a researcher has little or no control” (Yin, 2014, p. 14). Case study research is comprehensively defined as a qualitative approach in which the investigator explores a bounded system (a case) or multiple bounded system (cases) over time, through detailed, in-depth data collection.
involving multiple sources of information (e.g., observations, interviews, audiovisual material, and documents and reports), and reports a case description and case-based themes (Creswell, 2007, p. 73).

In addition to dealing with a bounded system, case studies are also particularistic, descriptive, and heuristic (Merriam, 1998; Merriam 2009). A study is particularistic when it focuses on a particular situation, event, program, or phenomenon. For this study the focus was early childhood teacher education students who had their first literacy method course where they had to work for 90% accuracy in phonemic awareness, phonics, and morphemic awareness. A study is descriptive when its end product is a rich, complete description of the entity that was investigated. It is heuristic when it “illuminates the readers’ understanding of the phenomenon under study” (Merriam, 2009, p. 44).

Eight cases were investigated in this study. Merriam (2009) stated that an interpretation is likely to be more compelling when more cases have been included in the study. Having more than one case “enhances the external validity or generalizability of [your] findings” (p. 50). Multiple cases require more extensive resources and time (Yin, 2014). They become more challenging (Merriam, 2009) because of voluminous data, but they tend to generate a stronger result. Having multiple cases that are selected carefully is likened to conducting multiple experiments that could have similar or contrasting results (Yin, 2014). According to Stake (2005) in multiple case studies the researchers investigate “what is similar and different about the cases in order to gain a better understanding of the quintain” (p.6) or the phenomenon to be studied.

Cases in this study, even if they all had similar experiences related to the phenomenon, differ in some aspects that may have brought about significant differences in results, which is discussed in the next chapter. As Stake (2005) put it, “when knowledge is being constructed, no
two observers construct it exactly the same way” (p.37). Agreement on all respects is not possible; people may agree on some areas but not on others (Stake, 2005).

**Role of the Researcher**

As mentioned earlier, the researcher is the primary tool for data collection and interpretation in qualitative research (Creswell, 2007; Merriam, 1998; Merriam, 2009; Patton, 1990; Yin, 2014). Having the researcher as the key tool for data collection is both advantageous and disadvantageous. On the advantageous side, a human instrument is responsive and adaptive (Merriam, 1998; Merriam, 2009). He or she is able to “expand his understanding through nonverbal as well as verbal communication, process information immediately, clarify and summarize material, check with respondents for accuracy of interpretation, and explore unusual or unanticipated responses” (Merriam, 2009, p. 15). On the disadvantageous side, human research instrument is not free of bias and shortcomings (Merriam, 1998). It is very important that these “subjectivities” be identified at the onset of a study and monitored in the process (Merriam, 2009).

With this said, I identify my relationship to the phenomenon being investigated in the cases under study. I worked as a teaching assistant in a medium-sized southeastern state university from fall 2010 to spring 2014. Two of the courses I have assisted were literacy courses. In the undergraduate literacy course, I played key roles like conferencing with the professor about the student performance in different class assignments; helping in revising the syllabi, assignments, rubrics, and test papers based on identified needs; teaching content some days; grading papers and keeping records; and consulting with students. Through my involvement in the course, my gray area, which is how to teach children to read, was slowly elucidated. I did have many perplexities and confusions and I looked for ways to resolve these. I
have resolved much of my confusion about the spoken and written structure of the English language and how to help children learn to read. However, the more I learned about it, the more my interest in this topic deepened.

For the last couple of years, a phonics test was designed as one of the assignments for the undergraduate literacy course. This assignment was designed to facilitate acquisition of solid knowledge of the concepts among the students. For this assignment students were given a series of tests until they get 90% of the items correctly. A phonics module and links to helpful resources were placed on the class website to help the students with this assignment. The topics covered in the tests were also part of the course content and discussed in class at some point. However, the majority of the students had to take the test three to four times (or more) before they achieved 90% accuracy. Individualized tutoring was also provided for students who had a difficult time understanding the concepts.

I was able to talk to a significant number of former students and I know their confusions and comments as well as their attitudes toward this particular experience. Some of the students had a good attitude towards the experience. They acknowledged it as something that helps them become more knowledgeable about the content that they will be teaching in the near future. Some students reminded themselves to touch their ears as they answer phonemic awareness items because they have been told by their professor that phonemes are all about sounds. One term, a couple of students jokingly asked me to just give them the answer so they will be done with the requirement sooner. During another term one of the students told me, “If I do not get it today, just take off the points for the assignment from my grade. I am so sick and tired of this!” After taking the test for the fourth time, one student remarked, “I should have figured out it would be this easy if I just looked at the module!” I still remember a student who asked me
during the last day of classes what a morpheme was and when I tried to explain it to her, she said, “Is that how simple it is?” These experiences with the preservice teachers coupled with my passion for them to learn the essentials in teaching reading during their preparation ignited my desire to look deeper into the meaning they form through this assignment as well as the perceptions they generate related to literacy instruction and their future profession.

From the onset I was aware that I had assumptions regarding the phenomenon under study based on my personal experiences related to it. On one hand, this was an advantage because “to do qualitative work well (be valid instruments), we must have experience related to our research focus, be well read, knowledgeable, analytical, reflective, and introspective” (Brantlinger et al., 2005, p. 197). However, conducting research on something familiar presents an obstacle for a researcher (Glesne, 2006; Merriam, 1998). Conducting “backyard” research (Glesne & Peshkin, 1992), or having one’s organization, friends, or work setting involved in his or her study presents an obstacle. As Creswell (2009) stated, “this often leads to compromises in the researcher’s ability to disclose information and raises difficult power issues” (p.177). To overcome this obstacle, I was purposeful in my interactions with the participants and interpretation of data. I exerted conscious effort to always be in my “learner role” as defined by Glesne (2006). The learner role “entails a frame of mind by which you set aside your assumptions (pretensions, in some cases) that you know what your respondents mean when they tell you something, rather than seek explanation about what they mean” (Glesne, 2006, p. 94).

Further, multiple credibility measures, which are discussed later in this chapter, were employed to strengthen validity and reliability of findings (Creswell, 2009). Additionally, Institutional Review Board (IRB) guidelines were strictly followed to filter biases that may have been caused by my immersion in the phenomenon under study.
Research Design

A research design is a “plan that logically links the research questions with the evidence to be collected and analyzed in a case study” (Yin, 2014, p. 240). As Stake (2005) stated, “starting without a plan – in other words, anticipating an unstructured, open-ended study – is a road to failure” (p.30). Stake also mentioned a plan is imperative for the completion of a study; however it should not be constraining.

The design of the current study has three dimensions: individual interviews, focus group interview, and analysis of documents and written responses. Interview protocols, as well as written response questions were approved by the Institutional Review Board (IRB) prior to the conduct of the study. Interviews were used to find out what participants have in mind – things that could not be directly observed like feelings, thoughts, intentions, and previous experiences (Patton, 1990).

A semistructured interview, where “main questions and script are fixed, but interviewers are able to improvise follow-up questions and to explore meanings and areas of interest that emerge” (Arksey & Knight, 1999, p.7) was used in the study. I developed an interview guide that contains key questions for each individual interview (see Appendix A). With such guide on hand, I was able to ask follow-up questions, clarify responses, and ask for elaboration or example of related experiences to better explain the participants’ thoughts (Arksey & Knight, 1999).

I conducted a focus group interview towards the end of the study. A focus group interview guide (see Appendix B) was developed and used for this data collection activity. “Focus group interview is, indeed, an interview. It is not a discussion... not a problem-solving session... not a decision-making group” (Patton, 1990, p. 335). This kind of interview is useful for a small group of people, usually six-eight, on a specific topic that concerns them. The
participants were not expected to agree or disagree on the topic during the focus group interview. It was conducted to obtain high-quality data in a social context where the participants were able to listen to and consider each other’s perspectives (Patton, 1990). Additionally, the focus group interview was carried out to verify and substantiate information gathered from other sources (Arksey & Knight, 1999).

Documents, in this case online survey response, and test papers with answers and written responses to prompts were analyzed in this study. These are examined to corroborate and strengthen evidences from other data sources (Yin, 2014). Aside from using the documents to augment evidence, initial analyses of the participants’ written responses and answered test papers were used as probes during interviews. Stake (2005) stated that probe-based interviewing is effective.

**Participant Selection**

In qualitative research the key concern is “uncovering the meaning for those involved” (Merriam, 2009, p. 5); thus, selection of participants should be purposeful (Creswell, 2007; Creswell, 2009; Merriam, 1998; Merriam, 2009; Patton, 1990). This sampling procedure makes certain that the investigator will be able to select participants from whom the most could be learned about the phenomenon under study (Merriam, 1998; Merriam, 2009; Patton, 1990). Qualitative researchers should choose *information-rich cases* for in-depth study (Patton, 1990) to give light to their questions.

Criterion sampling, which is one of Patton’s (1990) strategies of purposeful sampling, was used for the study. In criterion sampling, “all cases that meet some predetermined criterion of importance” (Patton, 1990, p. 176) are invited to participate. Specifically, preservice early childhood education teachers who were having their first literacy methods course and who were
working on an assignment that required them to achieve 90% or more score on a test on phonemic awareness, phonics, and morphemic awareness were involved in the study.

Participants for the study were recruited from a literacy methods course where I was working as a teaching assistant. I coordinated with my supervising professor about having our class involved in my study. Class hours were not jeopardized for the study because, except for the test administration, data collection measures were done outside class hours. The only instances I took some from the class time were during two 15-minute recruitment presentations. The first meeting took place on January 27, 2014. During this meeting I explained the purpose of my study and shared a brief overview of the conduct of the study to my prospective participants. Prospective participants were also informed about the IRB-approved tangible benefits of joining the study. I also assured the prospective participants of the confidentiality of their responses and that they will remain anonymous throughout the study. Further, I assured them that data will be kept in a secure place during the study, and these will be properly discarded after completion of the study. Additionally, students were assured that participating in the study will not affect their grade in any way. After the meeting I sent an invitation email (see Appendix C) to my prospective participants. I made clear during my presentation to the class and in the email I sent them that participation in the study was voluntary and they could withdraw at any time.

I hoped to recruit 6 to 10 participants, each of whom would serve as a case for the study. Recruiting not fewer than six participants would, more likely, give me assurance that even if a couple of participants withdraw from the study, I would still have enough cases to obtain compelling results. Stake (2005) stated having less than four or more than ten cases limits the benefit of multicase study. Three students agreed to participate after the first recruitment
presentation. I requested a follow-up meeting with the students for me to be able to recruit more participants.

The follow-up presentation took place on February 5, 2014. During this meeting other possible benefits for participating in the study were elaborated. One of these was gaining in-depth understanding of the topics in question, which they will be able to hone during their preparation and use in their future profession. Prospective participants were also informed that, if they participate in the research they will have opportunities to reflectively think about their experience and be able to identify what they know, what they did not know, what they are struggling to know, how they will go about their difficulties, and what the experiences will reveal to them about their future profession. After the second recruitment meeting, nine students agreed to participate in the study. One of the research participants withdrew after the third wave of data because she dropped the course. Eight participants, who were represented by a pseudonym of their choice, completed the course of the study. They are: Addison, Caroline, Chloe, Elizabeth, Paige, Teddy, Tkitz, and Valentine.

**Data Collection**

The signed IRB-approved Informed Consent Forms (See Appendix D) from participants were in before data collection begun. IRB guidelines for this form were carefully followed to increase the participants’ confidence for the research and trust that their rights will be protected during data collection (Creswell, 2009) and reporting of results. Digital copies of the form signed by the researcher and the participants were emailed to all participants for their reference.

As soon as the Informed Consent Forms were collected, I emailed the participants the link to the demographic and preassessment form (see Appendix E), which served as the first source of data. This is a form created through Google documents, which has been revised based
on the result of the pilot study involving two graduate assistants and an undergraduate student. On this form the participants indicated what pseudonym they prefer to use for the study; their prior training on literacy instruction; their account of their experiences when learning to read; the times I could schedule them for individual interview; their current comfort level to teach phonemic awareness, phonics, and morphemic awareness; and their current perceptions about what literacy teachers do.

The next wave of data came after the participants and their classmates took their first phonics quiz. This was a 50-item test consisting of foundational concepts related to phonemic awareness, phonics, and morphemic awareness, as well as application questions for each of these concepts using real words and a few pseudowords. The tests consisted similar sections; however, questions were different for each version. These sections are (a) key vocabulary related to phonemic awareness, phonics, and morphemic awareness, (b) application of key vocabulary to real and pseudowords, (c) phonics general principles, (d) separating one-syllable words into onset and rime, (e) counting morphemes in a word, (f) splitting words into morphemes, (g) phoneme segmentation (h) phoneme identification, and (h) phoneme manipulation. The instructor and I developed most of the test questions. Some of the questions, however, were taken from the tests used in previous studies (Cunningham et al., 2004; Moats, 1994, Moats & Foorman, 2003, Spear-Swerling & Brucker, 2003; Spear-Swerling et al., 2005). In addition to the test items, research participants responded to open- and close-ended questions that focused on the first research question for the study (see Appendix F). This questionnaire had been revised as a result of the pilot study to ensure the information that will be gained will clearly answer the research questions. IRB approval was also sought for this modification (See Appendix G) and approval was attained before data collection procedures began. Because a case study gathers data
over time, the test papers and written response pages were color coded for easy organization and better analysis. The first test was printed on yellow sheets of paper, the second on pink, the third on blue, and the last on peach.

Students took the test in class four times. For subsequent tests different words were used for the application questions, some items were modified, and some topics were asked in a different manner. Students who gained 90% accuracy during any of these tests did not have to take the subsequent ones. Students who were not able to gain 90% during the four attempts were encouraged to schedule an individual meeting with the professor. Participants also answered the written response page every time they took the quiz. Question number 4 (see Appendix F) was deleted after the second test because all participants indicated that nothing was entirely new the second time they took the quiz.

The in-class tests were administered on February 19, April 2, April 14, and April 23. The professor encouraged students who did not reach the target during these attempts to meet with her shortly after the last in-class test. During the first test no research participant was able to reach the target. Elizabeth and Chloe were able to make it on the second attempt; Teddy, Tkitz, and Paige reached the target on the third attempt; and Valentine was able to make it on the fourth attempt. Caroline and Addison had to meet with the professor after their fourth attempt and they were also able to answer the questions satisfactorily, which qualified them to have made it to 90% accuracy.

Individual interviews were conducted at least a week after the participants took each test. Schedule for the interviews was based on each participant’s response to the online survey. Attendance to the interview was also ensured through email correspondences between the researcher and the participants. Individual interviews ranged from 9 to 30 minutes. The
individual interview questions revolved around the participants’ responses for research questions 1, 2, and 3. The semistructured individual interview protocol (see Appendix A) was used for these. The information on the document and contact summary forms, which is discussed in the next section, was also integrated during individual interviews.

The participants kept taking the test and coming for individual interview until they reached 90% or more accuracy. In sum, 25 individual interviews were carried out. Questions during the final individual interview focused on the participants’ responses to research questions 2, 3, and 4 (see Appendix A). Towards the end of the course, when all of the participants had gained 90% on the knowledge and skill test on phonemic awareness, phonics, and morphemic awareness, a focus group interview was conducted. The questions for the focus group interview centered on the participants’ responses for research questions 4 and 5 (see Appendix B).

All interviews, with participants’ consent, were recorded using an Olympus VN-702PC digital voice recorder. In addition, the focus group interview was videotaped with participants’ consent. This was done in order to ensure accuracy of transcription. I worked on the verbatim transcription of each interview immediately after they were conducted. Transcriptions were also color coded for better filing and analysis. Personally doing the transcription kept me immersed with the data and made me more sensitive to emerging design. The audio files and transcription were stored on a password-secured USB drive and on my personal computers. Test papers and written responses were filed for each of the participants in a locked cabinet. Digital copies of these were also kept in separate folders on a USB drive and on my personal computers.

**Data Analysis Procedures**

“Data do not speak for themselves” (Bernard, 1988, p.323). The researcher has to make sense of what is going on by carefully analyzing the data. Further, the researcher has to clearly
state the resulting ideas for readers to understand them fully (Bernard, 1988). One of the major characteristics of qualitative research is that data collection and analysis are done simultaneously (Merriam, 1998) in an inductive manner. Patterns, themes, and categories of analysis emerge from examining the available data (Patton, 1990), not with theoretical assumptions or hypotheses (Lincoln & Guba, 1985). Analysis starts immediately after the very first data collection measure and it is continued throughout data gathering (Creswell, 2009; Merriam, 1994) and beyond. It does not stop when all data have been gathered; instead, making sense of the data becomes more intensive as the research progresses and more evidences come in. It peaks when all data have been collected (Merriam, 1998).

Early analysis, as well as interweaving data analysis and collection, is strongly recommended by Miles and Huberman (1994). This allows researchers to go over their existing data back and forth, find gaps, and generate ways to fill those gaps during subsequent data collection. In this fashion the “emerging insights, hunches, and tentative hypothesis” (Merriam, 1998, p.151) influence the next wave of data collection. Some questions might be modified, refined, discarded, or reformulated based on the new insights gained from the analysis of available data (Merriam, 1998). This process leads to another major characteristic of qualitative research, which is its emergent design (Creswell, 2007; Merriam, 1998).

For this study document and contact summary sheets that were adopted from Miles and Huberman (1994) were used for early analysis (see Appendices H and I). I filled out these sheets immediately after each data collection measure. The information on these sheets was used to answer focusing and summarizing questions about contacts with participants. Document and contact summary sheets were filed in each participant’s folder. Information from these sheets reflected key information and emerging themes as well as further questions and concern for the
next contact. Making use of document and contact summary sheets helped me become immediately reoriented to each participant and what we had talked about during our previous contact. I also had the areas where I needed more clarification on hand each time I met with them.

There is a tremendous amount of data in qualitative research. This is most especially true for a multiple case study because there are data from different sources for each of the cases (Merriam, 1998). Starting analysis was overwhelming, but starting early and right was very helpful. I found that keeping the conceptual framework and research questions in mind are the “best defense against overload” (Miles & Huberman, 1994, p.55). I was mindful of my research questions every time I read my transcriptions and went over the documents I had collected. Miles and Huberman (1994) advised that “if you don’t know what matters more, everything matters” (p. 55). I took their advice seriously and found it very helpful. I took note of specific questions that were being addressed by the data.

