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A Mixed Methods Study of Special Education Teachers' Knowledge of Reading Instruction and Perceptions Concerning Their Preparation to Teach Reading

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**A Mixed Methods Study of Special Education Teachers' Knowledge of Reading
Instruction and Perceptions Concerning Their Preparation to Teach Reading**

By

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A Dissertation Presented to the Faculty of
Old Dominion University in Partial Fulfillment of the
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DOCTOR OF PHILOSOPHY
EDUCATIONAL CURRICULUM AND INSTRUCTION
In
LITERACY LEADERSHIP

December, 2012

Dissertation Committee

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ABSTRACT

Significant changes in requirements for reading instruction and special education teacher preparation have occurred in recent years due to provisions found in the No Child Left Behind legislation of 2001 and the 2004 Individuals with Disabilities Education Improvement Act. This study examined the preparation for reading instruction that prospective special education teachers received during their teacher preparation and their beliefs concerning their preparation. Reading instruction preparation was examined in the context of the knowledge and skills associated with reading instruction acquired in two required university reading courses. Using a mixed methods sequential explanatory design-participant-selection model (Creswell & Plano Clark, 2010), the role of reading courses taken by current and prospective special education teachers on their knowledge and beliefs related to reading instruction was investigated. Multiple choice and constructive responses on a reading credentialing exam described the knowledge prospective special education teachers have in four knowledge domains. Further, an additional literacy related course did not significantly predict reading knowledge as measured by the credentialing exam. A questionnaire (n=28) on special education teachers' beliefs concerning their preparation was conducted with follow up semi-structured interviews (n=10) with two extreme case cohorts that represented teachers with high knowledge and low knowledge of reading instruction. Quantitative findings suggested that prospective special education teachers acquire significant content knowledge of reading instruction in their reading courses, but may lack the procedural knowledge to apply their knowledge. Moreover, responses to questionnaire items on teachers' beliefs concerning their reading courses suggested that teachers believed their

preparation resulted in a lack of procedural knowledge related to creating flexible grouping and differentiating reading instruction for struggling readers. Follow up semi-structured interviews identified similar concerns with delivering the reading instruction necessary to address emergent literacy across grade levels and disability categories. Additional reading instructional courses, field experiences, and practicums are recommended to address the need for differentiated special education preparation in the area of reading instruction.

DEDICATION

This work is dedicated to special education teachers, who daily strive to meet the challenging needs of the most academically and behaviorally challenged students. It is my aspiration to support ideas that enhance your ability to continue to assist students who consistently fail to demonstrate adequate reading achievement. These children continue to be left behind. For your continued commitment to your students and their academic achievement, I applaud you and dedicate this work to you.

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“I can do all things through Christ who strengthens me” Philippians 4:13.

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CHAPTER ONE

INTRODUCTION

Background

A national dialogue on best practices in reading instruction transpired in the United States during the late 1990's. The United States Congress addressed this issue in 1997 with a mandate to the National Institute of Child Health and Human Development to create a national reading panel to determine what current research indicates regarding the most effective methods to teach reading. At that time, the National Reading Panel (NRP) analyzed the existing research related to reading instructional practices and teacher preparation to teach reading in order to determine the practices supported by research (National Institute of Child Health and Human Development, 2000).

Based on findings from a meta-analysis of what was deemed the body of reading related research, the NRP made recommendations regarding what they determined to be the best practices to teach reading as supported by this research. Furthermore, these experts expressed their views concerning the nature of pre-service and in-service preparation to teach reading (National Institute of Child Health and Human Development (NICHD), 2000). The most significant determination of this panel was its support of five key areas of reading instruction. These five areas include: 1) explicit and systematic phonemic awareness instruction; 2) explicit and systematic phonics instruction; 3) fluency instruction; 4) comprehension strategy instruction; and 5) direct and indirect vocabulary instruction (NICHD, 2000).

In addition to their recommendations regarding instructional reading practices, the panel investigated topics and concerns related to teacher preparation for reading

instruction. The NRP formulated three specific questions pertaining to reading preparation to guide this inquiry. First, the panel examined research that investigated how teachers develop their knowledge and ability to teach reading. Secondly, the panel examined the role of teacher education on the reading outcomes of children. Thirdly, the panel attempted to determine how to use research findings to improve teacher education.