There are two stages of analysis for multiple case studies. These are the within-case analysis, where each case will be analyzed on its own relative to the research questions, and the cross-case analysis (Merriam, 1998), where thematic analysis across cases will be conducted (Creswell, 2007). In the second stage of analysis, the cases will be compared and contrasted to form cross-case synthesis (Yin, 2014). This two-fold task involving voluminous data seemed insurmountable.

When dealing with an ocean of information, organization and preparation for data analysis is a very important first step (Creswell, 2009; Merriam, 1998; Miles & Huberman, 1994). This was proven helpful in this study. The data files, including filled-out online preassessment and demographic form, answered test questions and written response pages, a
copy of field notes during individual interviews, audio files, and a master copy of interview transcription for each case, were kept intact. Electronic and hard copy folders for each participant were organized and filed for easy access and retrieval. Filled out document and contact summary forms were also included in the file folders. This organization strategy assured that each participant in the study has a complete data set.

As soon as all the data needed for the study were available and organized, I started the within-case analysis for each of the participants. I read through all the data (Creswell, 2009) for each case multiple times. Transcribing the interviews personally immersed me in the data, but reading through them multiple times after transcription freed me from thinking about the accuracy of the transcription and helped me focus on their meaning. Being immersed with raw data made it possible for me to have a general sense of the information conveyed by the participants and start to reflect on their overall meaning (Creswell, 2009). When reading, I also incorporated field notes taken during individual interviews and the emerging thoughts in appropriate places in the margins of the interview transcription (Creswell, 2009; Miles & Huberman, 1994). Additionally, I precoded my data sets by circling, highlighting, or underlining rich information (Saldaña, 2013) for me to easily see them in later stage of analysis.

For each of the participants, I looked closely at each wave of data: a) online survey and document summary; b) first set of phonics test, written response, document summary sheet, interview transcription, and contact summary sheet; c) second set of the previous list; d) third set, among others. I also looked at each of the participants’ contributions in the focus group interview transcription. I coded all these data sets for the research question that they addressed before I started to code for descriptions, patterns, and categories in an inductive manner (Anfara, Brown, & Mangione, 2002; Miles & Huberman, 1994). I have not read this step from the qualitative
method books I consulted. Patton (1990), however, mentioned “there are no absolute rules except to do the very best within your full intellect to fairly represent the data and communicate what the data reveal… qualitative analysis ultimately depends on the analytical intellect and style of the analyst” (p.372). I took this step because it immensely helped me to systematically examine my research data.

To systematically evaluate and interpret my data, I used MAXqda qualitative analysis computer software (Creswell, 2009; Merriam, 1998; Miles & Huberman, 1994). MAXqda offered a very efficient way to store, organize, locate, retrieve, group, write memos, and assign codes to my data; however, the program did not fully analyze the data for me. I had to study the output extensively and find emerging meaningful patterns because I am still the main analyst (Yin, 2014).

I imported all my data files to MAXqda and coded them by type. When coding I assigned a short-hand designation to various aspects of the data for easy retrieval of specific pieces of information (Merriam, 1998). Codes are tags attached to words, phrases, sentences, or paragraphs that signify assigned meaning to the information in the text. I used open coding (Miles & Huberman, 1994) or initial coding (Saldaña, 2013), where new codes are created while going over the data, and I maintained a qualitative codebook (Creswell, 2009), where I kept an inventory of the codes I used and their meaning. At first the codes I used were descriptive and in vivo codes (Saldaña, 2013). As I went deeper into the analysis of data, the succeeding rounds of coding became more inferential (Miles & Huberman, 1994). In the process new codes emerged from the data and I needed to delete some codes and change them with new ones or merge them with other codes (Miles & Huberman, 1994; Saldaña, 2013). The codes used in this study were
mapped for better analysis (Anfara et al., 2002; Saldaña, 2013). These are presented in the next chapter.

To complete the first stage of analysis (Merriam, 1998), I generated a description of each of the cases relative to the research questions based on the coded data. I then moved to the final stage of analysis where the eight cases for this study were cross-analyzed and synthesized. The question, “What were the lessons learned?” (Lincoln & Guba, 1985) in each case and across cases was answered using some of the tactics presented by Miles and Huberman (1994). These are noting patterns and themes, seeing plausibility, clustering, counting, making contrasts or comparisons, partitioning variables, subsuming particulars into the general, noting relations between variables, building a logical chain of evidence, and making conceptual or theoretical coherence.

Throughout the process of analysis and interpretation I was mindful to keep analysis in context, be guided by my research questions, and not be hasty in jumping to conclusions. I also kept in mind that data unfolds over time in case studies and I have to be patient. Additionally, I was conscious about measures of credibility throughout the conduct of my study.

**Strategies for Validating Findings**

Triangulation is “the convergence of data collected from different sources, to determine consistency of findings” (Yin, 2014, p.241). This is imperative for all types of research for two reasons: confirmation (Denzin, 1970) and completeness (Jick, 1983). Stake (2005) stated that triangulation is essential for multicase study. It is to “assure that we have the picture as clear and suitably meaningful as we can get it, relatively free of our own biases, and not likely to mislead the reader greatly” (p.77). Collecting data from diverse sources or methods lessens the chance of making errors or arriving to inaccurate conclusions (Arksey & Knight, 1999). Case study
research presents an opportunity to gather data from different sources. Using multiple sources of data is signifying different ways of looking at the same phenomenon. This is a major attribute of the case study method. Using several sources of information leads to the “development of converging lines of inquiry” (Yin, 2014, p. 120).

This study satisfied methodological triangulation by collecting data using different methods, i.e., individual interviews, focus group interview, test papers, written responses, and preliminary online survey. It also satisfied data triangulation or the use of various data sources, i.e., audio interview files, interview transcription, field notes, test scores, test item analysis, and written responses. The data collection procedures and their connection to the research questions are laid out in Table 1.

Table 1

Matrix of Research Questions and Sources of Data

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Online Survey</th>
<th>Phonics Tests</th>
<th>Written Responses</th>
<th>Individual Interviews</th>
<th>Focus Group Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How do preservice teachers describe their experiences as they work for mastery (designated as 90% accuracy) in phonemic awareness, phonics, and morphemic awareness?</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>1.1. What areas of concern are identified? How did the participants address these?</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2. Why do preservice teachers think they achieve or do not achieve 90% accuracy in phonemic awareness, phonics, and morphemic awareness?</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>3. How are preservice teachers’ perceptions of preparedness to teach phonemic awareness, phonics, and morphemic awareness influenced by achieving (or not achieving) 90% accuracy in phonemic awareness, phonics, and morphemic awareness tests?</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
Data for the study was gathered from eight participants. Data from multiple cases strengthen the trustworthiness of the study and confidence in its findings (Arksey & Knight, 1999; Patton, 1990). Investigator triangulation was not fully satisfied because all interviews, transcriptions, analysis, and interpretations were conducted by the researcher. However, a conscious effort was exerted to strengthen this area. Three PhD candidates and a professor were asked to review interview protocols, test questions, and questions for written responses before the conduct of the pilot study. Subsequently, the data gathering tools were pilot tested using two graduate assistants and an undergraduate student who were not involved in the study. They were early childhood education students who have not had any literacy methods course. Modifications of interview protocols and questionnaires, which resulted from the pilot study, were also submitted to and approved by the IRB. Coded data and findings were read by two PhD candidates to ensure that these were accurate and bias-free.

Besides triangulation and use of external audit, other credibility measures were also performed. First was researcher reflexivity where the researcher “attempts to understand and self-disclose his or her assumptions, beliefs, values, and biases” (Brantlinger et al., 2005, p.201). Second, first and second level member checks were carried out; the participants were shown the
interview transcription (first level) and analyses and interpretations (second level) for them to check the accuracy (or inaccuracy) of data (Brantlinger et al., 2005). I also kept an audit trail to document that sufficient time was spent to gather data and that it was strong enough to “claim dependable and confirmable results” (Brantlinger et al., 2005, p.201). Lastly, I exerted utmost effort to write a thick, detailed description with “sufficient quotes and field note descriptions to provide evidence for researchers’ interpretations and conclusions” (Brantlinger et al., 2005, p.201). Thick in this context means “complete” and not having several pages (Merriam, 2009).

Chapter Summary

This chapter presented the rationale of the research design employed in the study. The methods and procedures for enrollment of participants, data gathering, data analysis, and establishing trustworthiness of findings were also extensively discussed. These procedures ensure that the findings that are presented in the next chapter underwent informed, systematic, and rigorous processes.
CHAPTER 4

RESEARCH FINDINGS

This chapter is a presentation of the results of the study from the first and second stages of data analysis (Merriam, 1998). The results have been organized into two major sections. The first section includes the results of the within-case or first stage of data analysis. It consists of extensive description of each of the cases relative to the research questions posed in the beginning of the study. These research questions are as follows:

1. How do preservice teachers describe their experiences as they work for mastery (designated as 90% accuracy) in phonemic awareness, phonics, and morphemic awareness?

   1.1. What areas of concern were identified? How did the participants address these?

2. Why do preservice teachers think they achieve or do not achieve 90% accuracy in phonemic awareness, phonics, and morphemic awareness?

3. How are preservice teachers’ perceptions of preparedness to teach phonemic awareness, phonics, and morphemic awareness influenced by achieving (or not achieving) 90% accuracy in phonemic awareness, phonics, and morphemic awareness tests?

4. How do preservice teachers think teachers’ knowledge on phonemic awareness, phonics, and morphemic awareness impacts literacy instruction?

5. How have the preservice teachers’ perceptions about their roles as literacy teachers been influenced by this experience?
The second section, on the other hand, presents the results of the cross-case analysis and synthesis of data from the eight participants in the study. This stage of the analysis unfolded the *lessons learned* (Lincoln & Guba, 1985) from the study. These *lessons learned* give light to the purpose of the study, which was to explore the experiences and perceptions of early childhood preservice teachers in a southeastern university as they worked for 90% accuracy in phonemic awareness, phonics, and morphemic awareness. These lessons are presented as themes and subthemes. A model that encapsulates the findings of the study is also featured in this chapter.

**Within-Case Analyses**

Conducting a multiple case-study is like carrying out multiple experiments that could have similar or contrasting results (Yin, 2014) depending on the background and prior knowledge of the participants. The participants in the study are members of a bounded system; in this case, they were all taking their first literacy methods course for early childhood education preservice teachers in a southeastern university. To demonstrate content mastery they all needed to work for 90% accuracy on a series of tests on phonemic awareness, phonics, and morphemic awareness as one of their class requirements. The participants, however, differ in some aspects. These similarities and differences could have caused disparity in the meanings and perceptions they formed through their experiences (Bransford et al., 2005; Dewey, 1938, Vygotsky, 1978).

Before the results of the within-case analyses are discussed extensively, an overview of the characteristics of the eight participants who completed the study are outlined in Table 2. These are characteristics that are associated with their background and experiences related to the study.
Table 2

Participants’ Background and Characteristics Associated to the Conduct of the Study

<table>
<thead>
<tr>
<th>Participant</th>
<th>Year level</th>
<th>Field Experience during the term</th>
<th>From the south?</th>
<th>Number of Tests Taken</th>
<th>Written Responses and Individual Interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addison</td>
<td>3rd year</td>
<td>30 hours as part of other courses</td>
<td>Yes</td>
<td>4</td>
<td>4 (and a meeting with the professor)</td>
</tr>
<tr>
<td>Caroline</td>
<td>3rd year</td>
<td>30 hours as part of other courses</td>
<td>Yes</td>
<td>4</td>
<td>4 (and 2 meetings with the professor)</td>
</tr>
<tr>
<td>Chloe</td>
<td>3rd year</td>
<td>30 hours as part of other courses</td>
<td>Yes</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Elizabeth</td>
<td>3rd year</td>
<td>30 hours as part of other courses</td>
<td>Yes</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Paige</td>
<td>2nd year</td>
<td>None</td>
<td>Yes</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Teddy</td>
<td>3rd year</td>
<td>30 hours as part of other courses</td>
<td>Yes</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Tkitz</td>
<td>2nd year</td>
<td>None</td>
<td>Yes</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Valentine</td>
<td>2nd year</td>
<td>10 observation hours</td>
<td>No</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Addison

“Hmmm….I feel like each time I have taken it, I have been able to narrow down more of what I needed to look at.”

“Yeah! I mean it hasn’t been a bad experience, it just hasn’t been very easy… I honestly am really grateful for it.”

/Addison on our final interview/
Description of the experience. Addison’s description of her experience towards mastery of phonemic awareness, phonics, and morphemic awareness could be encapsulated in the quotes above from her last individual interview. Her description of the experience changed each time she took the test. At first, she expressed that it was really hard, stressful, and overwhelming. She started getting confused, overthinking, and second-guessing herself as soon as she started to take the test. None of the topics asked in the first test were easy for Addison. This, in part, was due to her unfamiliarity with the concepts. She expressed she did not remember learning about these in her elementary days. Addison asked herself questions about phonemic segmentation, which is an entirely new way of breaking down words for her. During our first interview, she expressed, “I realized how much that I really don’t know about it.”

On her second attempt, Addison described her experience as “better than last time,” but she still expressed difficulty in learning a few of the concepts. While being tested, she still overthought some of the items and was confused on some of them. It has been a better experience because she was better prepared for the test and she knew what to expect from her prior exposure to the materials. For this attempt she studied the module in a more detailed manner and had more practice. It was during this test when Addison realized that she was having difficulty in applying the definitions such as digraph, diphthong, and blends; and concepts such as long and short vowel sounds, to real words. Addison also expressed confusion on splitting words into morphemes. She found it difficult to separate the root words or word origins and the word parts that were added to the root. In the word naturally, Addison did not identify the free morpheme nature, and the bound morphemes –al and –ly. Additionally, Addison came to realize the cause for her difficulty in phonemic segmentation. She said, “I just didn’t even think of putting other letters. I just thought of breaking it up with the letters I had.” She also came to
realize that she was over-pronouncing or over-exaggerating words that was why it was difficult for her to hear the right sounds.

Addison described her third test as discouraging and difficult. She expressed discouragement because she could not seem to master phonemic awareness, morphemic awareness, and the application of digraphs, diphthongs, and blends to words, which she had been missing from the start. Addison could not have a firm grasp of the concepts, which according to her was, “a lot to remember.” Her discouragement was apparent when she expressed during the focus group interview,

“I think after taking it a couple of times, it was kind of discouraging because I was like, ‘if I'm getting towards the end of the semester and if I can't master this, then how in the world am I going to teach like little bitty children about it whenever they don't even have any basis, like base knowledge of it?’ And so I think it was just discouraging 'cause it was like, ‘okay if I can't even get this test mastered at 90 %’ then I'm like, ‘What am I thinking?’”

Addison felt better about phonemic segmentation during her last test in class but less confident with diphthongs and digraphs. Even if she felt less confident with diphthongs and digraphs, she answered all the questions related to these concepts correctly during this attempt. She was very close to 90% during this test, but because she got so focused on what she had been missing, she missed some of the questions related to concepts that she found easier on her earlier attempts. These include long and short vowel sounds and r-controlled vowels.

When Addison finally achieved the target, which is 90% accuracy on phonemic awareness, phonics, and morphemic awareness, she expressed that she felt good and relieved. She definitely did not think that she had mastered the concepts, but she was relieved that she gained a basis to work off of for the future.
Addison felt she was able to narrow down her confusions and apprehensions as the study progressed. Her increased score each time she took the test corroborated her claim. Addison’s initial actions were to read the *Put Reading First* manual, skim the module, and take note of what she missed. She spent more time studying the module during her succeeding tests. The primary measure by which Addison tried to clear her confusions and answer her questions was discussing her thoughts. She talked over her questions and confusions with a friend who was taking the tests with her, with a couple of other friends who have succeeded in this test during the previous semester, with a more knowledgeable adult, and with her professor. Addison expressed that she learned better through discussing her thoughts with someone else than reading the materials herself.

**Influences for achieving or not achieving the target.** Several factors influenced Addison’s experience negatively or positively. These factors were either external or internal. Among the external factors, Addison acknowledged that peer talks and discussions with more knowledgeable adults were very helpful. Addison also expressed that the module prepared for this assignment and other materials provided in class were of great help. Some other external factors, however, deterred Addison’s mastery of phonemic awareness, phonics, and morphemic awareness. The most influential were the negative feedback about the experience that she heard from students who took the class on previous terms. It became more difficult for her to achieve 90% accuracy when so many things were going on at the same time. Even the multiple opportunities to take and pass the test deterred her from really doing her best during her first attempts. She thought she could work on other requirements first because she only had a single chance to make a good grade on these; whereas for the mastery test, she had several opportunities to make a good grade. It had been also a challenge to relearn the concepts when she
was taught these concepts differently when she was growing up. This was manifested in her difficulty to think of just sounds when dealing with phonemes.

A number of internal factors also affected Addison’s experience positively or negatively. Addison’s motivation to master the concepts so as to teach them right sustained her through the series of tests. During our interviews she repeatedly expressed her belief that it would be much harder to go back and reteach a concept that had been taught poorly or incorrectly than to teach it right from the start. Another struggle that Addison had to deal with was her manner of saying the words for phonemic segmentation. She tended to over-pronounce or over-exaggerate them and ended up having more or fewer sounds than needed.

Even if Addison met the target for the assignment, she expressed that she still needed more practice and application. This, according to her, would help her really master the concepts. She hoped to have several opportunities to do this during her residency, which is a course characterized by intensive fieldwork. She expressed she was looking forward to be guided by her mentor teacher who, she hoped, knows much more about phonemic awareness, phonics, and morphemic awareness.

**Perception of preparedness to teach.** At the onset of the study Addison expressed that she was uncomfortable to teach phonemic awareness, phonics, and morphemic awareness. After her first test Addison became even more uncomfortable to teach these concepts because she realized how much she did not know and how much she needed to learn. She expressed she did not want to try because she would not be helpful to her students. Even if her comfort level to teach phonemic awareness, phonics, and morphemic awareness increased by little increments as she made progress, she never reached the point where she perceived she was prepared to teach children these concepts. She felt most unprepared to teach phonemic segmentation. During her
last interview, when she was asked about her perception of preparedness to teach, she said, “Still the same. I could try, but I feel like I wouldn’t want to teach it to anyone until I was really confident.”

**Role of teacher’s knowledge.** Knowledge, according to Addison, enables teachers to explicitly instruct children. Explicit instruction, she mentioned, could be performed well only by teachers who are aware of what their students are struggling with. Teacher knowledge on phonemic awareness, phonics, and morphemic awareness was perceived by Addison as a tool for teachers to be able to assess students properly, design lesson plans based on assessment results, implement these lesson plans effectively, and interact with students in their classrooms.

**Implications of the experience for future role.** At the onset of the study Addison thought literacy is a building block for everything else students have to learn – both in academic areas and in the real world. For her, teachers are responsible for so much more than a lot of people think. They are responsible in preparing their students to be successful.

Working for 90% accuracy in phonemic awareness, phonics, and morphemic awareness had not been easy for Addison, but she expressed that she was grateful for this assignment because, according to her, “It’s going to affect me in the future.” Through this assignment, Addison acknowledged that it would be really hard for teachers to effectively teach students to read if they were not knowledgeable about these concepts. She expressed, “I don’t know the material so I won’t be able to teach it well at all because I’m having a trouble learning it myself.” For Addison, knowledge about and confidence in teaching phonemic awareness, phonics, and morphemic awareness would help her teach these concepts and skills to children correctly the first time. Working for mastery on these concepts made Addison realize how big literacy instruction is and how much she did not know yet. The experience caused her to want to learn
more about these concepts in order to effectively teach children to read. She mentioned at the closure of the study that what she needed at that point were more practice and application. She hoped to have these opportunities to hone her knowledge and skills during her residency (student teaching).

Caroline

“I get frustrated once I get to the end because that is the hardest part for me.”
-Caroline, on her second written response

“It stresses me out more than it should because I want to do good.”
-Caroline, on her third written response

“It is definitely not smooth. If you want to improve, then you have to work at it, you can’t just expect the information to pop into your head one day because for me that’s not going to work at all.”
-Caroline during her final interview

**Description of the experience.** Caroline’s description of the experience evolved from being scary, new, and challenging; to frustrating, overwhelming, intimidating, and confusing; then enlightening. At first she was scared and did not know what to expect because she had not done any assignment similar to the phonics test during her entire school experiences. For her, the first test was challenging; but she said, “I wasn’t angry or anything when I got done, or I wasn’t even really stressed out because I knew that I wasn’t going to do good the first time.”

However, when Caroline had to take the test again but did not achieve the target, she started to express frustration about the experience. When she did not seem to have a firm grasp of the concepts despite studying them very well, she started to express frustration about it. She expressed during our third interview, “I don’t know. I feel like I just can’t get the concepts good enough, so every time I start taking it, I just automatically get frustrated as soon as I get past the definition page…” The succeeding questions required more complex cognitive tasks related to
phonemic awareness, phonics, and morphemic awareness. Caroline acknowledged that she gave up easier than she should, and she did not try as much as she could. She expressed during our final interview that she needed to work on it more if she was to master the concepts.

It was difficult for Caroline to transfer the concepts related to phonemic awareness, phonics, and morphemic awareness to real words. She repeatedly wrote on her written responses how she could not seem to pick out diphthongs and digraphs in words. She said, “I couldn’t take the definitions and apply them into words. I don’t know why.” Caroline also had difficulty with phonemes. Her test papers manifested these difficulties. It was difficult for her to split words into phonemes, identify phonemes in words, and manipulate them. When asked about the final sound in the word *stopped*, she wrote, /d/. This shows that Caroline had some issues in terms of thinking of just sounds for phonemic awareness items. In the same test, though, she was able to segment the word *sponge* correctly, but during our interview, she expressed,

“I was afraid to put that because I didn’t know if we are allowed to like, even though it sounds like a /u/ but it’s supposed to be an o in the word. I was confused if we can even write that on test paper.”

Caroline’s difficulty in thinking about just sounds was also manifested when she was trying to segment words that have more sounds (phonemes) than letters (graphemes) such as *flax*, words that have more letters than sounds such as *edge* and *stretcher*, and words whose sounds were not the same as its spelling such as *of*. Caroline was able to settle most of her difficulty with phonemes when she found a good website that enabled her to check if she segmented the words correctly.

Besides studying the online module provided for this assignment and practicing with the tests she found online, Caroline also discussed her thoughts with her peers. She also planned to discuss her questions with her professor and ask for more resources. She acknowledged she
needed help to master phonemic awareness, phonics, and morphemic awareness. She expressed during our second interview, “People need to work with me on it and show me what I’m supposed to be doing; otherwise, I can’t. I can’t go and sit with the module and just learn it on my own. For some reason, that’s just not me.”

The test experience was stressful for Caroline because she did not like taking tests. Further, everything on the tests, except the definition part, was difficult for her. She was not able to sound out the words for phonemic segmentation aloud because she was worried that she was not allowed to do that. She felt pressured to finish the test whenever everyone was almost done, and she wanted to do well very badly to be able to teach children these concepts correctly and effectively. Each time her score increased she felt proud that she was finally getting the concepts right.

**Influences for achieving or not achieving the target.** Caroline’s experience was influenced by different factors. At the beginning she thought it was impossible for her to teach herself phonemic awareness, phonics, and morphemic awareness because she did not remember how she learned about them. She did not know how it all worked and how to apply these concepts in words. Being repeatedly exposed to the tests and materials available for her facilitated her progress in learning these concepts. The online resource she found helped her settle her confusion about phonemes to a great degree. Her discussions about the concepts with her friends were also helpful. She mentioned the tests became less intimidating as she learned more about the concepts. This was corroborated by her increased score each time she took the test.

Caroline wanted to do well in the test so badly, yet she acknowledged she did not spend enough time preparing for it. She expressed during our final interview, “I think I put a lot of
pressure on myself … like my expectations for myself are really high and when I don’t do well, I get frustrated.” Caroline also mentioned she had so many other things to do, and for some reason she put other assignments and tasks ahead of preparing for the phonics test. She acknowledged at the closure of the study that if she wanted to be good at something, she had to seriously work for it.

**Perception of preparedness to teach.** In the online survey at the beginning of the study Caroline indicated that she was very uncomfortable to teach phonemic awareness, phonics, and morphemic awareness to children. After her first attempt her comfort level to teach these concepts decreased because she realized there was so much to it and she did not even know where to begin. She mentioned that because she did not remember learning about these concepts, it would be very difficult for her to think of ways to teach them to children. When asked if she would try to teach children these concepts during our first interview, she expressed, “I wouldn’t, I don’t think I will be very good at it, and I don’t think I would be very helpful to them because if they have any questions I wouldn’t be able to answer them.”

At 68% accuracy on the test, Caroline still perceived herself not ready to teach these concepts to children. Even if her comfort level was raised a little, she thought she still needed a lot of practice. Caroline’s comfort level or perception of preparedness to teach phonemic awareness, phonics, and morphemic awareness to beginning readers was raised by little increments every time she took the test and got a higher score; but she acknowledged there was still room for improvement. She expressed during our final interview, “I actually know what these words mean and I ended up pretty much knowing how to apply them to actual words and sounds. So, we’re getting there.”
Role of teacher’s knowledge. Caroline acknowledged that teacher knowledge of these concepts is very important for effective literacy instruction to happen. Lack of teacher knowledge would be detrimental to student learning. If beginning readers would not be taught properly, they could not go further in reading. She expressed, “I have to be able to do it correctly in order for them to learn it correctly. So I don’t want to be teaching them the wrong thing or doing it the wrong way, and then they learn from that.”

Teacher knowledge, according to Caroline, facilitates proper literacy instruction. Teachers would be able to answer children’s questions correctly and they would be able to provide them the appropriate learning experiences. Additionally, teachers would be able to set up the learning environment so that children would learn the concepts better and faster. Teachers’ knowledge of these concepts would help them design good literacy centers for children like what Caroline did for one of her course assignments. Before learning about these concepts, Caroline mentioned that she did not know what the centers she saw in her field placement were for. After working for mastery of these concepts, her eyes had been opened to the reasons why the centers were set up like that. She also started thinking about the literacy centers she would integrate in her future classrooms.

Implications of the experience for future role. In her online survey Caroline indicated, “Literacy teachers are responsible for everything.” She recognized that it is vital for literacy teachers to create a great literacy foundation for children to grow and learn on.

Working towards mastery of phonemic awareness, phonics, and morphemic awareness had not been smooth for Caroline; however, the experience made her realize many things. First, Caroline realized how important it is for teachers to know about these concepts to be able to teach children properly. Children should learn the right way if they are to go further. Second, the
experience helped Caroline look at literacy instruction materials in a more informed manner. She now knows how to look for materials she could use in her future classrooms. Third, Caroline decided to be more careful in sounding out words to children. She did not want to sound them out wrong because children might learn them incorrectly. Fourth, the experience deepened Caroline’s urge to learn about phonemic awareness, phonics, and morphemic awareness. She hoped to improve her skills during residency (student teaching), when she has her mentor teacher to guide her through. Finally, through this experience, she realized that teachers should be more patient with children who are learning to read. She said during our focus group interview,

“We know now that we have to be more patient because if we can't grasp these concepts very quickly then we can't expect young children to do that. I think it makes us take a step back and think that we have to really work with them and give them time instead of just giving up on them.”

Chloe

“I could read the module provided all I wanted to but it was really difficult for me to grasp the idea if I did not actually see it done.”

-Chloe on our first interview

“Even now knowing that I passed this test, I'm still worried that I don't know the information well enough to continue.”

-Chloe during the focus group interview

Description of the experience. It only took Chloe a couple of tries before she was able to gain 90% accuracy in the test. She started off with a high score. Even so, Chloe thought of the experience as scary and nerve-racking before she took the test. This was because she heard negative feedback from former students about this assignment that she thought it would take her eight tries before she hit the target score. She said, “It was really tough in the beginning because it’s a lot of new and complex information.” During the second test Chloe felt more prepared for it, but she still felt she did not know enough to pass. She was pleasantly surprised and relieved when she did. She felt a sense of overcoming when she proved that she knew more than what she
thought. During our focus interview she expressed, “it’s not bad; it’s just… different.” In the end Chloe felt grateful for what she described as “meritorious assignment.”

Chloe emphasized that the assignment was new, different, and strange. She had never done any assignment in her entire school life where the material was not heavily being studied before they were assessed on it. This nature of the assignment forced her to find ways to learn the material on her own. That was difficult for her because she is the kind of learner who needs to see examples and work on them before she gets a firm grasp of the concept. She experienced misconnection between knowing and being able to apply the concepts. She tried to look for other resources but failed to find a helpful one. So she just repeatedly studied the modules, especially the topics that she missed and made up her own words to practice on.

Phonemic awareness items were exciting for Chloe. She always looked forward to saying the word in her head and thinking of the sounds she hears. Even if she was not able to segment words with $x$ and identify the final sound in the word *stopped*, she thought she had sufficient knowledge of phonemic segmentation from her previous school experience. She admitted she was not being careful. In a few instances she was not able to disconnect the letters she saw in the word and the sound she heard. Chloe found pulling out phonemic awareness from the bigger umbrella of phonics, which she has been pre-exposed to, confusing and difficult. She said, “Phonics is something that has always been a core in education and there's not really been a distinction of phonemic awareness and phonics. Everything has just been bunched into one, under the title of phonics.”

Morphemic awareness, on the other hand, was an entirely new concept for Chloe. Most of her mistakes in her first attempt were on this concept. She expressed during our focus group interview, “I have never heard of morphemic awareness. I don't remember having words broken
down in that way to explain to me what it was so it was a completely foreign concept to me, and that was really tough.” Even if Chloe was able to answer most of the morphemic awareness items correctly on her second attempt, she still did not find out the why and how of splitting words into morphemes until we talked about it during our final interview and focus group discussion.

**Influences for achieving or not achieving the target.** Chloe heard many negative things from previous students about the assignment. These caused her to think that she would need to take the test numerous times. Contrary to what she expected, she found the first test relatively easy. Her previous school experiences led her to a great start in this assignment. Even if she did not remember exactly how she learned to read, Chloe remembered that she participated in reading programs such as “Accelerated Reader” and “Wordly Wise.” Also, she had been exposed to digraphs, blends, and phonemes when she was in another college. She also expressed that given more than one opportunity to hit the target was helpful because she was able to take note of what she missed and prepare for them very well for the next test. Even if she did not find helpful online resources, she found that repeatedly studying the module prepared her for this assignment. She made up her own words and broke them down. However, having to deal with so many things at the same time for her six classes deterred her from mastering the concepts sooner. She expressed, “that is what seems to be the going theme for this semester – ‘get done what's due first.’”

**Perception of preparedness to teach.** Chloe indicated in her online survey at the onset of the study that she was very uncomfortable to teach morphemic awareness and uncomfortable to teach phonemic awareness and phonics. After her first attempt her perception of preparedness to teach these concepts was raised a little bit, but she felt she was still definitely unprepared to
teach these to anybody else, more specially, to children. She mentioned during our first interview,

“It’s scary for me to think that if I were to go out into one of my field observations right now and try to do a lesson based on phonemic awareness and morphemic awareness, I would have no clue what to do and I will just confuse everybody in the room.”

Chloe doubted her ability to teach these concepts because she had a hard time understanding them herself. She thought she would need more practice to increase her comfort level to a much higher degree.

When asked about her perception of preparedness to teach phonemic awareness, phonics, and morphemic awareness after she gained 90% accuracy, Chloe expressed she could probably teach children these concepts. Although she added, “I just still worry about how effectively I will convey the information.” She mentioned during our focus group interview that she still felt very nervous to go out and help students that are just starting to read because she herself was still struggling about some of the concepts. She encouraged everyone in the group to have a phonics party before their student teaching to go over these concepts once again.

**Role of teacher’s knowledge.** Chloe strongly believed that teachers should know the right information for them to be able to properly assess their students. With knowledge, teachers would be able to scaffold children based on the assessment of their learning needs. Teacher knowledge about these concepts is especially important if they are to effectively teach English language learners to speak and to read English, as well as beginning and struggling readers. For Chloe, when teachers are knowledgeable about these concepts, they are able to say, “This is how it works and this is why it works.” She hoped that when teachers are able to do this, things might click better for the children. On the other hand, teacher’s lack of knowledge of these concepts would just confuse children even more. Chloe expressed during our second interview, “I
wouldn’t be able to tell kids that they’re doing it right or wrong if I’m not able to tell I’m doing it right or wrong.”

**Implications of the experience for future role.** At the onset of the study Chloe indicated that literacy teachers are responsible for providing experiences and opportunities for children to learn the basic concepts and skills for reading, writing, and speaking. When asked to elaborate about this, Chloe expressed that literacy instruction is a building process through explicit instruction, and she doubted her abilities to do explicit instruction. Working for mastery on phonemic awareness, phonics, and morphemic awareness gave Chloe a more informed perspective. She became more aware of what things like literacy stations and word walls are for. She expressed, “Now I see them as really useful tools to help children understand these concepts on an everyday basis instead of just like through explicit instruction.” Even if she still did not feel very comfortable to teach these concepts to children at the closure of the study, she felt she gained a better understanding of the concepts and she felt better prepared to teach them. After this experience, she felt an urge to learn more about phonemic awareness, phonics, and morphemic awareness. She hoped to learn more of these concepts when she does her residency and she has her mentor teacher to help her.

**Elizabeth**

“After I took the first one, I mean, I studied but not as much as I really could have, because I thought I could retake it. Then after that, it was, ‘Okay I need to do this.’ It was like a personal challenge. I was like, ‘I know it's on here, I'm going to make that 90%.’"

-Elizabeth during the focus group interview

**Description of the experience.** Elizabeth thought the test would be intimidating because she heard from past students that they had to take it many times, and it was an awful assignment. Contrary to what she heard, she found the test reasonable. Taking the test for the first time was actually a pleasant experience for her. Elizabeth was only 2% short of the target score during her
first attempt. She did not feel frustrated about not hitting the target because she knew she could retake the test. It became a personal challenge for her instead.

On her first attempt Elizabeth thought what threw her off were the questions on diphthongs and phonemes. She expressed, “The vocabulary I understood; it was just the application of it that I struggled with.” She expressed difficulty with phonemic segmentation. This was apparent in her test paper because she was not able to segment fox and edge correctly. Elizabeth also doubted her preparation for the morphemic awareness items, but she got all of these right on her first try. During the test she was not sure if early was a single morpheme or not, but she thought, even if ly is usually a separate morpheme, “the word will not make sense without it.”

On her second attempt Elizabeth felt better prepared for the test, but there were still a few things she was not sure about. Elizabeth’s difficulty on phonemic segmentation and phoneme identification was still apparent. A good example of this were when she segmented the word joints into /j/, /o/, /l/, /n/, /t/, /s/ and sponge into /s/, /p/, /o/, /n/, /g/. She also indicated that the final sound in the word stopped is /d/ and the fourth sound in the word scotch is /tch/. She expressed, “I think I just keep really wrapped up in the letters…. in the spelling of the words... I think that’s the big problem.” She also felt being from the south may have made her over-analyze how words are said and she might have sounded them out differently.

Elizabeth took note of the items she missed the first time she took the test and focused on these. She thought there must be something about x so she looked into it more closely. She was able to figure out the sounds that were actually in the word before her second attempt. Elizabeth also took advantage of the topics discussed in class related to the test and the module and other materials provided for the assignment on their class website. She also prepared and made use of
flash cards to master the vocabulary and looked online for words to practice on for the application of concepts.

Elizabeth got 90% on her second test. She felt awesome and relieved that she no longer had to take it again.

**Influences for achieving or not achieving the target.** Elizabeth is an intentional learner. She took the assignment as a personal challenge and studied really well to avoid taking the test repetitively. Elizabeth expressed that her parents greatly influenced her study habits. They have been good role models for her.

Another big factor that influenced Elizabeth’s mastery of the concepts sooner was being able to apply the concepts included in the test in her field placement. She was able to see how these were taught in the classroom. According to her having a firsthand experience on these concepts made them more concrete in her mind. She was able to understand the terms better and how they are applied to words. Her desire to learn further about these concepts became more intense because of her field experience. She relayed, “In one of my field placements, they were going over phonemic awareness. I was like, ‘Oh I really need to learn this because I am going to be doing that.’”

Elizabeth also thought the instruction and feedback in the literacy methods course were very helpful. She thought their literacy center presentation assignment helped her improve her understanding of the concepts. This project, according to her, gave her a chance to put the concepts into real context.