Studies identified for inclusion in this analysis had to incorporate an experimental design. Using this criterion resulted in the conclusion by the panel that there were too few studies related to the role of teacher education making a meta-analysis of variables impossible. Nevertheless, the panel found that in-service preparation resulted in greater student achievement. However, regarding the role of pre-service teacher preparation to teach reading, the panel expressed the view that studies of teacher preparation to teach reading did not focus on specific variables, which made it impossible for the panel to have recommendations for the content of pre-service reading education (National Reading Panel, 2000). Indeed the reading panel stated, "The range of variables was so great for the small number of studies available that the NRP could not reach a general conclusion about the specific content of teacher education programs" (NICHHD, 2000, page 5-2). Additionally, the panel addressed issues related to the preparation of special education teachers to teach reading. The panel noted that they did find eight experimental studies related to special education teacher in-service professional development. However, these studies were neither coded nor included in their findings. Finally, while the NRP identified twenty-one studies of in-service teacher preparation for reading instruction; only eleven studies were identified for inclusion in their investigation of pre-service preparation. One of

the functions of this current research is to add to the body of knowledge related to teacher preparation to teach reading by examining the effectiveness of special education teacher preparation for reading instruction by determining information related to the first question the NRP asked. In their first question related to teacher knowledge, the panel examined research that investigated how teachers develop their knowledge and ability to teach reading. To add to this knowledge where the panel documented a paucity of research, this current study will investigate the knowledge that special education teachers acquire in reading courses in their university preparation to teach reading.

Importance of educational policy and law

The findings and determinations of the National Reading Panel Report (2000) have significantly influenced reading instruction in this current millennium. Subsequent legislation passed by the United States Congress in the wake of this report reflects the issues found in this report. Among these legislative actions are Public Law 107-110: The Elementary and Secondary Education Act of 2001; Public Law 108-446: Individuals with Disabilities Education Improvement Act of 2004; and the 2008 Amendments to the Higher Education Act of 1965: Public Law 110-315, which is also referred to as the Higher Education Opportunity Act of 2008 (HEOA). Stipulations found in these laws define the many new requirements for special education teacher licensure and preparation and the role institutions of higher education play in the preparation of teachers in content area reading instruction.

Public Law 107-110: The Elementary and Secondary Education Act of 2001, also known as the No Child Left Behind (NCLB) Act, is an accountability measure related to teacher preparation and student achievement that specifically mandates that

teacher preparation shall include instruction that will result in teachers acquiring knowledge of best practices and instructional strategies that are based on research outcomes. Additionally, NCLB requires teachers to acquire the knowledge and skills associated with the content they will teach related to the specific subject area that they teach that in turn results in their capacity to demonstrate the attribute that has been term “highly qualified.” According to the NCLB legislation, only those teachers who acquire the status of “highly qualified” by having appropriate preparation and teaching credentials will be allowed to teach (P.L. 107-110). This legislation specifies that all new elementary and secondary teachers will be knowledgeable in all subjects in which they teach. Of particular interest to the current study is the fact that this requirement also includes those teachers who will teach reading. NCLB specifically defines a “highly qualified” elementary teacher in the following manner:

[The teacher] 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 (which may consist of passing a State-required certification or licensing test or tests in reading, writing, mathematics, and other areas of the basic elementary school curriculum) (P.L. 107-110, Title IX, Sect 9101, 23Bi).

Similarly, this legislation mandates comparable requirements for new middle and secondary teachers to acquire high qualifications in the content in which they teach. NCLB states that new middle and secondary teachers will “hold at least a bachelor’s degree and has demonstrated a high level of competency in each of the academic subjects in which the teacher teaches . . .” (P.L. 107-110, Title IX, and Sect 9101,

23Bii). Again as required with elementary teachers, middle and secondary teachers must demonstrate their qualifications by “passing a rigorous State academic subject test in each of the academic subjects in which the teacher teaches . . .” (P.L. 107-110, Title IX, Sect 9101, 23Bii).

While the provisions related to the NCLB mandates appear to apply to all newly licensed teachers, specific mention of special education teacher preparation remains missing in its requirements. This omission, however, is specifically addressed in the specifications found in the most recent reauthorization of the Individuals with Disabilities Act. The most recent reauthorization of the Individuals with Disabilities Act (IDEA) is the Individuals with Disabilities Improvement Act of 2004 (IDEIA) (P.L. 108-446). In this most recent special education legislation, the issue of “highly qualified” as it relates to special education teacher preparation is explicitly addressed. IDEIA (P.L. 108-446) specifically focuses on requirements related to “highly qualified” special education teacher preparation. This change requiring “highly qualified” special education teachers represents a significant shift in the focus for special education teacher preparation.

Special education law has changed since its inception through a sequence of special education legislation that addressed the special education services provided by special education personnel and the expectations that follow for special education teacher preparation. The initial focus of special education teacher preparation reflected specifications found in the first special education legislation passed in 1975, Education of All Handicapped Children Act of 1975 (P.L. 94-142). This historic law created the foundational legal rights for special education services to include the right to a free appropriate education (FAPE), in the least restrictive environment (LRE),

with identified educational goals addressed in an individual educational plan (IEP). Special education teachers prepared during that era of teacher preparation generally received instructional preparation that emphasized the requirements found in this historic legislation. As such, special education teachers prepared during that time period reflected requirements found in this special education law, especially knowing how to identify students' rights to a free and appropriate education in their least restrictive environment as well as necessary training in skills related to developing and writing individualized education programs in accordance with these legal requirements (P.L. 94-142).