On the other hand, there were factors that hampered Elizabeth from hitting the target score sooner. First, she heard negative feedback from former students and she was so scared when she took the test the first time. Second, she admitted she was being careless in one of the
items she missed. Third, she overthought how words are said and she was afraid she was saying them differently.

**Perception of preparedness to teach.** Elizabeth indicated in her online survey at the onset of the study that she was uncomfortable to teach phonics and very uncomfortable to teach phonemic awareness and morphemic awareness. On our first interview she expressed that she became comfortable to teach phonemic awareness and morphemic awareness; however, she was still uncomfortable to teach phonics. After she gained 90% Elizabeth felt she could better teach most of the concepts to children, especially because she had been applying these in her field placement. However, during our focus group interview she still felt kind of shaky about her ability to effectively explain her understanding of these concepts to children.

**Role of teacher’s knowledge.** Elizabeth believed that teachers should definitely be knowledgeable about phonemic awareness, phonics, and morphemic awareness if they are to teach children these concepts. Teachers who are knowledgeable about these concepts would be able to lay a good foundation, or the building blocks of literacy. Elizabeth believed that literacy instruction starts from the ground up. It is a building process that starts with simple concepts that are carried further. She expressed that knowledge about these concepts would make a difference in the teachers’ instructional planning and how they set up learning experiences and the environment for children. Knowledge also helps teachers assess their students and differentiate instruction accordingly. In her field placement Elizabeth felt good when she knew that she was teaching these concepts to children correctly.

**Implications of the experience for future role.** Working for mastery of phonemic awareness, phonics, and morphemic awareness made Elizabeth realize that, contrary to what she thought, literacy is not just a big chunk. She said, “There is a lot that goes into language learning
and doing it correctly.” Teachers have to take these into account if they are to effectively teach children to read. For one thing, she realized that reading is not all about learning the alphabet. This was her experience when she was growing up. She now knows that she should have the children think about sounds first instead of jumping to letters right away. Elizabeth also became more intent to not just give the necessary materials for children to practice reading, but she also has to model using these properly to them. She expressed, “They’re not going to figure it out on their own.” Teachers should not assume that children know the concepts; they should assess them properly. She expressed, “I mean the strategies that you use for one child does not necessarily… you would have to differentiate it to some degree.”

Paige

“The words seemed to be a little harder, but my understanding is getting better.”

-Paige, on her third written response

“I feel more confident now that I understand the concepts myself and I feel like I can use the techniques I learned to help the students.”

-Paige, during her final interview

**Description of the experience.** Paige’s performance in the assignment progressed in giant leaps. On her first test, she got only 40% accuracy; on her second try, she got 68%; and just 12 days after her second test, she got 92% accuracy. During our final interview she exclaimed, “It feels good! Like it kind of proves that I could figure it out because I thought I’m never going to figure this out (giggles) when I first started!”

Paige found the first test not too bad, but she expressed she and her classmates could have been more prepared if they went over the concepts included in the test in class in a more detailed manner. According to her, she blindly studied for it because she did not know what to expect. She described the second test as “not as bad as the first one.” For this attempt she studied the module, looked for online resources, and read the textbook well. Her efforts seemed to have
paid off because her score increased significantly on her second try. She took note of what she missed during her second test and focused on it as she prepared for her third test. She even talked to her cousin, who is a second grade teacher, about her questions. She also asked her for helpful materials. Paige found that even if the words used in the third test were more difficult, her understanding of phonemic awareness, phonics, and morphemic awareness has gotten a lot better. The test was no longer as confusing and as difficult as before. Even if Paige achieved 92% accuracy on the test, she was still cognizant that she still had to work on morphemes and phonemes. She was not a hundred percent confident about her knowledge of these concepts yet.

When Paige took the first test she thought she knew the concepts better than she did. She expected to gain a much higher score on her first try. She thought she knew phonemic segmentation because she had done examples of it in a class she had in high school, but she found that it was one of the concepts that was very difficult for her to master. She realized that she writes the way she talks and being from the south, she says the words differently. Paige expressed, “Well, I just kind of have like a twang on everything I say so it’s kind of I’ll either draw it out more, or the letters may sound differently than the way someone else would say it.” This was apparent when she segmented *joints* into /j/, /o/, /e/, /n/, /t/, /s/. Paige was able to overcome this dialect-related difficulty on her second and third attempt. Every time she came to the phonemic segmentation section of the test, she thought of how her friend, who is not from the south, would say the word and then says it that way in her mind. She proved this strategy very helpful.

Paige also had difficulty separating the sounds she heard and the letters she saw in the words she had to segment. Also, she was not able to segment *x* on her first two tries, and when
asked to identify the final sound of *crumb*, she wrote /b/. On a positive note, Paige did not have any difficulty in manipulating the phonemes in a word.

Many of the concepts included in the test were new for Paige. She had not heard about onsets, rimes, and morphemes before she took the test. She also had difficulty with definitions. This made her mix up the concepts and miss several application items on her first two attempts. To settle this she spent more time studying the vocabulary using the module, online resources, and other course materials provided for the assignment.

**Influences for achieving or not achieving the target.** Paige blindly studied for the first test and studied different materials. She did not look at the module or any of the materials related to phonics, phonemic awareness, and morphemic awareness on the class website. It was not until after she got her first test back that she started to have little chats with her peers about the test. She also started studying the module and finding resources online at this point. These courses of action helped her attain a much higher score on her succeeding tests.

After her first test Paige realized how her dialect affected her test performance. She became aware that she said words differently, and she writes as she talks. She became very careful whenever she answered phonemic awareness items. She started to think about how her friend would say each of the words and tried to say it that way.

Paige did not have a field placement during the course of the study, but she was able to talk to her cousin who is a teacher. Her cousin gave her materials from her second grade lessons to help her work on phonemes. Paige proved these materials helpful.

**Perception of preparedness to teach.** In her online survey at the onset of the study, Paige indicated that she was uncomfortable to teach phonemic awareness, phonics, and morphemic awareness to children. After she got her first test, she became even more
uncomfortable to teach children these concepts, especially phonemic awareness because according to her, “I don’t talk the way I am supposed to and I don’t know the correct way.” However, after studying well, getting a significantly higher score, and hitting the target score, Paige felt her comfort level to teach children about these concepts had been significantly raised. She thought she could apply the concepts to real words correctly. Paige expressed, the experience “made me feel confident about my learning abilities and my ability to retain information.”

**Role of teacher’s knowledge.** Paige indicated in her online survey that literacy teachers “help children understand how to read and understand what they are reading better.” For Paige teachers perform their tasks directly and indirectly. They directly instruct children and model the right way as they interact with them. Knowledge, according to Paige, “help teachers teach the children better.” When teachers have a better understanding of how to sound out words, they will be able to effectively relay that understanding to the children.

**Implications of the experience for future role.** Working for mastery of phonemic awareness, phonics, and morphemic awareness has not been easy for Paige. She had to figure out how to overcome her difficulties. The experience led her to a major realization related to her future role. She became aware of the difficulty that may be experienced by children who speak another dialect or language. She expressed, “I can be more patient and give them the tools they need to help them understand the concept at hand.” Through this experience, Paige saw herself as one of those children. She believed she could help children in her future classrooms who would be having the same struggle better using the techniques she came up with through this experience.
Teddy

“I really just wasn’t sure on, like, if I could put a different letter that’s not even in the word.”

-Teddy, during our first interview

“I mean I feel a lot more prepared just because some of the things I was actually teaching kids wrong before in my field placements. So I feel more prepared to actually help them learn the correct way.”

-Teddy, during our focus group interview

Description of the experience. Teddy had a preconceived notion that the test would be difficult because of what she heard from former students about the assignment. When asked about her overall reaction to the first test, Teddy wrote, “I thought this test was a lot more difficult than I thought it would be.” Many of the concepts in the test were new to her. Even if Teddy thought it was hard, she was able to garner 84% on her first try. On her second attempt Teddy felt more confident about the test and she thought she did a good job; however, she was 2% short of the target score. On her last attempt Teddy felt she did okay, but she was not sure if she would get enough to pass. She scored 94% on this attempt. When asked how she felt about hitting the target, she expressed, “It was very very good!”

Teddy found almost all of the questions related to digraphs, diphthongs, and blends easy because she did her literacy center on these topics. However, she was confused with *ow*, which could be a vowel digraph or a diphthong depending on how it sounds in a word, even after she passed the test. Teddy also expressed slight difficulty with splitting words into morphemes. According to her, “I was not sure on root words and when they actually counted, when they didn’t.”

Teddy’s most pronounced difficulty was with phonemic segmentation, especially when the word has a blend like *grape*, or an r-controlled vowel like *chapter*. It was also difficult for her to segment phonemes in words when the sounds she heard were different from the letters she
saw like in the words *sponge*, *of*, and *flax*. Teddy was not able to identify the final sound in the word *crumb* correctly. She expressed during our focus group interview, “For me the phonemic segmentation was really hard because even though I knew the definition was ‘it was sound only,’ I kept thinking it has something to do with the spelling so I could not get that.”

In order to settle her confusions Teddy looked for good online resources and studied the materials provided by her professor. Finding a good site was not easy, but she was able to locate a site where she practiced putting the concepts in the test in real words. Teddy also talked to her peers about the items she kept missing. She was able to find out how to segment *x* in one of her discussions with a peer. She also asked her professor about her confusions during class and set an appointment with her for the things she cannot seem to have a good grasp of.

**Influences for achieving or not achieving the target.** Teddy started off with a high score in the assignment. She indicated in her online survey that she had very good and meaningful early literacy-related experiences both in school and at home. She thought of reading as an enjoyable activity that could be carried out in many ways.

Several factors facilitated Teddy’s mastery of the concepts asked for in the test. She found studying the module and other materials provided for the assignment really helpful, even if she felt scared because she had to essentially teach herself about these concepts. She mentioned her professor did not go over these in class in detail before she and her classmates had to take the test.

The online resource she found and her discussions with her peers were also helpful for her to settle her confusions. Class discussions, as well as her literacy center presentation assignment, helped her get a better grasp of phonemic awareness, phonics, and morphemic awareness. Opportunities to put some of these concepts into practice also proved to be helpful.
Teddy was able to help beginning readers with phonemic segmentation in her field experience, and she was also helping her little cousins to read at home.

On the other hand, several factors deterred Teddy from gaining 90% accuracy on the test sooner. Initially, the negative feedback she heard from former students who completed the assignment made her think, "I am going to fail anyway so why try?" She expressed she was nervous during her first test. She also admitted she was careless on some of her responses and she did not study enough. She said, “I think the main reason was that I did not spend time actually looking up different words and practicing.”

On her second attempt Teddy became overly confident that she would make it. She did not study as much. She just focused on what she missed the last time she took it. She ended up missing some of the items she answered correctly on her previous test.

**Perception of preparedness to teach.** Even if Teddy relayed she had very good early reading experiences, she indicated she was uncomfortable to teach phonemic awareness, phonics, and morphemic awareness to children on her online survey at the onset of the study. Every time she took the test and gained a higher score, her perception of preparedness was raised. She mentioned on her last interview that she could teach these concepts a lot better than before. According to her, she taught children some of these concepts incorrectly in her field placements before. After the experience she felt better to teach children these concepts correctly.

**Role of teacher’s knowledge.** Teddy believed that the job of literacy teachers is “to provide a foundation for children so that they can learn to read, speak, and understand words fluently for the rest of their lives.” Knowledge of phonemic awareness, phonics, and morphemic awareness would help teachers perform their jobs satisfactorily in different ways. According to Teddy, knowledge would help teachers find good resources for effective instruction. The
knowledge she gained in this experience helped her find good pieces for her literacy resource notebook assignment. Moreover, Teddy expressed that knowledge would help teachers better answer children’s questions and make them volunteer the right information whenever needed. Knowledge on these concepts would also help teachers plan and carry out effective literacy instruction. With knowledge teachers are able to explain and model things and assess children properly. According to Teddy it is more likely for students of knowledgeable teachers to get the concepts right and become able to read.

**Implications of the experience for future role.** Teddy believed that literacy is extremely important in early childhood. She was intent in finding ways to integrate literacy in all areas of the curriculum. Working for mastery of phonemic awareness, phonics, and morphemic awareness made her realize some ways she could embed literacy in her classroom. The experience made her realize that developing phonemic awareness is not easy, but she has to invest on it if her students are to learn to read. She expressed, “I mean I could talk about the sounds that they hear every day.”

The experience also intensified Teddy’s belief in assessment-driven instruction. She said, “I need to know my students and approach them the way they are going to be able to learn.” Further, the experience taught her that invented spelling is alright. She expressed she would be a lot more comfortable with children using invented spelling. She never really understood why children were allowed to do that during her previous observations.

Gaining 94% accuracy in the test was not the finish line for Teddy. The experience made her want to learn more about these concepts. Teddy expressed that she hoped to learn more about phonemic awareness, phonics, and morphemic awareness during her residency. She plans to ask
her mentor teacher about these concepts in context. She also plans to continue to enrich her literacy resource notebook for future use.

_Tkitz_

“It’s not that the questions were easier; I was just more prepared for what it is going to be.”

_Tkitz, on her second interview_

“It was like uh… I guess it started out really hard but then as it went it got easier because … it was like a progressive, gradual thing.”

_Tkitz, on her final interview_

**Description of the experience.** Tkitz expressed she loves to take tests. She was excited to take the phonics test even if she expected it to be hard because she had not learned any of the concepts before. She was anxious to find out what was on it. Even though she made a good score (78%) on her first try, she indeed found the test difficult. She was no longer surprised about it though. On this attempt Tkitz’s unfamiliarity with some of the concepts was apparent. She was not able to divide one-syllable words into onsets and rimes. She also missed the section where she had to count the morphemes in words. She admitted during our interview that she did not study morphemes well. She planned to focus on them for her next test. Her test paper also showed that she had a problem with phonemic segmentation. She segmented *edge* into /e//ge/ and *sounded* into /s//ou//n//d//ed/. This shows that she had a slight difficulty in identifying and separating the smallest unit of sounds in words. To my surprise, Tkitz was able to segment *fox* correctly on her first attempt. According to her, nobody had taught her how to do that. She just wrote the sounds she heard when she said the word in her mind.

Tkitz described her second attempt as easier than the first, but she emphasized it was not because the questions were easier. It was because she was much better prepared for the
questions. Tkitz was just 4% short of the target on her second test. She still missed a number of items on morphemic awareness, which she described during the focus group interview as her “worst part” in the test. She also missed a couple of questions on phonemes. Even if she was able to segment flax and ache correctly, she missed sponge. Her test showed that she had an issue with thinking only in terms of the sounds she hears in a word when segmenting. She also failed to identify the final sound in the word stopped. During our second interview she figured it should be a /t/ after she said it out loud a couple of times. She expressed that sounding out the words loudly while taking the test would have been helpful for her to better identify the sounds she hears in a word.

According to Tkitz she overthought a lot of the questions during her final attempt, but she hoped she did better. She got 94% accuracy. She expressed she felt awesome and accomplished when she finally hit the target score. Her test paper showed that she no longer had a problem with phonemic segmentation, which she described as her favorite part of the test during our focus group interview. She also got all of the questions that had to do with morphemic awareness correct, even if she indicated that she was still a little confused about morphemes. She described this section as something that “requires more thinking.”

Tkitz was able to settle her confusions by repeatedly going over the module, her class notes, the Put Reading First manual, and other materials provided for the assignment. She studied the module whenever she had time. She even brought her laptop to her little brother’s baseball game to go over the module. Tkitz took note of the items that she missed on her earlier tests and focused on these as she prepared for her succeeding ones. She also tried looking for online resources, but it took her quite a while to find a helpful site. Tkitz wanted to have the vocabulary solid in her mind for her to be able to apply them in words. She found herself
applying the vocabulary whenever she saw a related word. She expressed during our final interview, “Uhm I mean I was always thinking about these things all semester, and every time I saw a word I would think, ‘There’s a blend in it.’”

**Influences for achieving or not achieving the target.** Unlike her classmates, Tkitz did not hear negative feedback about the assignment from former students. According to her, “I have a couple of friends who had the course, but I did not ask much about it.” She actually enjoyed taking the phonics tests. She had taken several tests in her elementary days to evaluate her reading level, and she had always performed well even if she admitted she did not like to read. In middle school Tkitz became a part of honors English classes where they had to read college level books. This influenced her good starting point for the phonics test.

Tkitz described herself as an intense thinker. She thought this could be why she was able to segment *fox* the first time she took the test even if she did not receive any explicit instruction about it. She claimed that intently studying the module and other materials available for her to master phonemic awareness, phonics, and morphemic awareness sooner was very helpful. She also acknowledged repeated exposure to the concepts included in the test helped her find the right resources to study. At some points, Tkitz was able to discuss her thoughts about phonemic awareness, phonics, and morphemic awareness to a more knowledgeable adult. She found these discussions helpful as she worked for mastery of the said concepts.

**Perception of preparedness to teach.** In the online survey that she had to fill out at the onset of the study, Tkitz indicated that she was very uncomfortable to teach phonemic awareness, phonics, and morphemic awareness. During our first interview I asked her about her comfort level to teach these concepts after taking her first test. She expressed, “When I took the test, I think my confidence level went down a little bit… I mean, a lot of bit.” She further
explained that she realized that there was a lot more to these concepts than she thought, and she would not be comfortable to teach these concepts to children at all. When I asked her why not, she expressed, “Oh why can’t I? Uhm...I haven’t learned enough.”

After taking the second test, Tkitz’s perception of preparedness to teach these concepts to young children had been raised significantly. She was at the point where she was almost comfortable about her preparedness to teach children these concepts. When she gained 94% accuracy on the test, her comfort level was raised a little bit more. However, Tkitz did not reach the point where she could say she was ready to teach phonemic awareness, phonics, and morphemic awareness. She said she may be able to do it but at a very simple level. She expressed during our focus group interview, “I think we have a basis for it, but we definitely need to work a lot more on it. We're definitely not prepared to teach it now.”

**Role of teacher’s knowledge.** Literacy teachers, according to Tkitz, make sure that “students understand how reading and speaking words work.” She acknowledged that literacy is in everything; thus, it is extremely important for children to be able to read and understand word structure. For Tkitz, it is very important for literacy teachers to be knowledgeable if they are to effectively teach children to read. Knowledge of these concepts, according to her, would enable teachers to figure out different ways to teach their students.