The next major reauthorization of the Individuals with Disabilities Education Act added the legal requirement that students receiving special education services would receive services related to transitioning from high school (P.L. 101-476: Education of All Handicapped Children Act of 1990). As a result of this legislation, special education teachers were mandated to receive education that prepared them to identify transition experiences and to include these opportunities in the student's annual individualized education programs. Consequently, the legislative initiatives of special education teachers did not focus on the subject area expertise of teachers. Therefore, the majority of special educators tended to possess little if any expertise in any area of subject area instruction (Brownell, Ross, Colon, and McCallum, 2005).

The emphasis of the most recent special education legislation, the Individuals with Disabilities Education Improvement Act of 2004 (P.L. 108-446) addressed this situation. Found in this legislation is the requirement that special educators who instruct in core subject areas such as reading will possess qualifications in this content before receiving credentials resulting in special education teacher licensure.

Additionally, the most recent act stipulates the requirement that the preparation requirements initially described in No Child Left Behind (2001) regarding “highly qualified” status apply to special education teachers (P.L. 108-446, Sec 602, A, i). Furthermore, this legislation makes certain the expectation that special education teachers will meet the requirements for obtaining “highly qualified” status in the same manner as other licensed teachers. This recent law (P.L. 108-446) defines a “highly qualified” special educator as one who has acquired state licensure to be a special education teacher through a process that includes passing a state licensure exam and holding a license to teach special education (P.L. 108-446, Title I, 602, 10, B). Consequently, it can be seen that IDEIA 2004 specifically addresses and requires the same expectations for teacher preparation found in Section 9101 of the Elementary and Secondary Education Act of 1965 (2001) for special education teachers by applying to special education teacher preparation the requirement to be “highly qualified” in content instruction (P.L. 108-446, Sec 602, B). These expectations for special education credentials have noteworthy implications for the preparation of special education teachers. Most significantly, these changes blur the distinction between regular and special education expertise in subject area expertise. Furthermore, it makes explicit the expectation that special education teachers will be qualified in the content area even when teaching students receiving special education services (P.L. 108-446, Sec 602, A, B, C).

Other federal legislation that is associated with teacher preparation occurred with the most recent reauthorization of the Higher Education Act of 1965. This legislation with its amendments became the Higher Education Opportunity Act of 2008 (HEOA) (P.L. 110-315). As with other educational legislation of the current period, this

legislation has numerous provisions that require those institutions of higher education that receive federal financial aid to deliver teacher preparation programs that result in improvement in student achievement. As stated in the purposes of this legislation, institutions of higher education are held accountable for preparing teachers who have the necessary teaching skills and who are highly qualified in the academic content areas in which they plan to teach. As stated in Section. 201, 20 United States Code 1022, the purposes of HEOA (2008) are to:

- (1) [I]mprove student achievement;
- (2) improve the quality of prospective and new teachers by improving the preparation of prospective teachers and enhancing professional development activities for new teachers;
- (3) hold teacher preparation programs at institutions of higher education accountable for preparing highly qualified teachers; and
- (4) recruit highly qualified individuals, including minorities and individuals from other occupations, into the teaching force (P.L. 110-315 Sec. 201, 20 USC 1022).

Preparing highly qualified teachers in content area instruction is reinforced again with the specific mention in P. L. 110-315 that the standard for determining the highly qualified status will be the criteria specified in P. L. 107-110 and P. L. 108-446. In the section for definitions, HEOA (2008) specifically states:

The term 'highly qualified' has the meaning given such term in section 9101 of the Elementary and Secondary Education Act of 1965 and, with respect to special education teachers, in section 602 of the with Disabilities Education Act (P.L. 110-315, Title II, Sec 200).

Furthermore, in an action designed to hold institutions of higher education accountable for these directives, HEOA (2008) requires that progress toward these

goals is to be reported by individual states on an annual basis. Also found in this legislation are requirements for additional research in the area of reading disability. Here this legislation leaves no ambiguity regarding the role of institutions of higher education in their role to prepare teachers in content area instruction that includes reading instruction (P. L. 110-315). This can be seen in an additional component of this legislation which supports increased preparation of teachers to teach reading. Here the law specifically addresses the preparation of teachers with its provision for a study on the quality of teacher preparation programs as noted in section 1116 (P.L. 110-315 Title XI). The identified objectives included in this study would be:

- (1) to determine if teachers are adequately prepared to meet the needs of students with reading and language processing disabilities, including dyslexia;
- and (2) to determine the extent to which teacher education programs are based on the essential components of reading instruction and scientifically valid research (P. L. 110-315, Title XI, Sec. 1116).

Additional requirements of this study would be to investigate the quality of reading instruction preparation as it relates to the content of required reading courses and the number of hours required. While no specific mention is made of special education teacher preparation to teach reading, it is still conceivable that some attention could likely result from the focus of this study on reading preparation.

Indeed, it can be seen that the current legislative focus in the area of education reflects an emphasis on teacher preparation and accountability at all levels for content area instruction for special education teachers that bears directly on reading instruction. These most recent revisions to educational law to include P.L. 107-110 (NCLB), P.L. 108-446 (IDEIA), and P.L. 110-315 (HEOA) bring new impetus to

special education teacher preparation to teach reading. These laws have the capacity to change the direction of special education teacher preparation and its capacity to influence the quality of reading instruction for special education students. This occurs as a result of the mandates included in these policies that specify that all teachers will be “highly qualified” to teach in the content areas in which they teach (P.L. 107-110; P.L. 108-446) and that universities will be accountable for preparing students to become highly qualified to teach in their subject area (P.L. 110-315). These changes represent a significant departure for preparation of special education teachers with important implications for reading instruction.

The Reading Challenge and Special Education

Reading achievement continues to be problematical among students in the United States. The United States Department of Education’s Institute of Education Sciences (IES) assesses the educational progress of students in various content areas to include reading. Through bi-annual assessments, they determine the reading achievement of fourth, eighth, and twelfth grade students in the United States. The research division of this agency, the National Center for Education Statistics (NCES), publishes statistics on the reading achievement of students in the United States in the publication titled the Nations Report Card, also known as the National Assessment of Educational Progress (NAEP). In its most recent update on the reading progress of fourth, eighth, and twelfth graders, the 2011 edition of the Nations Report Card found that students in the United States continue to demonstrate deficits in their reading achievement (U.S. Department of Education Nations Report Card, 2011). This assessment identifies three cognitive targets of reading achievement to determine the status of student achievement. The cognitive targets identified are the ability of

students to integrate and interpret text; to locate and recall information; and to critique and evaluate information (NAEP, 2011).

The Nations Report Card evaluates reading achievement based upon performance on the assessment that demonstrates one of four performance levels. These levels are meant to indicate achievement that reflects below basic, basic, proficient, or advanced levels. According to NAEP criteria, a student scoring at the basic level would exhibit “partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade.” (Nations Report Card, 2011, p.6). The report indicates that students scoring at the proficient level would exhibit “solid academic performance.” Furthermore, the report states that “Students reaching this level have demonstrated competency over challenging subject matter” (p.6). The highest level of performance assessed by this instrument is the advance level. Students performing at this level demonstrate “superior performance” (p.6). It should be noted that while NAEP does not explicitly define the term “below basic” this designation does denote a reporting category. By inference then a below basic performance would indicate performance that is below even what is considered a marginal basic level of reading achievement thereby indicating that those performing at that level failed to display even the lowest criteria associated with attaining any reading mastery associated with a grade level assessment.

In the most recent biannual report in 2011 for fourth grade students who are non-disabled, seventy percent read at least at the basic level. According to the NAEP:

Fourth grade students performing at the at the Basic level should be able to locate relevant information, make simple inferences, and use their understanding of the text to identify details that support a given interpretation

or conclusion Students should be able to interpret the meaning of a word as it is used in the text (Nations Report Card, 2011, p. 27).

Additionally, the Nation's Report Card (NAEP, 2011) describes performance at the basic level as performance that "denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade level." (p. 6). Table 1.1 illustrates that of the seventy percent of fourth graders who scored at least at the basic level, thirty-five percent read just at the basic level; twenty-seven percent read at a proficient level, and eight percent read at an advanced level. An alternative interpretation of the same results demonstrates that sixty-five percent of fourth graders who are non-disabled read below a proficient level. Performances at the proficient level characterize the grade level performance associated with a firm grasp of grade level reading. Most concerning is that thirty percent of fourth grade student read below even a basic level thereby indicating that they failed to display even the lowest criteria associated with attaining reading achievement associated with fourth grade reading ability.

Table 1.1

2011 NAEP Percent of 4th Grade Reading Results for Nondisabled Students

Below Basic	Basic	Proficient	Advanced
30	35	27	8

Similar patterns of achievement were found among eighth graders who are non-disabled. As seen in Table 1.2 of the most recent 2011 Nations Report Card, twenty-one percent of eighth graders demonstrated reading performance scores below a basic

level with another forty-two percent performing at only a basic level. This demonstrates a situation in which only thirty-four percent of eighth graders read at a proficient level and another three percent read at an advanced level (NAEP, 2011).