**Implications of the experience for future role.** Working for 90% accuracy in phonemic awareness, phonics, and morphemic awareness made Tkitz realize a number of things related to her future role as a literacy teacher. For one, the experience helped Tkitz understand her learners better. She said she could definitely relate to them now because she experienced this process of learning the basics firsthand. She believed she should keep the learning she gained from this experience for future use. She said during our focus group interview, “We have to keep
reviewing it. We couldn't learn it and then forget about it... like other materials.” Tkitz’s motivation for learning the materials related to the test was not only to gain 90% accuracy and get the points for the assignment. She expressed during our second interview, “I want to know it. I want to know the material well so that I can teach it... and be confident.” Tkitz mentioned during our focus group interview that she wished she had the class before. She relayed during our focus group interview,

“I know that in one of my field experiences, not this semester but before, I was basically working with one individual child on basically literacy, and we would read together and I wasn't really sure how to help him read because he was a struggling reader and now I wish that I had this class before because it really helped.”

Valentine

“It’s hard especially when, you know, you’re 20 to 30 years old. And you don’t really associate letters to sound at this age because you kind of just know.”

-Valentine, during her second interview

“It feels great! (laughs) because it’s not... I mean there’s a lot more to it than just all the stuff that we were given to study. You still have to break it down, and then break it down again and again, to understand it fully. So I mean it’s really hard.”

-Valentine, during her final interview

Description of the experience. In four attempts, Valentine’s rate of accuracy ranged from 58% to 96%. The first time she took the phonics test, she felt aggravated because except for rhyming words, she thought the questions were complicated. She indicated in her first written response that “all the questions in the test were confusing and it is a lot of material to remember.” Valentine did not expect to do well the first time she took the test, but she did not expect that her score would be that low either. Each succeeding time she took the test, though, she described the experience better than the previous ones. Valentine felt great when she finally hit a score that was way higher than the target. This, however, did not mark the end point for her quest to master phonemic awareness, phonics, and morphemic awareness. Valentine was more
than a year away from residency during the study, but she expressed, “I still want to study it and keep up to date with it because I feel like if I do not study it every now and then, that I’ll just forget it.”

Valentine’s major difficulty in the test was on phonemes. It was difficult for her to segment phonemes, especially when the word had a digraph, diphthong, or blend like in *meaty, stretcher,* and *oily.* She also had difficulty segmenting if the phonemes that compose the word are not the same as their letter representations, such as in words with *x.* Valentine still found phonemes confusing even on her third attempt. She wrote in her written response, “It is difficult to write what you hear after being taught a certain way all your life.” When I asked her about the manner she segmented the word *sponge,* she said, “so you put what you hear even if it’s not there?” She was finally able to figure out phonemic segmentation on her final attempt.

Aside from segmentation, Valentine also had difficulty with phoneme identification as well as phoneme manipulation. Valentine was not able to identify the final sound in the words *syllable* and *stopped.* She was not able to think of the word that is formed when the phonemes in the words *funny* and *easy* are said in a reverse manner. Valentine clearly expressed her confusion on phonemes when she said during her third interview, “It’s trying to match what I hear with what’s in my head. I can’t… just like I’m thinking one way when I should be thinking another. I can’t get on that level that I need to be on… I can’t do that yet.”

Specific courses of action helped Valentine settle her confusions and difficulties in the assignment. Going over the module provided for the assignment, the *Put Reading First* manual, and other materials made available to them on their class website for a significant amount of time helped Valentine get a firm grasp of the concepts. She expressed, “I just kind of study it until I know it.” She also made sure she knew the definitions of the key terms by making herself a note
with all of these listed and some pointers for her to recall them easily. Valentine also found reading the related chapters of their textbook beneficial. She had to do this to complete her chapter summaries. Aside from these, she was able to talk over her thoughts and questions to a more knowledgeable adult. Also, she found on her final attempt that saying the words slowly and writing the sounds she heard on a scrap paper without thinking of the letters she saw in the word made her overcome her difficulty with phonemic segmentation.

**Influences for achieving or not achieving the target.** Valentine’s rate of accuracy in the assignment increased each time she took the test. Even if she started off with a low score, she was able to attain the target score on her fourth try. Several factors deterred her from hitting the target score sooner. According to Valentine she was not aware that the phonics module existed until a couple of days before she took her first test. Even if she was able to study it, she found it difficult to understand because she learned to read a long time ago and she no longer thinks in details. She mentioned it was very difficult for her to think in terms of just the sounds and break down words in smaller units because as an adult she no longer does those whenever she reads. She vaguely remembers how she learned to read, and reading had become an automatic activity for her.

Moreover, taking tests had always been a difficult undertaking for Valentine. She expressed she must have test anxiety because however she prepared for her previous tests, she ended up losing what she thought she knew whenever she started taking them.

On the other hand, Valentine found studying the materials over and over again and taking the test multiple times helpful for her to gain a better understanding of the concepts. She also found the module prepared for this assignment very helpful, as well as other materials provided in their website, class discussions, and their textbook. Also, Valentine acknowledged that writing
her chapter summaries had facilitated her understanding of phonemic awareness, phonics, and morphemic awareness. Through this assignment she was able to read chapters related to the concepts included in the test in-depth. Valentine also expressed that being able to discuss her thoughts and questions with a more knowledgeable adult was very helpful.

**Perception of preparedness to teach.** At the onset of the study Valentine indicated in her online survey that she was uncomfortable to teach phonemic awareness, phonics, and morphemic awareness to children. She still felt she was definitely not prepared to teach these concepts to children after her first test. Valentine expressed she felt better and she could try to teach these concepts to children after her second test. She said, “I could definitely try but I wouldn’t feel… I don’t want to teach something to somebody and teach them the wrong thing, you know? I want to be a 100% sure or close to 100% that I’m teaching the right thing.” After she took the test for the third time, her perception of preparedness to teach children most of these concepts was further enhanced; however, she emphasized that she would not feel this way with phonemes because she was still having difficulty on them. When she finally got 96% accuracy on the assignment, Valentine expressed she felt a lot more comfortable. She said, “I would not be afraid to attempt teaching these concepts anymore.”

**Role of teacher’s knowledge.** Valentine indicated in her online survey at the onset of the study that literacy teachers “teach children how to talk, write, and read.” When asked to elaborate her response, she expressed teachers use explicit instruction to help children pronounce words correctly, read books, name things, and so on. According to Valentine knowledge of phonemic awareness, phonics, and morphemic awareness would help teachers become educated in helping. Knowledge would keep teachers from teaching the wrong things to children. If teachers know what they are talking about, they would be making better lesson plans for children
to effectively learn. They would also be able to find good resources and activities they could use in their teaching if they know what they are looking for. She expressed during our final interview, “It is crucial to know. You need to know what you are teaching.”

**Implications of the experience for future role.** Working for mastery of phonemic awareness, phonics, and morphemic awareness has not been an easy undertaking for Valentine. According to her the materials provided and the concepts included in the test were difficult to learn. She had to work her way to overcome her difficulties and confusions in order for her to achieve at least 90% accuracy in the series of tests she had to take.

Even after attaining 96% accuracy, Valentine still expressed her desire to continue learning about these concepts and keeping herself updated about them in order for her not to forget what she learned from completing the assignment. She said her residency is more than a year away and she does not want to forget what she learned from the experience. When I asked how she would do it during our final interview, she expressed,

“I’ll keep studying. I’ll keep up to date with any new information that they put out about it. Uhm activity…instead of having activities for future students, I can do activities for myself, so I stay knowledgeable about the information. Then I’ll definitely keep all the resources that I got through the semester and study those.”

**Cross-case Analysis**

This section presents the results of the second stage of data analysis, when the “lessons learned” (Lincoln & Guba, 1985) in each case and across cases were identified. These lessons learned, which were gleaned through noting patterns, seeing plausibility, clustering, counting, making contrasts or comparisons, partitioning variables, subsuming particulars into the general, noting relations between variables, and building a logical chain of evidence (Miles & Huberman, 1994) are presented as themes and subthemes. Each lesson learned is extensively discussed in
this section. A model that illustrates how Dewey’s (1933) reflective thinking (constructivism) became evident in the in-depth analysis of data is also presented.

**Theme 1: The Experience Stirred Awareness, Perplexities, and Apprehension**

The participants had a general sense of what literacy teachers are responsible for even before participating in the study. Their responses in the online survey at the onset of the study conveyed a vague awareness that literacy teachers perform a big and crucial task for children to learn optimally. Most of them also expressed awareness that learning to read is a key for children to become successful in all their academic and real-life undertakings.

However, having a general sense of awareness of what they would do as literacy teachers was coupled with feelings and perceptions of unpreparedness to teach children phonemic awareness, phonics, and morphemic awareness. Their comfort level to teach these concepts to children is shown in Figure 1.

![Figure 1](image.png)

**Uncomfortable experience.** Having to work for 90% accuracy on a series of tests on phonemic awareness, phonics, and morphemic awareness initially sparked resistance among the participants. This was an assignment that was unlike all the others they have had in their entire educational experiences, especially because they basically had to work for their own
understanding of the concepts included in the tests, and they were given multiple chances to attain the target accuracy rate. Not that they were not provided with any resources, but they needed to figure out ways to better understand the concepts on their own. They also had to figure out ways by which they could maximize the resources that were accessible to them and learn most from their literacy methods course activities related to phonemic awareness, phonics, and morphemic awareness.

The assignment, which was described by Chloe as a meritorious one, was designed to facilitate in-depth knowledge about phonemic awareness, phonics, and morphemic awareness among the students. In the process, however, the assignment caused awareness, perplexities, and increased apprehension among the participants. This was because through taking the first test they became aware of how much they did not know about phonemic awareness, phonics, and morphemic awareness. Many of the things included in the test were new, complex, or confusing to them. They also realized that literacy instruction has a lot more to it than they imagined, and they are not in any way prepared to teach these concepts to beginning and struggling readers. They have so much to learn about these concepts, which several of the participants describe as “a lot to remember,” especially for adults like them who are automatic readers.

Most of the participants expressed that their perception of preparedness to teach these concepts to children was further lowered after they took their first test. Even after their second try, many expressed they were not yet comfortable to teach children phonemic awareness, phonics, and morphemic awareness because they have not mastered the concepts themselves. Most of the participants still felt apprehensive about teaching these concepts even after they have attained 90% accuracy in the test. Despite passing the assignment, they still felt they have so much to learn related to phonemic awareness, phonics, and morphemic awareness.
Elusive concepts. Taking the series of tests until they gain 90% accuracy made participants aware of a number of elusive concepts. It was difficult for them to have a solid understanding of these concepts even if they have been repeatedly studying the materials made available to them and exposed to the nature of the test a number of times. These elusive concepts are discussed in the following section.

All about phonemes. The participants expressed several questions and perplexities about phonemic awareness tasks. Their biggest difficulty was on phonemic segmentation, which involves breaking down words into their smallest unit of sounds. They had difficulty thinking of just the sounds they hear in words. This was especially true if the words they needed to segment has more sounds (phonemes) than letters (graphemes) like in the word box; more letters than sounds like in the word stretch; or has sounds that are not represented by the letters in the word such as in ache. This difficulty was evident in all the participants’ test papers even if a couple of them expressed they loved segmenting words in the tests. Except for Tkitz, the participants were not able to segment words with x until the third in-class test.

Dialect or manner of saying words was identified by four of the participants as contributory to their difficulty in phonemic segmentation. Addison mentioned that she over-exaggerated her sounding out of words and ended up having more or fewer phonemes. Caroline and Tkitz mentioned they overthought the sounds and they doubted what they heard whenever they said the word being segmented in their mind. Paige had difficulty saying the words properly even just in her mind because she thought being from the south made her say words differently.

A difficulty in phoneme identification was also apparent in all of the participants’ test papers. Seven of them missed the final sound in the word stopped. They wrote /d/ instead of /t/. When asked to find the word that had the same final sound as of, four participants failed to
choose *receive* when given *enough, giraffe, and half* as their other choices. This, once again, demonstrated the participants’ difficulty to think of just sounds when dealing with phonemic awareness items. They expressed that it was hard to think of phonemes as sounds only especially if they know very well how the word is spelled. Valentine expressed she no longer thought about letters and sounds when reading - she just read and understood. That was why it was very difficult for her to think about the smaller units in the words she reads or hears.

The participants’ difficulty in phoneme manipulation was not as evident as their difficulty in phoneme segmentation and identification. One participant wrote *why* *enough* when asked to reverse the sounds in the word *funny*. She mentioned, “I thought *enough* is there, but there was no place to put the *y*, so I just put *why* before it.” Another participant wrote *see* when asked to reverse the sounds in the word *easy*. She mentioned, “I heard *zee*, but I know that is not a word, so I just put *see* instead.” These are examples of how difficult it was for participants to not think of conventional words and spelling when they are dealing with phonemes.

Table 3 shows a few examples of the participants’ questions, incorrect responses, and expressions of confusion about the phonemic awareness tasks they had to perform in the tests.

**Table 3**

*Participants’ Expressions of Confusion Related to Phonemic Awareness Tasks*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Interview</th>
<th>Written Response</th>
<th>Example</th>
</tr>
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<tbody>
<tr>
<td>Addison</td>
<td>Interview 2: “I just did not even think of putting other letters. I just broke it up with the letters that I had.”</td>
<td><strong>Question 2:</strong> “Am I sounding out properly or over-exaggerating their pronunciation?”&lt;br&gt;<strong>Question 4:</strong> “How to sound out/segment?”&lt;br&gt;<strong>Confusing 1:</strong> “Learning to separate sounds correctly.”&lt;br&gt;<strong>Confusing 3:</strong> “Sounding out and thinking about phonemes.”</td>
<td><em>ache - /a/ /c/ /h/ &lt;br&gt;ox - /o/ /x/ &lt;br&gt;stretcher – /st/ /r/ /e/ /t/ /ch/ /e/ /r/</em></td>
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<td>Participant</td>
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<tr>
<td>Caroline</td>
<td>Interview 2: “I don’t even know how to start it. That’s my problem because I’m like, ‘okay, I can sound out the word all I want to but I don’t know what the first thing I need to write down is.””</td>
<td>Question 1: “How many phonemes are in this word?”</td>
<td>sounded – /s/ /oun/ /dl/ /ed/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Question 2: Why can’t I split words into phonemes?”</td>
<td>grape - /gf/ /tl/ /lp/ /el/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Confusing 1: “Phonemes and sounds. It’s hard to sound out words.”</td>
<td>Final sound of crumb- mb</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Confusing 3: “Phonemes, because I think way too much when sounding out words.”</td>
<td></td>
</tr>
<tr>
<td>Chloe</td>
<td>Interview 2: “I think again it was disconnecting the… letter with what sound should be there.”</td>
<td>Question 2: “What letter sounds am I hearing?”</td>
<td>flax - /f/ /l/ /ad /s/</td>
</tr>
<tr>
<td>Elizabeth</td>
<td>Interview 1: With separating phonemes, I did okay on some of them but then others I don’t know if it’s just being from the south and the way I say things that I did not correctly segment them… or if just… I don’t know.”</td>
<td>Question 2: “How do you segment the phone in ache?”</td>
<td>joints – /f/ /lo/ /l/ /hl /s/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Confusing 1: “Segmenting words into phonemes”</td>
<td>Fourth sound in scotch - /tch/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Confusing 2: “Some of the phoneme segmenting was still a little tricky.”</td>
<td></td>
</tr>
<tr>
<td>Paige</td>
<td>Interview 2: “Phoneme segmentation. Yes… those because I just uh I’ve never been able to figure those out …”</td>
<td>Question 3: “How is this word supposed to sound?”</td>
<td>joints – /f/ /lo/ /l/ /hl /s/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Confusing 3: “Phonemes. #50 (reverse easy)”</td>
<td>Final sound in crumb - /bs/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Confusing 2: “Splitting phonemes was confusing… especially those with digraphs.”</td>
<td>edge - /el/ /ld/ /ge/</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Final sound in crumb - /mb/</td>
</tr>
<tr>
<td>Teddy</td>
<td>Interview 2: “Because once again I was doing what was in the spelling rather than the actual sound.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tkitz</td>
<td>Interview 2: Ruth: What were you thinking when you put /d/ there? Tkitz: “uhm… what’s the final sound in the word stopped… /s/t/o/p/t/… /s/t/o/p/t/… /s/t/o/p/t/… /t/!”</td>
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<tr>
<td>Valentine</td>
<td>Interview 2: “Right. That’s hard for me because I never practiced this before so I’m trying actually to say them and hear them at the same time is hard.”</td>
<td>Question 3: “What does it sound like?”</td>
<td>oily - /loy/ /ah/ /lee/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Confusing 4: “It’s hard to hear the sounds of the word without putting a letter to it.”</td>
<td>chapter - /ch/ /ld/ /lp/ /ter/</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>stretcher – /str/ /ech/ /ter/</td>
</tr>
</tbody>
</table>
**Definition-application misconnection.** Another difficulty that was encountered by all of the participants was application of concepts to real words. This was especially true with diphthongs, digraphs, and blends. Many of the participants had difficulty picking out diphthongs, digraphs, and blends in words. They mixed them up. One of the participants did not identify what is in the word *pork* that is not in the words *fish, chicken,* and *beef* even if she assumed she knows about blends, digraphs, and diphthongs very well. She worked on these concepts for her literacy center presentation. She missed this item because she thought blends are always at the beginning of words. Another participant chose *wipe* when asked to identify the word with a diphthong in a set of words. According to her, she heard a gliding sound in the word, so she thought it must be it, because diphthongs are gliding sounds. Further, three of the participants had a hard time with the vowel combination *ow,* which could be a digraph in the words *tomorrow, yellow,* and *grow;* but a diphthong in the words *cow, brown,* and *allow.*

The definition-application misconnection was also evident in the phoneme segmentation tasks. Many of the participants did not figure out that diphthongs and digraphs are combinations of letters that produce a single sound, and the letters in blends produce separate sounds, until their latter attempts. One of the participants even said during our interview, “So you separate a blend? It is weird because they call it a blend so it seems you should have to blend it together.”