Table 1.2

2011 NAEP Percent of 8th Grade Reading Results for Non-disabled Students

Below Basic	Basic	Proficient	Advanced
21	42	34	3

Students identified as students with disabilities (SD) by the Nation's Report Card demonstrate even greater critical weaknesses in their reading achievement than their non-disabled peers. The Nation's Report Card (NAEP 2011) revealed that of fourth grade students with disabilities only eleven percent read at either a proficient or advanced level. As displayed in Table 1.3, these indicators can be demonstrate that of these eleven percent, nine percent scored at the proficient level and the remaining two percent scored at the advanced level. The overwhelming majority of fourth grade who have a disability read at or below basic. As seen in Table 1.3, sixty-eight percent read below basic; twenty-one percent read at only a basic level, which demonstrates that eighty-nine percent fourth graders with a disability read below the proficient level (NAEP, 2011).

*Table 1.3**2011 NAEP Percent of 4th Grade Reading Results Students with Disabilities*

Below Basic	Basic	Proficient	Advanced
68	21	9	2

Similar achievement was reflected in the 2011 Nation's Report Card among eighth grade students with disabilities. As seen in Table 1.4, only seven percent of eighth grade students with a disability read at a proficient level and none read at the advanced level. This resulted in ninety-three percent of students with disabilities reading below a proficient level with sixty-four percent scoring below basic and twenty-nine percent scoring at the basic level (NAEP, 2011).

*Table 1.4**2011 NAEP Percent of 8th Grade Reading Results for Students with Disabilities*

Below Basic	Basic	Proficient	Advanced
64	29	7	0

Students identified for special education services continue to exhibit severe academic challenges in reading. These outcomes result in a situation in which special education teachers teach students who are the most academically challenging and disadvantaged. The Twenty-Eighth Annual Report to Congress on the Implementation of the Individuals with Disabilities Act 2006 (U.S. Department of Education, OSERS, OSEP, 2009) states that 23% of the total student population, which comprises nearly seven million students (n=6,726,024) in the United States and

its territories between the ages of three to twenty-one, receive special education services. The highest percentage of these identified students occurs in the disability category of learning disabilities which accounts for approximately forty-three percent of the total number of students receiving special education services, which comprises nearly three million students (n=2,892,190). Other categories with large numbers of students with a disability occur in speech or language disability (22%), intellectual disability (9%), and emotional disability (7%) (U.S. Dept. of Education, OSERS, OSEP, 2009). Special education students represent approximately fourteen percent of the total number of students enrolled in pre-kindergarten to twelfth grade instruction in the United States, which indeed constitutes a significant percentage of the total student population (U.S. Dept. of Education, OSERS, OSEP, 2009). As can be seen, the total number of students receiving special education services is a significant portion of the overall student population. The large numbers of students represented in the special education population further justifies the focus of the preparation special education teachers receive.

Statement of the Problem

The requirement for "highly qualified" special education teachers made evident by both the various federal legislative mandates in combination with the realities found in the learning characteristics among the special education student population in the area of reading have magnified the importance for high quality reading instruction for special education students. Furthermore, it is clear and unmistakable that recent federal legislation (P.L. 110-315) requires special education teacher preparation programs to provide the preparation to teach reading needed by special education teachers. Therefore, while it is apparent that special education teachers both

legally and circumstantially require both the knowledge and skills related to reading instruction to successfully instruct students who receive special education services, it is unclear whether the reading courses taken by them during teacher preparation actually result in the knowledge and skills they need to effectively teach reading to students identified for special education services.

Purpose of Study

The purpose of this study was to examine the preparation to teach reading that special education teachers acquire in their reading preparation. This reading instructional preparation is examined in terms of the knowledge of reading instruction that prospective special education teachers acquire in the reading courses taken during their university preparation to become special education teachers. Therefore, it was the aim of the study to: a) determine what special education teachers learn in the reading courses they take during their special education teacher preparation; b) determine the strengths and weaknesses in their knowledge and skills necessary for effective reading instruction; c) determine the relationship between what special education teachers know about reading instruction and reading courses taken during their preparation; d) determine teachers beliefs concerning the two reading courses taken to prepare them to teach reading; e) determine the relationship between the knowledge teachers have of reading instruction and their beliefs concerning their preparation to teach reading.

Significance of Study

This study can help inform the preparation special education teachers receive to teach reading to the diverse group of special education students whom they are tasked to teach the skills necessary to learn how to read. Findings of this study can provide

information on the current strengths and weakness in the various domains of reading instructional knowledge of special education as indicated by outcomes exhibited on a reading credentialing exam. Additionally, beliefs of special education teachers concerning the value of their reading instructional courses can shed light on teacher understandings related to instruction. Outcomes can provide information necessary by teacher educators in ways to improve the courses offered in special education teacher preparation. Furthermore, the study should help to assess how prepared special education teachers believe they are and areas where additional content instruction in reading instruction could result in greater teacher confidence and achievement outcomes for students receiving special education services. The single greatest significance of this study is that the preparation of special education teachers to teach reading could become more focused on the precise reading instruction needed by students receiving special education services.

Research Questions

In view of the purposes of this study, the following questions were addressed to guide this investigation:

1. What knowledge do prospective special education teachers have related to reading instruction?
2. What are prospective special education teachers' perceptions regarding their course preparation to teach reading?
3. Does taking an additional reading course during teacher preparation result in differences in knowledge of reading instruction for prospective teachers?

4. Do prospective special educators differ on their beliefs concerning their preparation to teach reading depending on their knowledge of reading instruction?

Overview of Method

This study uses a mixed methods sequential explanatory design-participant-selection model (Creswell & Plano Clark, 2010) to investigate the role of reading courses taken by prospective and current special education teachers on their knowledge of reading instruction and their beliefs concerning their reading courses. Records related to special education and elementary education teacher scores on the Virginia Reading Assessment for Elementary and Special Education Teachers, and information necessary to contact special educators to request participation in questionnaires and individual interviews were obtained from teacher education services at the university where the study was conducted. In the quantitative phase, the knowledge prospective special education teachers acquire from the two required reading courses taken during their preparation to become special education teachers was described using scores on the Virginia Reading Assessment for Elementary and Special Education Teachers (VRA), a licensure exam taken following the completion of their reading courses. Basic descriptive data concerning the frequency, mean, and standard deviation were calculated.

Additional quantitative outcomes were developed through the use of a questionnaire. A sample of prospective special education teachers was contacted by email and through the United States postal service to request their participation in a questionnaire concerning their perceptions concerning the effectiveness of their reading instruction courses. Outcomes included their views concerning the value of

reading courses on their knowledge of specific components of reading instruction. Interviews to illuminate teachers' perceptions related to reading courses completed during their preparation followed. Finally, this study examined the role of course work on reading instructional knowledge using a comparison group of elementary teachers. Overall, this study identified the knowledge prospective special education teachers demonstrated in the domain of reading instruction in order to determine the adequacy of the courses offered in reading instruction preparation special education teachers received to teach reading.

Summary

This chapter established the background of this study in the context of recent education legislation to include the provisions found in Public Law 107-110: The Elementary and Secondary Education Act of 2001; Public Law 108-446: Individuals with Disabilities Education Improvement Act of 2004; and the 2008 Amendments to the Higher Education Act of 1965: Public Law 110-315: Higher Education Opportunity Act of 2008 (HEOA). It also established the need for highly qualified teachers as evidenced by the learning characteristics and achievement found among special education students in the area of reading. Given this background, the purpose of the study, its significance to future special education teacher preparation, and the research problem were established. Finally, a brief description of the method was previewed.

CHAPTER TWO

REVIEW OF THE LITERATURE

Introduction

The primary purpose of this literature review is to review research related to teacher preparation and knowledge to teach reading. The literature review begins by examining the legislative history of special education preparation to establish the context for preparation. Then the review examines the licensure process necessary to become a special education teacher and related studies especially those that include preparation practices associated with special education preparation programs. Next, studies on teacher preparation to teach reading from the National Reading Panel and the International Reading Association will be discussed. Finally, the review examines studies that relate to the knowledge and skills general and special education teachers acquire for reading.

Legislative History of Special Education Preparation

Legislation

As mentioned in chapter one, the history of special education teacher preparation cannot be separated from the special education federal legislation that formally established it. To date, there have been approximately six significant reauthorizations of the Individual with Disabilities Act with two reauthorizations focusing on early childhood education. The four remaining laws include the Education of All Handicapped Children Act of 1975; Education of the Handicapped Act Amendments of 1983; The Education of the Handicapped Act Amendments of 1990; and the Individuals with Disabilities Improvement Act of 2004. Each resulted in specific expectations for special education teacher preparation.

Education of All Handicapped Children Act of 1975

The legislation generally considered the original landmark law for special education rights was Public Law 94-142. It focused exclusively on special education services for students from a civil rights perspective. Beginning with this legislation, special education teacher preparation reflected specifications found in this law. This historic law established the foundational legal rights for special education services to include the right to a free appropriate education (FAPE), in the least restrictive environment (LRE), with identified educational goals addressed in an individualized education program (IEP). Special education teachers who were prepared during that era generally received instructional preparation that emphasized the requirements found in this legislation. As such, special education teachers prepared during that time period reflected the emphasis found in this special education law, especially knowing how to provide students' rights to a free and appropriate education in their least restrictive environment as well as necessary training in skills related to developing and writing individualized education programs in accordance with these legal requirements (P.L. 94-142).