**Morphemes.** Six of the participants in the study had difficulty with morphemes. They expressed it was a totally new concept. Splitting words into morphemes was an entirely new way of breaking words for them. They mentioned they divided words into syllables when they were growing up. They also played games like *Text Twist* and finding the smaller words in big words in school. Also, they have had lessons on affixes, which are a part of morphemic awareness, but they did not split words into the smallest unit of language that carries a meaning. For example,
they were able to divide words like *reprinted (re-print-ed)* and *unsupportive (un-support-ive)* correctly, but many of the participants wrote *car-pet* and *lonely-ness*, when asked to split the words *carpet* and *loneliness* into morphemes. The participants had difficulty understanding that the root does not change when they split words into morphemes. In the word *carpet*, there is no smaller word that would have a related meaning, so it is a single and free morpheme. One could take *car* and *pet* from the word, but these are not in any way related to the original word, which is *carpet*. Further, many of the participants did not count *s* as a separate morpheme when asked to count the morphemes in the words *teachers, artists, reminders*, and *cleaners*.

**Theme 2: Awareness, Perplexities, and Apprehension Sparked Persistence to Understand Better**

While the participants’ experiences as they worked for mastery of phonemic awareness, phonics, and morphemic awareness caused perplexities and greater apprehension about teaching these concepts to children, it also ignited in them persistence to understand better. Working for 90% accuracy on these concepts made the participants aware of their unpreparedness and caused them to want to learn more despite the negative factors that have been affecting them. Their goal to become effective and efficient literacy teachers also sustained their persistence to better understand. Moreover, their experiences made them think of all possible strategies they could use to overcome their perplexities and apprehension. Their persistence to learn also made the participants look for different resources and evaluate their usefulness for their future classrooms.

**The defeat of fear and anxiety.** Prior to taking the course, the participants who were juniors at the time of the study have heard several negative comments about the assignment from former students. Feedback about the extreme difficulty of the assignment caused the junior participants to feel anxious about taking their first test. They anticipated the test would be
difficult. They also expected to fail their first few attempts. The sophomore participants, on the other hand, did not hear these negative comments. That was why they were not affected. Nonetheless, the sophomore participants also did not expect to pass the first test because they did not know what to expect. Prior to taking the test only one of the participants was excited and curious about it. The rest felt scared; however, after taking the first test, three of them felt the first test was not bad at all. Two of the participants expressed they thought they had test anxiety, especially if a certain decision is dependent on the result of the test. For this assignment they needed to attain 90% accuracy to demonstrate their mastery of the concepts. If they were not able to do so, they were given multiple opportunities to retake similar tests until they hit the target score.

**Early literacy experiences.** Four of the participants scored close to the target (76%-88%) on their first attempt. These participants credited their good starting point in the assignment to their positive childhood literacy experiences. These participants recalled being part of specialized reading programs, seeing good literacy behaviors at home, being read to at night, engaging in emergent literacy activities at home and in school, having good literacy teachers, among others.

The other four participants scored low on their first attempt (40%-58%), but they worked their way up. When asked to recall how they learned to read, these participants vaguely remembered or did not remember how they learned to read at all. They did not talk about significant literacy experiences in their pre-k or elementary school. A couple of them talked about being read at home by their parents when they were young.

**Motivation to be a good teacher.** As the study progressed the participants were no longer that resistant about the experience. Their deepened desire to find the answers to their
perplexities and overcome their apprehension about teaching these concepts helped them surmount the different challenges that deterred their mastery of the concepts sooner. Caroline, Tkitz, and Valentine emphasized that they should continue to work on their understanding of phonemic awareness, phonics, and morphemic awareness if they are to be knowledgeable and skillful literacy teachers in the near future.

All the participants expressed they wanted to have a solid content knowledge of phonemic awareness, phonics, and morphemic awareness. They expressed that teachers’ lack of knowledge of these concepts would be detrimental to their students. They acknowledged that literacy is a foundation for all learning to happen that is why it is very important for students to learn the right concepts from the start. Many of the participants expressed they could not teach concepts that they themselves struggle to understand. Teachers should first learn what is right and what is wrong and how things should be done before they would be able to guide their students accordingly. Addison expressed a strong belief that it would be very difficult to reteach concepts that children learned poorly or incorrectly. Several participants did not want to try to teach these concepts until they were a hundred percent confident about their knowledge. They expressed they would not be helpful if they teach children these concepts without a solid content knowledge. They would just confuse their students.

**Problem-solving and metacognitive strategies.** The participants’ persistence to have a solid content knowledge of phonemic awareness, phonics, and morphemic awareness so as to teach children these concepts effectively and efficiently sustained them through the series of tests. They came up with different problem-solving and metacognitive strategies to attain their goal. Chloe made up her own words, which she used to practice applying the concepts she learned from studying the materials made available to them. She expressed applying her
understanding to several words, not only the ones given in the module, helped her deepen her understanding. Elizabeth wrote the vocabulary on flash cards for her to better remember them. Valentine wrote important concepts while she was studying them. She had a notebook for this purpose, which had several notations. Addison, Teddy, and Caroline took notes of what they missed in the test each time and went over these in a more detailed manner as they prepared for their succeeding tests. Tkitz became more aware of environmental print, such as brand names of goods in the supermarket and business signs. She segmented these in her mind, or analyzed if these have a diphthong, digraph, blend, r-controlled vowel, among others. Paige thought about how her friend would say the word she was asked to segment. Valentine also figured out that saying the words slowly, without looking at the print, and writing the sounds she hears was an effective means for her to segment words correctly. Teddy decided to focus her literacy center assignment on diphthongs, digraphs, and blends, which she was having a hard time to understand.

Further, many of the participants asked themselves the question, “Does it make sense?” when answering some of the items in the test. This was especially true with questions on separating words into morphemes, counting morphemes, reversing phonemes, phonics generalizations, and soft or hard g and c sound.

Maximizing external resources. In the process of working for mastery of phonemic awareness, phonics, and morphemic awareness the participants became mindful about the materials available for them on their class website, especially the module prepared by their professor and the Put Reading First manual made available to them in PDF form. They repeatedly perused these materials in a slower and more detailed manner. They also took advantage of the links that were provided in the module and they found these helpful.
Aside from deliberately working on the materials made available to the participants, they also looked for other print and online resources. Even if it took them quite a while, some of the participants were able to locate good online resources. These resources gave them opportunities to practice and then check if their answers were correct. Paige was able to borrow second grade materials from her cousin, who is a teacher. These materials helped her understand phoneme segmentation better.

Besides deliberately studying the print and online resources on their own, most of the participants found discussing their perplexities with their peers and more knowledgeable adults very helpful for them to settle their confusions. They also asked questions related to these concepts in class. Further, they also paid close attention to their class discussions, as well as their other related class assignments. All of these measures were found to have facilitated the participants’ mastery of phonemic awareness, phonics, and morphemic awareness. Chloe said during our focus group interview, “It’s just a matter of maximizing what resources you have available to you.”

**Personal barriers.** While several factors facilitated the participants’ mastery of phonemic awareness, phonics, and morphemic awareness, a few personal barriers were also identified. Many of the participants admitted they have not spent enough time studying the materials available to them during their first attempts. They just skimmed through the module and did not open the links. They also mentioned they have too much going on at the same time, and because they had multiple opportunities to attain a good grade in this assignment, they put it off in favor of other assignments. Also, many of the participants realized they were careless. They were in a hurry so they did not go over their responses before turning them in. On another
note, high self-expectation caused Caroline to get frustrated and discouraged whenever she was working on the application questions.

**Theme 3: Better Understanding Brought About Positive Changes**

The efforts exerted by the participants paid off because they consistently gained higher scores in the succeeding tests. They also expressed better test experiences as a result of having a better understanding of the concepts. Figure 2 shows the progress made by the participants in the tests. It shows that some of the participants started off with low scores, whereas others started off with high scores. Some of the participants made big leaps (e.g., from 40% to 68% to 86% accuracy) in terms of their scores, while others increased by little increments (e.g., from 88% to 90%). The chart also shows that the participants increased their scores on the phonics test assignment each time they took it.

![Figure 2](image)

**Figure 2.** Test scores of the participants from their first attempt until they reached the target accuracy rate, which was set to 90%. Note: Sections in the tests were the same, but questions were different for each version.

**Better understanding brought about attitude change.** As the participants gained better understanding of phonemic awareness, phonics, and morphemic awareness, they expressed some changes in attitude towards teaching and learning to read. Personally experiencing the processes
and challenges children who are learning to read may encounter gave them a different perspective. The participants became aware that learning to read is a gradual process. They have to spend more time teaching the children these concepts. The experience caused Caroline, Tkitz, and Valentine to decide to become more patient with children who are having a hard time learning to read. Caroline expressed that she now realizes that teachers should not give up easily on children; rather, they should try different means to help them. Teddy expressed she now understands why children use invented spelling. For Paige, the experience helped her understand children who may be having difficulty because of dialect. Like Teddy and Elizabeth, Paige mentioned saying the words properly when talking to children is important. Teddy and Tkitz wished they had known about these concepts earlier so that they could have been helpful to the children they taught on their earlier field experiences.

In the process of working for mastery of these concepts, the participants came to realize that knowledge of these are essential for them to teach children effectively. They were able to overcome their fear and anxiety at the beginning of the experience and deliberately acted on their confusions instead. Rather than be disheartened, Elizabeth took the assignment as a challenge. Despite being discouraged and frustrated, Caroline, Valentine, and Addison continued to work on mastery of these concepts because they became aware of how essential these are for their future profession. Even if it will take some time before Valentine and Tkitz will have their residency, they expressed they plan to keep on learning these concepts so that they will not forget them.

**Better understanding caused increased perception of preparedness.** None of the participants felt comfortable to teach children phonemic awareness, phonics, and morphemic awareness at the onset of the study. Most of the participants’ perception of preparedness
decreased after they took their first test. However, as the participants worked for mastery of these concepts and gained increased knowledge, their perceptions of preparedness were raised. Their increased understanding was evident in their test papers. Even if some of them had to take the test multiple times, they expressed that doing so made them understand the concepts a little bit better each time. In the process they were able to employ new and effective learning techniques. They also applied their knowledge to real words as they learned more about the structure of spoken and written language. Better understanding, in turn, raised their feeling of preparedness to teach these concepts.

The participants did not reach a hundred percent confidence on their knowledge about teaching phonemic awareness, phonics, and morphemic awareness to children at the closure of the study. They expressed they still needed to learn many things related to these concepts to be fully prepared to teach.

**Better understanding led to greater awareness.** The participants’ awareness of oral and written language structures was deepened as they worked for mastery of phonemic awareness, phonics, and morphemic awareness. Through the experience they started to think of spoken and written words as comprised of smaller units. This awareness influenced the participants’ perception of their role as future literacy teachers. They came to realize how being knowledgeable of these concepts would help them become effective teachers in the future. They also became aware of the concepts they understood and needed to work on each time they reflected on their experience. A greater awareness of what they needed to learn to become more efficient teachers in the future kindled in them persistence to further understand these concepts. They hoped to have great opportunities to improve their knowledge as they advance in their teacher preparation program, especially during residency, when they have their mentor teachers
to guide them as they put their knowledge on phonemic awareness, phonics, and morphemic awareness into practice.

During our focus group interview, the participants unanimously expressed that achieving 90% on the assignment did not mark the end of their quest for knowledge of these concepts. They will continue to seek ways to improve, find good resources, and talk to more knowledgeable adults and their peers.

**Theme 4: Understanding Informs Practice; Practice Enhances Understanding**

The participants expressed that better understanding of phonemic awareness, phonics, and morphemic awareness would facilitate quality instruction in many ways. They expressed that teacher knowledge of these concepts is very important for effective learning to take place. Teachers who have a solid knowledge of these concepts would be able to assess students well and differentiate instruction accordingly because they could readily tell whether or not their students are doing things correctly. According to Chloe, the teachers’ ability to assess their students would be helpful for effective scaffolding to happen. Solid knowledge also enables teachers to plan appropriate learning experiences for their students, design appropriate literacy centers or work stations, and set up the environment for learning. Strong knowledge would also help teachers find great resources they can use for their classroom instruction. Working for mastery of phonemic awareness, phonics, and morphemic awareness made Chloe and Caroline understand the purpose of many of the things they saw in the classrooms they visited.

Teacher knowledge of these concepts influences not only their preparation and conceptualization of learning experiences. It would also help them become more effective in dealing with their students. When teachers are knowledgeable about these concepts, they would be able to answer students’ questions correctly, volunteer valuable information whenever
needed, explain lessons in an understandable manner, and model appropriate literacy behavior and skills. Further, teachers could implicitly integrate teaching phonemic awareness, phonics, and morphemic awareness in their daily classroom activities by intentionally modeling their knowledge of these concepts as they interact with students.

The participants became more aware of linguistic diversity and how this influences learning of the written and spoken language structures through their experience. With solid knowledge of, and skills in teaching these concepts, teachers would be able to better guide English language learners as well as children who may have difficulty due to dialect. Just like what Paige mentioned, she would share the strategies she used to surmount her dialect-related difficulty with her future students.

The participants also expressed that putting their knowledge of phonemic awareness, phonics, and morphemic awareness into practice further enhanced their understanding. Several of them decided to put these concepts into practice when they made their literacy centers, which was another assignment they had to complete for their literacy methods course. They came to understand the concepts better when they looked for words to use in their literacy centers and thought of strategies by which they could better engage children of different learning levels in their centers. Deliberately applying the concepts (e.g., diphthongs, digraphs, blends, phonemes, morphemes) to environmental print improved Tkitz’s understanding of these concepts. Also, practicing the concepts with children in learning settings helped Teddy and Elizabeth gain a better understanding. Studying with peers, where they had to talk about their confusions and practice on real words together, helped Addison, Caroline, Paige, and Teddy resolve some of their confusions.
The participants expressed high hopes in having great opportunities to improve their knowledge of phonemic awareness, phonics, and morphemic awareness as they advance in their teacher preparation program. They hoped to put their knowledge into guided practice during their residency courses and, in turn, improve their understanding further.

Overall, the results of the study as gleaned from the lens of constructivism are shown in Figure 3.

![Figure 3](image)

*Figure 3.* The processes that reflected the participants experiences as they worked for mastery of phonemic awareness, phonics, and morphemic awareness

**Chapter Summary**

The findings of the study on the first and second level stages of analysis were extensively discussed in this chapter, which was divided into two main sections. The first section consisted
of the results of the first level of analysis where each of the cases was presented in light of the research questions that guided the study. The second section of the chapter presented the themes and subthemes that were gleaned from in-depth cross-case analysis. The chapter ended with a model that has been constructed to represent the findings.

How the findings of the study contribute to extant literature and current trends in early childhood teacher preparation is presented in the final chapter of this paper. Recommendations for research and practice are also provided.
CHAPTER 5
SUMMARY, DISCUSSION, AND RECOMMENDATIONS

This chapter is a presentation of a summary of the study and the findings. It includes a discussion of how the findings contribute to the existing literature. It also provides specific recommendations for policy and practice. Further, future research directions that have emerged from the study are specified. This chapter also includes the delimitations and limitations of the study for research consumers to consider.

Summary

The purpose of this qualitative study was to explore the experiences and perceptions of early childhood preservice teachers in a southeastern university as they worked for mastery of phonemic awareness, phonics, and morphemic awareness. These are foundational concepts for effective literacy instruction (Brady & Moats, 1997; Moats, 1994; Moats, 1999; Moats & Lyon, 1996; Spear-Swarling et al., 2005, McCutchen et al., 2002; Snow et al., 1998), which research found to be lacking among preservice and inservice teachers (Mather et al., 2001, Salinger et al., 2010, Spear-Swerling & Brucker, 2003; Spear-Swerling & Brucker 2006; Washburn et al., 2011). Mastery was set at 90% accuracy in a series of tests that required participants to perform different tasks related to the concepts. The professor and I developed these tests. Some questions were taken from prior studies on the research topic. To facilitate the students’ mastery of these concepts several materials were made available to them in their course website and in class. One aim of the study was to investigate the preservice teachers’ description of their experiences as they worked for mastery of phonemic awareness, phonics, and morphemic awareness. Another aim was to examine how working for mastery of the said concepts influenced their perceptions of preparedness to teach young children these concepts.
To facilitate better understanding of this chapter, the questions that guided the study are reiterated as follows.

1. How do preservice teachers describe their experiences as they worked for mastery (designated as 90% accuracy) in phonemic awareness, phonics, and morphemic awareness?

   1.1. What areas of concern were identified? How did the participants address these?

2. Why do preservice teachers think they achieve or do not achieve 90% accuracy in phonemic awareness, phonics, and morphemic awareness?

3. How are preservice teachers’ perceptions of preparedness to teach phonemic awareness, phonics, and morphemic awareness influenced by achieving (or not achieving) 90% accuracy in phonemic awareness, phonics, and morphemic awareness tests?

4. How do preservice teachers think teachers’ knowledge on phonemic awareness, phonics, and morphemic awareness impacts literacy instruction?

5. How have the preservice teachers’ perceptions about their roles as literacy teachers been influenced by this experience?

The study was conducted using the lens of constructivism (Bransford et al., 2005; De Vries et al., 2006; Dewey, 1933; Fosnot, 1996; Kroll et al., 2005; Vygotsky, 1978). Participants were engaged in reflective thinking by which they came to identify their perplexities. Aside from identifying, they were also able to express why and how some concepts were confusing to them. After the participants identified their perplexities and defined how these were confusing to them,
they consciously acted on these using different strategies and resources, which they themselves found helpful.

A multiple case study method was used to give light to the research questions. Conducting multiple case studies is like carrying out several comparable experiments (Yin, 2013). Similarities, as well as differences, were regarded as important information and were properly accounted (Stake, 2005). The participants, even if they underwent similar experiences, came up with different descriptions and perceptions. These differences may be attributed to their varied backgrounds (see Table 2). Coming up with different understanding despite having the same experience is one of the assumptions of constructivist theories (Bransford et al., 2005; Dewey, 1938; Piaget, 1967; Vygotsky, 1978).

Eight participants whose identities were represented by a pseudonym of their choice completed the study. They were all enrolled in their first literacy methods course in a 4-year licensing program during the conduct of the study. Data were gathered in three months using multiple measures. These include online survey, analysis of test papers, written responses, individual interviews, and a focus group interview.

The data gathered underwent first and second stages of analysis. The first stage was within-case analyses where each of the cases was extensively examined in light of the research questions. A comprehensive description of each of the cases was presented in Chapter 4. The second stage was the cross-case analysis that unfolded themes and subthemes. These were also extensively discussed in the previous chapter.