Education of the Handicapped Act Amendments of 1983 and 1990

The next two major reauthorizations added the legal requirement to establish school to work transition services (P.L. 98-199: Individuals of the Handicapped Amendments of 1983) and then mandated services related to transitioning from high school (P.L. 101-476: Individuals with Disabilities Act of 1990). As a result of this legislation, special education teachers were required to receive education that prepared them to identify transition experiences for their students and to include these opportunities in the student's individualized education programs. Consequently, the

legislative initiatives of special education teachers did not focus on the subject area expertise of teachers. Therefore, the majority of special educators tended to possess little if any expertise in any area of subject area instruction (Brownell, Ross, Colon, and McCallum, 2005).

Individuals with Disabilities Education Improvement Act of 2004

The emphasis of the most recent special education legislation, the Individuals with Disabilities Education Improvement Act of 2004 (P.L. 108-446), was the preparation of special education teachers in content area instruction. Found in this legislation is the requirement that special educators who instruct in core subject areas such as reading will possess qualifications in this content before receiving credentials resulting in special education teacher licensure. Additionally, the most recent act stipulates the requirement that the preparation requirements initially described in No Child Left Behind (2001) regarding “highly qualified” status apply to special education teachers (P.L. 108-446, Sec 602, A, i). Furthermore, this legislation makes certain the expectation that special education teachers will meet the requirements for obtaining “highly qualified” status in the same manner as other licensed teachers. This recent law (P.L. 108-446) defines a “highly qualified” special educator as one who has acquired state licensure to be a special education teacher through a process that includes passing a state licensure exam and holding a license to teach special education (P.L. 108-446, Title I, 602, 10, B).

Licensure and Preparation

President’s Commission on Excellence in Special Education

The President’s Commission on Excellence in Special Education recognized in the report, *A New Era: Revitalizing Special Education for Children and Their*

Families (2002), that considerable variation exists between states in the licensing process of special education teachers. While all fifty states require licensing of special education teachers, the process varies considerably among the states. In general, states require teachers to complete classes related to educational psychology, special education law, child development and certain classes involving instruction of children with disabilities. Additionally, candidates must pass an assessment that is characterized by this commission as a “low level assessment” (p. 53). Furthermore, the commissioner of this report criticized the process of licensure for its inability to offer effective measures that would result in the caliber of instruction necessitated by the field to adequately address the populations served. This commission offered the following suggestions to address this situation.

1. Recruit only highly qualified general and special education teachers.
2. Improve instruction and student achievement outcomes through research.
3. Implement a system of field experiences in special education teacher training.
4. Improve the delivery of reading instruction using explicit and direct instruction of reading strategies.
5. Require the reporting for program outcomes on student achievement
(President’s Commission on Excellence in Special Education, 2002).

Council for Exceptional Children

Issues of special education teacher recruitment, preparation, and retention are one of the primary interests of the Council for Exceptional Children (CEC). As a special education advocacy organization, the CEC closely aligns itself with topics and issues of concern to those professionals who work with special needs populations. One area

that the CEC supports is the preparation of special education teachers. In one report, it identified the qualifications for individuals preparing for and seeking positions as special education teachers. These recommendations can be found in the publication, *What Every Special Educator Should Know: Ethics, Standards, and Guidelines* (CEC, 2009). In its discussion on the professional preparation expected of one becoming a professional special educator, it states:

CEC expects at a minimum that entry-level special educators possess a bachelor's degree from an accredited institution, have mastered appropriate core academic subject matter content, and appropriate curricular standards, along with the specialized pedagogical knowledge and skills for teaching individuals with exceptional learning needs in the respective areas of specialization (CEC, 2009, p. 20).

Additionally, this source (CEC, 2009) outlines ten domains of knowledge and skills that beginning special educators should possess. Referred to as the special education common core, it includes ten content standards which all special education teachers are expected to acquire regardless of the specific disability group for which the teacher has specialized. The following topics reflect this basic knowledge:

1. foundations and legal issues of special education;
2. learning characteristics associated with special education populations;
3. the role of the family, community, and culture in the unique learning characteristics of individuals;
4. knowledge of specific instructional strategies;
5. ability to create and modify learning environments;

6. knowledge of language development;
7. knowledge to plan and individualize instruction;
8. knowledge of assessments and interventions to address learning deficiencies;
9. knowledge of ethical standards for special education professionals; and
10. the role of collaboration with community, regular educators, family members, and other professionals (CEC, 2009).