Briefly, the findings are discussed below:

1. Working for mastery, which was set to 90% accuracy, in phonemic awareness, phonics, and morphemic awareness brought about awareness of insufficient
knowledge among the participants. They were able to identify and define their perplexities related to these concepts. In the process they were also able to act on their confusions in ways that were most helpful to them. The participants’ awareness of how much they have to learn to carry out literacy instruction effectively made them apprehensive about teaching beginning readers these concepts. However, their motivation to become effective and efficient literacy teachers caused the participants to want to settle their perplexities and surmount their apprehensions. They came up with different learning and self-assessment strategies that resulted in better understanding of the concepts and increased test performance.

1.1. The participants expressed difficulty related to phonemic awareness tasks, most especially phonemic segmentation and identification. They also reported applying key vocabulary to words – especially digraphs, diphthongs, and blends, challenging. Morphemic awareness was another concept that was difficult for the participants. They reported splitting words into their morphemic components, i.e., root and word parts, was an entirely new task for them. They have been used to splitting words into syllables (e.g., clean/ers), but separating words into morphemes (e.g., clean/er/s) was something they have not done before. They also remembered working on affixes, which is a part of morphemic awareness; but their unfamiliarity with the term morpheme made them answer the section on counting morphemes incorrectly (see Appendix J).

2. Several factors that facilitated or slowed down the participants’ mastery of phonemic awareness, phonics, and morphemic awareness were identified. Discussions with
peers and more knowledgeable adults, class discussions, availability of materials for
the assignment on the class website, other course requirements, online resources, field
placement, and repeated exposure to the materials were reported to have facilitated
the participants’ mastery of the concepts. On the other hand, negative feedback from
former students, test anxiety, dearth of good online resources, not spending much
time, lack of time due to other responsibilities, having multiple chances to make a
good grade, and dialect-related difficulty hampered their mastery of these concepts.

3. The participants felt more unprepared to teach these concepts to children when they
learned how much they did not know. Gaining better understanding as they worked
for mastery of phonemic awareness, phonics, and morphemic awareness increased
their perception of preparedness to teach these concepts by little increments.
However, even after they gained 90% accuracy in the series of tests, the participants
did not express feelings and perceptions of absolute confidence and competence to
teach these concepts to children.

4. Strong knowledge of phonemic awareness, phonics, and morphemic awareness was
acknowledged by the participants as something that they should work for if they are
to be effective literacy teachers. They expressed strong knowledge about these
concepts enable teachers to assess effectively, plan good learning experiences based
on assessment, set up good literacy learning environment, explicitly teach literacy
skills, and look for good resources. Strong content knowledge, according to the
participants, also helps teachers deal with their students appropriately as this enables
them to answer their students’ questions, volunteer valuable information, and model
good literacy behaviors, among others.
5. Working for mastery on phonemic awareness, phonics, and morphemic awareness led the participants to attitude changes pertaining to their future role as literacy teachers. The participants realized that they needed to be more patient with children who are struggling to learn to read after they experienced relearning these concepts. They expressed they could now better understand the processes their students undergo. The experience did not make the participants feel fully prepared to teach these concepts; instead, it made them decide to further improve their understanding of these concepts to be able to teach children to read more skillfully. They expressed teaching the right concepts early on is very important. Teaching these concepts incorrectly or poorly, on the other hand, would be detrimental to their students’ further attempts to read and learn.

**Discussion of Findings**

Completing a research study is not an end in itself. Relating the findings to the background of the study is an important next step. Identifying the opportunities and lessons learned for future related undertakings is also imperative. This section presents the ways by which the results of this study affirm or challenge the existing literature related to teachers’ knowledge of as well as preparedness to teach phonemic awareness, phonics, and morphemic awareness.

The participants became more aware of their unpreparedness to teach phonemic awareness, phonics, and morphemic awareness as they worked for mastery of these concepts. They became cognizant that literacy instruction is a big task and they have to have a strong content knowledge to carry it out effectively. The participants felt more apprehensive about teaching children these concepts when they came into terms with their perplexities. Their
perception of preparedness to teach, however, was increased by little increments as their knowledge of the concepts improved. This finding corroborates the reports of previous research related to the topic (Duffy & Atkinson, 2001; Gormly & Ruhl, 2007; Spear-Swerling & Brucker, 2003).

Unlike previous studies, the participants did not overestimate their knowledge level on phonemic awareness, phonics, and morphemic awareness (Al-Hazza et al., 2008; Cunningham et al., 2004; Cunningham et al., 2009; Spear-Swerling et al., 2004). Through working for 90% accuracy on these concepts, participants in this study were able to identify what they knew and did not know. These were dependent on whether or not they remember coming across these concepts earlier in their school career. Rhyming words, affixes, sight words, and word patterns were some of the things the participants stated they knew before they started taking the series of tests. Their test papers evidenced their knowledge of these concepts. They knew about these things because they remembered learning about these in school. On the other hand, the participants did not know several of the other concepts included in the test because these were foreign to them. The foreign concepts included onsets and rimes, morphemes, all about phonemes, diphthongs, digraphs, r-controlled vowels, and hard or soft g and c sounds. Some of the participants, however, acknowledged that these concepts may not be entirely new, but they did not remember learning about these at all. Working for 90% accuracy in the series of tests compelled them to relearn these concepts. Relearning these concepts, however, was not easy for most of them.

The participants expressed difficulty in thinking about small units such as phonemes and morphemes because reading had become a very automatic activity for them. This difficulty could be a function of expert blind spot, which happens when one has acquired an advance knowledge
or skill, but could no longer relate with novices. Expert blind spots result to inappropriate presentation of new knowledge to learners (Nathan et al., 2001; Nathan & Petrosino, 2003). The participants’ awareness that they were no longer thinking about the small units of language such as phonemes, morphemes, and phonics or sound-symbol relationship made them see this learning challenge from their future students’ perspective.

The concepts that were reported to be elusive by the participants in this study, despite repeated exposure to the materials and multiple chances to gain 90% accuracy in a series of tests, were similar to the ones reported in previous research that involved both preservice and inservice teachers. These studies that reported that teachers have weak knowledge of phonemic awareness, language structure or morphemic awareness, and key vocabulary were cited in the second chapter of this paper. The data for most of the said research were taken from pre- and posttest scores. In contrast, the participants in this study were able to describe their confusions. Through metacognition the participants became aware how their learning best takes place and they were able to regulate their learning. Developing metacognitive habits was identified by Hammerness and colleagues (2005) as an essential element of teacher preparation. Further, the participants were able to express their questions and thoughts about the concepts that were difficult for them to master when they were asked the question, “What were you thinking when you put this (answer)?” or “What made you write this?” Once the participants were able to define their confusions, they were able to look for more specific solutions.

The participants in this study expressed strong belief that they need to be knowledgeable and skillful on phonemic awareness, phonics, and morphemic awareness in order for them to carry out quality literacy instruction. They also expressed apprehension to teach children these concepts until they are confident with their knowledge and skills.
belief in the importance of strong knowledge of these concepts as well as their passion to learn these fully supports the goals posited by different legislations like the No Child Left Behind Act; educational initiatives, such as the Response to Intervention, and the Common Core State Standards; and professional organizations like the International Reading Association and American Federation of Teachers.

This belief and passion among the participants, when shared by all early childhood educators, may answer the call for knowledgeable literacy teachers that has been expressed by Bond and Dykstra (1967/1997) and Moats (1994). Teachers who are knowledgeable and skillful on these basic foundations of reading will be able to help their students overcome the reading epidemic that impedes American students in reaching their fullest potential (Boyer & Hamil, 2008). They may also be better equipped to survive the “sink or swim” attitude for novice teachers in many schools (Anhorn, 2008).

**Recommendations for Future Research**

Whereas the results of this study answered the research questions I posed at the beginning these findings also led me to want to investigate further. Several new questions, which future researchers could examine, emerged from the data. These are presented in this section.

This study was conducted with preservice teachers who were having their first literacy methods course because it aimed to find the difficulty of the students early on. This way, these issues could be addressed sooner and there will be a greater chance for these to be resolved in the preservice teachers' succeeding courses. Conducting this study deepened my interest in carrying out a longitudinal study about my research topic. Through this research design, I will certainly gain more valuable data. It will be good to investigate how the preservice teachers demonstrate their mastery and further enhance their understanding of these concepts in their more advanced
courses, especially during Residency I and II, which involve intensive field experiences. When at this point in their preparation, examining how the preservice teachers’ mastery of phonemic awareness, phonics, and morphemic awareness are enhanced through their mentor teachers’ educated assistance, their firsthand experiences with children, and their deliberate reflection on their experiences will definitely enrich research base. Classroom observations, document analysis (e.g., lesson plans, portfolios, journals, teacher evaluation, classroom arrangement plan, etc.), interviews, among others will be great measures to gather rich data for this study.

I am likewise interested in finding out how novice teachers would apply their mastery of phonemic awareness, phonics, and morphemic awareness in their classrooms during their first few years of teaching. Furthermore, how the teachers apply the concepts they learned and the perceptions they formed to real settings would greatly add to the existing information. When they are already in their own classrooms, the reciprocal relationship between understanding and practice, which is one of the identified themes in this study, could be further investigated. Another area worth investigating is how teacher mastery of these basic concepts and skills in literacy acquisition affects student learning and engagement.

A cross-sectional study of the content knowledge of phonemic awareness, phonics, and morphemic awareness of early childhood teachers will also be a sound research topic. Finding out how their knowledge of these concepts is evident in their classrooms and instruction will be noteworthy. It is very crucial for inservice teachers to have mastery of these concepts because they are the mentor teachers, and the preservice teachers are looking forward to benefiting from their informed assistance. If they are having the same dilemma, it would be imperative for administrators to design professional development programs addressing their issues.
One of the most salient themes in the study was that it was difficult for the participants to relearn the smallest unit of sounds and meaning. Most of them experienced great difficulty separating the sounds they heard and the letters they saw in words. This could be because English was their first language. They became automatic readers and speakers of English. This was the language that they used since birth. Being an English language learner, I am wondering if English language learner teachers have a different account of the experience. Will they still have the same blind spots even if they learned these basic structures of the English language consciously?

In this study the participants’ motivation to be an effective and efficient literacy teachers sustained them in the tests. They wanted to learn about phonemic awareness, phonics, and morphemic awareness because they learned how essential these are for them to carry out literacy instruction effectively. A closer look on the motivational factors (Dweck, 1986; Dweck & Leggett, 1988) of mastering these concepts could be informative for teacher-education institutions. During the conduct of the study participants described their experiences differently. Some of the participants were challenged and excited, while others were aggravated, frustrated, discouraged, and confused. A closer look at how gaining strong content knowledge is affected by the preservice teachers’ dispositions (Katz & Raths, 1986) would certainly enrich the research base.

**Recommendations for Teacher-Educators**

The findings of this study have relevance for teacher preparation and development. Research reported that teachers benefit from their literacy courses and other professional development programs (Brady et al., 2009; Foorman & Moats, 2004; Gormly & Ruhl, 2007; Mather et al., 2001; Podhajski et al., 2009; Spear-Swerling & Brucker, 2003; Spear-Swerling &
Brucker, 2006). Teacher-education institutions may consider the results of this study when they design their curriculum. Preservice teachers’ prior knowledge of phonemic awareness, phonics, and morphemic awareness should be assessed early in their preparation program. Information gained from this assessment will substantially inform instruction. In the same way, professional development programs for inservice teachers may also benefit from the findings of the study.

This study highlighted different elusive concepts for the participants, which corroborated earlier research reports. Teacher education institutions could provide a more explicit instruction on these concepts. The field experience component of literacy methods courses could be strengthened to enhance the preservice teachers’ understanding of these concepts by giving them opportunities to put the things they learn in class to practice. Further, preservice teachers should be given opportunities to reflect on their field experiences to help them to continually assess their knowledge, identify their confusions, and deliberately seek for solutions. Giving the preservice teachers chances to discuss their questions with their peers and more knowledgeable adults will be a good avenue for them to clarify their confusions. There may be a number of them who are experiencing the same dilemma. Small-group conferences will benefit all of them. These measures will improve their understanding of these concepts and confidence to teach children.

The knowledge and skills of inservice teachers who serve as mentor teachers of the preservice teachers should also be addressed, especially in that the participants expressed high hopes that they will learn more about phonemic awareness, phonics, and morphemic awareness in their residency experiences. This presents a need for teacher-education institutions to work closely with their partner schools and mentor teachers. Cunningham et al. (2004) emphasized that it would be easier to find and design help for teachers who are aware of what they know and do not know.
A couple of the participants expressed regret that they were not helpful when they were given a chance to work with beginning readers during an earlier field experience. They wished they had this course, where they were given a chance to identify what they know and do not know and deliberately work on these, earlier. This has an implication for teacher educators. Students could be given an awareness check earlier in their program and provided with good opportunities to settle their perplexities before they are asked to deal with children in their field placement.

**Recommendations for Policymakers**

The No Child Left Behind act of 2002, as well as the International Reading Association emphasized the need for high quality literacy teachers (NCLB, 2002; IRA, 2000). However, the National Council on Teacher Quality [NCTQ] study conducted by Walsh and colleagues (2006) found that only 15% of the 72 schools that were surveyed were found to be providing teacher education students with minimal exposure to the science of reading instruction. Policymakers should investigate not only the number of literacy methods course provided for teacher preparation, but they should also closely monitor how these courses are carried out. The results of this study reiterates the need for explicit instruction of the basic components of language. There should also be opportunities for preservice teachers to consciously deal with their difficulties, which are influenced by their prior knowledge.

**Delimitations and Limitations**

As with all qualitative research, the findings of the study are not generalizable to individuals who are not members of the bounded system from which the participants were recruited (Merriam, 1998; Merriam, 2009; Yin, 2014). Participants for this study were from a group of preservice teachers who were having their first literacy methods course and were
working towards completion of a licensure degree in early childhood education in a southeastern university. As one of their course assignments the participants had to work for mastery of phonemic awareness, phonics, and morphemic awareness, which was set to 90% accuracy in a series of tests. Each of these tests consisted similar sections, but different questions were asked. Various real and pseudowords were used to check the preservice teachers understanding of the concepts.

The current study was focused on phonemic awareness, phonics, and morphemic awareness, which are recognized as essential knowledge for early childhood teachers especially of beginning and struggling readers (Brady & Moats, 1997; Moats, 1994; Moats, 1999). It does not imply, however, that other areas of teacher knowledge or teacher characteristics and other factors are of less importance for quality literacy instruction.

Methodological limitation is also acknowledged for the study. Like other studies that aimed to assess teachers’ knowledge on language structure, the tests the participants took have not been normed or standardized. Many of the items were adopted from the different knowledge survey used in prior studies like Moats (1994), Brady et al. (2009), Moats (2009), Moats and Foorman (2003), and Podhajski et al. (2009) and phonics resource books like Phonics and Structural Analysis for the Teacher of Reading (Fox, 2010). While the utmost effort was made to address areas related to phonemic awareness, phonics, and morphemic awareness (i.e., five content reviewers, pilot tests, and other credibility measures), it is acknowledged the materials were not free of errors and they were not normed. Nonetheless, the questions that were found to be too challenging (e.g., separating informally into morphemes) were not considered for analysis. This is recognized as a limitation even if the primary focus of the study was not the participants’ performance but their experiences and perceptions. Although the tests were comprised of similar
sections and questions were different for each of the versions of the test, it is also acknowledged that repeated exposure to the materials and multiple opportunities to achieve the target score could have influenced increased performance of the participants significantly. However, because this study was not designed to measure performance, repeated exposure to similar test materials was deemed as an avenue for the participants to work for mastery of the said concepts.

Being the primary research tool, I also acknowledge that my experiences related to the topic of interest might have influenced my interpretations of findings. An account of these experiences was included in the third chapter of this paper. This was done so that readers will be able to have a glimpse of my perspectives that could have influenced my understanding.

**Concluding Statements**

Completing the study gave me a base answer to my longstanding question. As an early childhood teacher educator, I have been wondering about the knowledge and skills my former students needed to be able to implement quality literacy instruction. I was also wondering how they can best acquire these knowledge and skills. Through conducting this study I have realized that teacher-educators like me play a crucial role for preservice teachers’ preparation for literacy instruction. Giving them ample opportunities to self-assess their knowledge, resources, and disposition to work on their difficulties at each stage of their program is imperative. Further, letting them discuss their learning processes and freely ask questions is very important.

Whereas this study elucidated my gray areas, the data I gathered ignited in me a desire to understand further. The area of literacy teacher preparation indeed needs serious attention from teacher educators. If we are to develop love for reading among children, they should be taught properly only by teachers who are confident about what they know, deliberate to find out what they do not know, and are competent and passionate to put what they know into action.
REFERENCES


APPENDICES

Appendix A

Individual Interview Protocol
(adapted from Arksey & Knight, 1999 and Creswell, 2007)

Interview # ______

Preface: Set the interviewee at rest; explain purpose of interview and reiterate rules of confidentiality.
Note to self: Do not assume participant’s responses. Ask for elaboration, examples, clarification, reiteration, etc. if deemed needed.

Interview Protocol Project: Developing Mastery in Phonemic Awareness, Phonics, and Morphemic Awareness: A Multiple Case Study of Preservice Early Childhood Educators

Time of Interview:
Date:
Place:
Interviewer:
Interviewee:

Questions:

1. What was your overall reaction during the test? Was the experience pleasant for you? Why or why not?

2. Do you think you gauged your performance well? Why or why not?
   Possible follow up questions:
   a. Do you think you achieved 90% or more? Why or why not?
   b. Which items do you think you knew, but found you don’t? What made you realize that you do not know this/these items?
NOTE: If participant scored 90% or more on the test, omit questions 3 and 4 and ask 5, 6, and 7 instead.

3. How have you been doing with your plans to settle your confusions and find out about the item/s that you do not have idea about? What specific actions have you taken? Do you think they are helpful?

4. Imagine yourself to be teaching beginning readers. Do you think you could skillfully teach them phonemic awareness, phonics, and morphemic awareness at this point? Why or why not?

END HERE if participant has not achieved 90% mastery yet.

5. How does it feel to have achieved 90% mastery of the test?
   a. Imagine yourself to be teaching beginning and struggling readers, how different do you feel now from when you were still working for 90% mastery? How do you see yourself as you teach children at this point?

6. How have your plans of action helped you achieve 90% mastery of the test? Did you find yourself doing other things than those mentioned in your written responses? What made you decide to do those steps?

7. Do you think teacher knowledge of phonemic awareness, phonics, and morphemic awareness affect student learning to read? Why or why not? How?

(Thank the individual for participating in this interview. Assure her of confidentiality of responses and let her know of potential future interviews.)
Appendix B

Focus Group Interview Guide

Preface: Set the interviewees at rest: explain purpose of interview and reiterate rules of confidentiality.
Note to self: Do not assume participant’s responses. Ask for elaboration, examples, clarification reiteration, etc. if deemed needed.

Interview Protocol Project: Developing Mastery in Phonemic Awareness, Phonics, and Morphemic Awareness: A Multiple Case Study of Preservice Early Childhood Educators

Time of Interview:
Date:
Place:
Interviewer:
Interviewees:

Questions:

1. What is your overall remark on the experience of gaining 90% mastery of phonemic awareness, phonics, and morphemic awareness? Why?

2. What factors facilitated your development of mastery of PA, phonics, and morphemic awareness? On the other hand, what factors hampered you from developing mastery faster?

3. What did achieving or not achieving 90% mastery of the concepts mean to you? What specific courses of action did you undertake to increase your mastery? What specific resources did you use? What learning experiences were helpful?
4. How do you see yourself as literacy teachers after this experience? How prepared do you feel to teach phonemic awareness, phonics, and morphemic awareness to beginning and struggling readers?

5. How do you think would your knowledge of phonemic awareness, phonics, and morphemic awareness make a difference in your everyday literacy interactions and instructions with children?
   Possible questions for elaboration:
   a. How differently will you set up the environment?
   b. How differently will you design learning experiences?
   c. How differently will you deal with beginning and struggling readers?

6. How do you plan to further develop your knowledge of the basic language structures?

7. What other questions about phonemic awareness, phonics, and morphemic awareness do you have? (I will answer their questions to the best that I could and give them ideas about the helpful resources for these topics)

Thank the participants for their invaluable involvement in the study. Assure them once again of confidentiality of responses. Let them know that they may be involved in member checks in the future phase of the study.
Appendix C

Invitation Email (was sent through email)

(Date)
Dear________________________

Thank you for listening to me as I present an overview of my study in your class last ______(date).

I am sending you this email to formally invite you to take part in my research on developing mastery of phonemic awareness, phonics, and morphemic awareness. You are being invited to participate in this research because you are currently enrolled in ECED 3210/ECED 4617 and more especially because you are one of those who could inform the research questions best. You do not need to decide today. I will get back to you in a week’s time to ask about your decision. Should you have any questions about the study at this point, please do not hesitate to email me back. I would love to answer your questions.

If you accept my invitation for you to participate, I will give you a copy of the Informed Consent Form where details about participating in the study are given and other contacts for questions are listed. You do not need to sign that right away. I will give you a week to read, ask questions, and review it carefully.

Thank you so much!

Ruth Facun-Granadozo
PhD Candidate
Department of Teaching and Learning
East Tennessee State University
Appendix D

Informed Consent Form

(Date)

Dear Participant:

I am a doctoral candidate in the Early Childhood Program of ETSU. For my dissertation, I am doing a research on the development of mastery of phonemic awareness, phonics, and morphemic awareness among preservice early childhood education teachers. This form provides you with information about the purpose and conduct of the study. You do not have to decide today whether you will or will not participate in the research. You may ask me questions related to the study before you decide. Also, it is important that you read this material carefully before you volunteer to be a participant.

Purpose of the Research

The purpose of this research study is to explore the experiences and perceptions of early childhood pre-service teachers in a southeastern university as they work for 90% mastery in phonemic awareness, phonics, and morphemic awareness. Using multiple case study research, this study aims to provide an in-depth description of the pre-service teachers’ experiences, as well as, how these experiences influence their perceptions of preparedness to teach phonemic awareness, phonics, and morphemic awareness.

Type of Research Intervention

This research will involve your participation in responding to an online survey, answering written responses in addition to your phonics test course assignment, attending at least two individual interviews, and attending a focus group interview towards the end of the semester. No identifiable information will be collected from you. The information you share will be kept private and confidential. Participating in and sharing information for the study will not impact your grade in the phonics test assignment and in the course as a whole in any way.

Participant Selection

You are being invited to take part in this research because you are currently enrolled in ECED 3210/ECED 4617. One of your course assignments is answering 90% (or more) of the phonics test correctly. You are being invited because you are one of those who could inform the research questions best. However, you should be at least 18 years old in order to participate in the study.

Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. If you choose not to participate, your course will continue in the same manner.

APPROVED
by the ETSU IRB

SEP 09 2013

By: Chair IRB Coordinator

DOCUMENT VERSION EXPIRES

SEP 08 2014

ETSU IRB
The choice that you make will have no bearing on your grades or standing in the program. You may change your mind later and stop participating even if you agreed earlier.

**Procedures**

You will complete an online demographic/pre-assessment form early in the study. You will answer 6 written response questions each time you take the phonics test requirement for your course. The researcher will conduct an individual interview with you a week after each test. This will be scheduled at a time that is most convenient for you, and this will be conducted in a private place. Towards the end of the semester, all of the participants will be invited for a focus group interview. After data collection, you may also be involved in member checks, which is the researcher’s way of making sure that she shares the same understanding of what you have said during interviews.

**Duration**

You will be asked to answer the online survey on the fourth week of classes. Written responses will be gathered whenever you have the phonics test in class. Individual interviews will be conducted the following week. Depending on your performance in the test as is required in the assignment, you may have to take a related test twice or more. This means that you will have to answer written response questions and attend individual interviews twice or more. Answering questions for the study that goes with each phonics test will take about 15-20 minutes. Each individual interview will be about 30-45 minutes long. Towards the end of the semester, you will be invited for a focus group interview, which will be about 1.5 hours long. Data gathering will practically last a semester. The researcher may also invite you for quick meetings for member checks.

**Possible Risks or Discomforts**

This study poses minimal risk to you. The only potential risks are spending about 5-15 minutes more each time you take the phonics test to respond to open- and close-ended questions for the study, spending about 3 hours for the interviews, and incurring minimal gas expense for attending interviews, which will be entirely scheduled based on the available times you will indicate in the online survey.

**Possible Benefits**

By answering questions that encourage you to recall your experiences as you were learning to read and identify your difficulties, confusions, and questions as you take the tests, you may be helped to become more critical and reflective about your learning process of the concepts. Further, purposefully planning courses of actions to settle your uncertainties and being asked about the progress of your plans may help you deal consciously about your questions and become actively involved in the formation of your understanding. The focus group interview may be an avenue for you to learn from others’ experiences related to the study, and they may learn from your experience as well. Undergoing these processes may help you gain an in-depth
understanding of phonemic awareness, phonics, and morphemic awareness, which are identified essential skills for teaching beginning and struggling readers effectively. Lastly, you may increase your confidence to teach reading.

**Reimbursement**

The researcher recognizes that you may incur additional gas expense when attending interviews for the study and that participating in the study will cost you a maximum of 8 hours. With this, you will be given $20 fuel reimbursement at the middle of the study and a very good resource book for teaching reading, which is about $30 dollar value, after the focus group interview.

**Confidentiality**

Every attempt will be made to see that the information you shared for this study are kept confidential. Only the Primary Investigator will record, maintain, and analyze the study data. All electronic data will be password protected while hardcopy information will be stored in a locked storage cabinet in the PI’s home. No individually identifiable information will be collected from you. You will be referred to using a pseudonym throughout the study. Although your rights and privacy will be maintained, the Secretary of the Department of Health and Human Services, ETSU IRB, and personnel particular to this research have access to the study records. Your records will be kept completely confidential according to current legal requirements. They will not be revealed unless required by law, or as noted above.

**Sharing the Results**

The results of this study may be published and/or presented at meetings/conferences without naming you as a subject. The knowledge that will result from this study will be shared with the participants before it is made widely available to the public. Each participant will receive a summary of the results.

**Right to Refuse or Withdraw**

You do not have to take part in this research if you do not wish to do so, and choosing to participate will not affect your grades or standing in the program in any way. You can quit at any time. If you quit or refuse to participate, the benefits or treatment to which you are otherwise entitled will not be affected.

**Who to Contact**

You may contact me about this research at any time. My name is Ruth Facun-Granadozo. My office is at 307 Warf-Pickel Hall. My phone numbers are 423.433.3444 and 423.737.4612. My email address is facunr@goldmail.etsu.edu. You may also contact Dr. Kathryn Sharp, my research advisor, at 423.439.7608. Her email address is sharplk@etsu.edu. You may call the

**Approved by the ETSU IRB**

**Document Version Expires**

SEP 09 2013 SEP 08 2014
Chairman of the Institutional Review Board at 423.439.6054 for any questions you may have about your rights as a research subject. If you have any questions or concerns about the research and want to talk to someone independent of the research team or you cannot reach the study staff, you may call an IRB Coordinator at 423.439.6055 or 423.439.6002.

Certificate of Consent

I have been invited to participate in research about developing mastery of phonemic awareness, phonics, and morphemic awareness. I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study.

Print Name of Participant ________________________________

Signature of Participant ________________________________

Date ________________________________
   Day/Month/Year

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this Informed Consent Form has been provided to the participant.

Print name of Primary Investigator ________________________________

Signature of Primary Investigator ________________________________

Date ________________________________
   Day/Month/Year

APPROVED
By the ETSU IRB
SEP 09 2013

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SEP 08 2014

Chair/IRB Coordinator

ETSU IRB
Appendix E

Demographic and Preassessment Form

Please fill out this form honestly. Specific answers for the written responses will be deeply appreciated.

1. What pseudonym would you like to use for this study? This will be used in filing your responses. Also this will be used for the write-up.

2. What days/times would you prefer me to set a meeting with you for a maximum of 45 minute interview? Please indicate the time in the grid.

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3. Growing up, what literacy experiences did you have?

4. How did you learn to read? What/Who influenced you to learn to read most? How?
5. On a scale of 1-4, with 4 as the highest, how comfortable are you to teach phonemic awareness to children?
   1 very uncomfortable
   2 uncomfortable
   3 comfortable
   4 very comfortable

6. On a scale of 1-4, with 4 as the highest, how comfortable are you to teach phonics to children?
   1 very uncomfortable
   2 uncomfortable
   3 comfortable
   4 very comfortable

7. On a scale of 1-4, with 4 as the highest, how comfortable are you to teach morphemic awareness to children?
   1 very uncomfortable
   2 uncomfortable
   3 comfortable
   4 very comfortable

8. What do you think literacy teachers do and are responsible for?
Appendix F

Written Response Questions

Pseudonym: ____________________________

1. What is your overall reaction to the test?

2. Which item(s) was/were easy? What prior experiences made you confident about your responses?

3. Which concept(s) was/were confusing? Why are these items confusing?

4. Which concept(s) is/are entirely new to you?

5. What do you plan to do to settle your uncertainties and/or learn about the unfamiliar concept(s) in the test? What resources are you going to use?

6. What specific questions have you asked yourself while taking the test?

7. How well do you think have you performed on this test?
   a. 90-100%  
   b. 70-89%  
   c. 51 – 69%  
   d. 0-50%
Appendix G

IRB Modification Approval

ETSU
East Tennessee State University
Office for the Protection of Human Research Subjects  Box 70565  Johnson City, Tennessee  37614-1707
Phone: (423) 434-6055  Fax: (423) 434-6050

IRB APPROVAL – Minor Modification

February 12, 2014

Ruth Facun-Granadozo

RE: Developing Mastery in Phonemic Awareness, Phonics, and Morphemic Awareness: A Multiple Case Study of Pre-Service Early Childhood Educators in a Southeastern University
IRB #: c0813.26s

On 02/12/2014, a final approval was granted for the minor modification listed below. The minor modification will be reported to the convened board on the next agenda.

xform Modification Request: To revise the Questionnaire.

Unanticipated Problems Involving Risks to Subjects or Others must be reported to the IRB (and VA R&D if applicable) within 10 working days.

Proposed changes in approved research cannot be initiated without IRB review and approval. The only exception to this rule is that a change can be made prior to IRB approval when necessary to eliminate apparent immediate hazards to the research subjects [21 CFR 56.108 (a)(4)]. In such a case, the IRB must be promptly informed of the change following its implementation (within 10 working days) on Form 109 (www.etsu.edu/irb). The IRB will review the change to determine that it is consistent with ensuring the subject’s continued welfare.

Sincerely,
Chris Ayres, Chair
ETSU Campus IRB

Accredited Since December 2005
Appendix H

Document Summary Form (Filled out)

Case: ADDISON

Date received: 02/06/2014

Name and Description of Document: Preassessment, Name, and Schedule Online survey

Event or contact, if any, with which document is associated: Completed online by the participants.

Significance or importance of document: This document contains Addison’s degree of comfort in teaching phonics, phonemic awareness, and morphemic awareness at the onset of the study. This also contains Addison’s perception of what a literacy teacher does and is responsible for. Schedules for possible one-on-one interview were also listed.

Brief Summary of contents:

- Addison indicated that she is uncomfortable to teach children P, PA, and MA at this point.
- Addison indicated that literacy teachers are responsible for so much more than a lot of people think. Literacy teachers have a lot of responsibility in preparing their students to be successful.

Note to self for next contact:

- Ask Addison about specific things she perceives literacy teachers do to fulfill what they are responsible for during the first individual interview with her.
- Ask her whether her degree of comfort has been influenced by the phonics test 1 and what she has been learning in class so far.
Appendix I

Contact Summary Form (Filled out)

Contact Type: __Individual Interview 2__

Venue: Sherrod Library room 481

With whom: __CAROLINE_________

Contact date/time: 04/08/14 @2:30 PM

Today’s date: 04/21/14

1. **What were the main issues or themes that struck you in this contact?**
   - Frustration with phoneme segmentation; can’t separate individual sounds, problem with r-controlled vowel, /x/
   - Hard to find resources
   - Acknowledges need for extra help

2. **Summarize the information you got (or failed to get) on each of the target questions you had for this contact.**

<table>
<thead>
<tr>
<th>Question</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction</td>
<td>- Got frustrated towards the end of the test [phonemes] because she can’t seem to sound out words.</td>
</tr>
<tr>
<td></td>
<td>- Links were not helpful</td>
</tr>
<tr>
<td>Performance</td>
<td>- Had 10% increase from last time</td>
</tr>
<tr>
<td></td>
<td>- Did not gauge performance well (almost though 68/70)</td>
</tr>
<tr>
<td>Confusions/Questions</td>
<td>- Phoneme segmentation.</td>
</tr>
<tr>
<td></td>
<td>- Thinks she’s overdoing it in some and not enough segmenting on the others.</td>
</tr>
<tr>
<td></td>
<td>- /x/ and r-controlled vowels</td>
</tr>
<tr>
<td></td>
<td>- Application of digraphs, diphthongs, and blends</td>
</tr>
<tr>
<td>Plans of action/Action taken</td>
<td>- Find more resources online and do a lot of practice.</td>
</tr>
<tr>
<td></td>
<td>- Look into phoneme segmentation, digraphs, diphthongs, and blends more</td>
</tr>
<tr>
<td></td>
<td>- Next step is to talk to Dr. Sharp and ask for recommended resources and clarifications</td>
</tr>
<tr>
<td>Perception of preparedness</td>
<td>- Getting my way up a little bit (6 out of 10)</td>
</tr>
<tr>
<td></td>
<td>- NO. She couldn’t imagine herself teaching children these concepts at this point</td>
</tr>
<tr>
<td></td>
<td>- She’s excited to see how she’ll do when she is already practicing the concepts {i.e. student teaching}</td>
</tr>
</tbody>
</table>

3. **Anything else that struck you as salient, interesting, illuminating or important in this contact?**
   - Test issues; can’t sound it out loud, cover sheet, taking it at the beginning – felt rushed, hates t/f,
4. What new (or remaining) target questions do you have in considering the next contact with this case?

Caroline has been guided a little bit during this interview in terms of morphemes and phonemes. She seems to be really having a hard time with phonemes. She was able to settle her confusion on morphemes. I wonder how she will do during the next test. Also, even if coaching hasn’t been a part of my study plan, I found it a pressing need for these students. I can’t help to ask them questions and provide important information when they start to talk about their perplexities and they seem to be at a lost.

CONCERN

- Caroline seems to get frustrated easily when she can’t answer practice tests online and also she is being affected by the test circumstances. I wonder if disposition/temperament is a big factor for her not to master the concepts she needs to work on.
Appendix J
Sample Test Papers (on Morphemes)

B. Separate this word into prefix, root word, or suffix as appropriate:
20. Swimming
21. Midweek
22. Funny
23. Prolonged
24. Revisited

C. Write the number of morphemes in the following words:
25. Teachers
26. Unladylike
27. Enjoyment
28. Slowly
29. Early

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29. Early
VITA

RUTH FACUN-GRANADOZO

Education:

PhD Early Childhood Education
East Tennessee State University
Johnson City, TN, USA,
2014

Master of Family Life and Child Development
University of the Philippines,
Diliman, Quezon City, Philippines
2003

Bachelor of Kindergarten Education.
Harris Memorial College
Taytay, Rizal, Philippines
1996

Professional Experience:

Adjunct Faculty, East Tennessee State University,
Johnson City, Tennessee
Fall 2014

Doctoral Fellow, East Tennessee State University
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Fall 2010-Summer 2014

Research Assistant, East Tennessee State University
Johnson City, Tennessee
Spring 2012

Faculty, Harris Memorial College
Taytay, Rizal, Philippines
1999-2001; 2003-2010

Basic Education Teacher/Administrator
Honors and Awards:

Outstanding Dissertation
Department of Teaching and Learning,
East Tennessee State University (2013-2014)

Outstanding Graduate Assistant
Department of Teaching and Learning,
East Tennessee State University (2012-2013)

Winner, National Association of Early Childhood Teacher Educators Graduate Membership (2012)

Phi Kappa Phi Honors Society for All Academic Disciplines

Kappa Delta Pi Honors Society for Education

Arichea Award for Academic Excellence

B.G. Fernando Award for Outstanding Kindergarten Education Student

Kihwa Jin Award for Outstanding Musical Performance (Piano)

Cogswell-Tapia Award for Theology and Biblical Interpretation

Casuco Award for Outstanding Fieldwork

Professional Affiliations:

Association for Childhood Education International
National Association of Early Childhood Teacher Educators
Council for Exceptional Children
Pacific Early Childhood Education Research Association
Philippine Association for Teacher Education
National Association for Early Childhood Education (Philippines)