Special Education Teacher Preparation

One study that examined special education teacher preparation was conducted by Brownell, Ross, Colon & McCallum (2005). An initial literature review of exemplary regular education preparation was conducted to develop a framework to begin an examination of the less studied field of special education teacher preparation programs. The characteristics identified in the exemplary general education teacher preparation programs were located in two major studies. The first was conducted by the Association of American Colleges of Teacher Education (AACTE) (Darling-Hammond, 2000) and the other by the International Reading Association (IRA) (National Commission on Excellence in Elementary Teacher Preparation for Reading Instruction [NCEETPRI], 2003). Seven characteristics of exemplary preparation programs were synthesized from these studies. Both studies identified the following characteristics:

- Courses and field experiences exhibited what was termed a “coherent program vision” (p.243).

- Programs demonstrated the blending of “theory, disciplinary knowledge, and subject-specific pedagogical knowledge” (p. 243).
- Programs exhibited “carefully crafted field experiences” (p.243) to offer meaningful practice opportunities.
- Programs establish high standards for instruction by monitoring admissions and exit standards.
- Instructional delivery for teachers involved in preparation included modeling and “active pedagogy” (p. 243) such as hands on and practice activities.
- Cultural diversity was a focus for both course content and field experiences.
- Collaboration was stressed across multiple settings and situations.

When the characteristics of the exemplary special education programs and regular education programs were compared, many similarities were identified. Brownell and her colleagues stated that as in exemplary regular education preparation, “special education programs stressed the importance of extensive, well-planned, and well-supervised field experiences” (p. 247). Furthermore, diversity was an emphasis in both general and special education. However, it was determined that special education preparation programs had a greater stress on collaboration especially between faculty in the programs and school personnel and the teachers preparing for positions in special education.

There were nevertheless two significant differences between regular and special education preparation programs. As stated by Brownell and colleagues

(2005), "In the special education program descriptions, we saw limited evidence of two defining features of exemplary teacher education programs: a strong programmatic vision and a heavy emphasis on subject-matter pedagogy" (p.248). Special education programs focused more on a broader and more general preparation. Brownell et al. stated: "[S]pecial education programs tended to focus on more generic pedagogy (e.g., instructional methods, assessment, individual education plans)" (p.248).

Characteristics of Special Education Preparation Programs

Carlson (2002) investigated the effect of college preparatory program completion among beginning special education teachers on the instructional outcomes of students (Carlson, 2002). First, Carlson examined teachers who did or did not major in special education. She found that teachers who majored in special education received a higher overall score on quality than teachers who did not major in special education in college. Special education teachers who finished a fifth year of preparation scored higher than the bachelor's degree only group and those earning a master's program received the highest scores among beginning special education teachers. Furthermore, even those who earned only a bachelor's degree scored higher than alternate route teachers (Carlson, 2002).

Another study conducted by The Center on Personnel Studies in Special Education (Geiger, Crutchfield, Mainzer, 2003) investigated the current licensure practices for special education teachers. This study investigated practices related to alternate licensing routes in which many of the recently certified special education teachers participated. The study surveyed ten representative state directors of teacher licensing or the directors of the professional standards board

on alternative route certification in their states. The researchers explored the major trends in alternative route licensing of special education teachers. The study found that teachers from alternative and traditional routes were expected to obtain the same standard of preparation (Geiger, Crutchfield, and Mainzer (2003). They concluded that the two routes were equivalent due to the requirement that candidates from both routes were required to successfully complete and pass the same licensing tests (Geiger, Crutchfield, Mainzer, 2003).

Special education field experiences. Prater and Sileo (2004) investigated the role of field practices in institutions of higher education. Fieldwork experiences are associated with the traditional special education teacher certification route. One of the requirements identified by CEC for special education teacher preparation was that special education programs should have numerous experiences during special education teacher preparation to afford students a variety of supervised learning opportunities. Prater and Sileo (2004) sought to determine the status of this practice by surveying special education staff familiar with field service practices in their educational setting. Responses indicated that field experiences occurred most often by those participating in a bachelor's degree program (53%) with the next most frequent occurring in either post baccalaureate or graduate degree offerings (16%) (Prater & Sileo, 2004).

Conderman, Morin, and Stephens (2005) investigated the role of supervision for student teachers in pre-service special education teacher preparation. The student teaching experiences of pre-service special education teachers were examined by surveying one hundred special education coordinators at universities participating in this study. Survey items requested information on grading

policies, the number and length of field experiences, methods used to evaluate observations, and significant challenges faced by students during the field experience. Results indicated that most pre-service teachers were afforded opportunities to write lesson plans (97%), participate in instruction (93%), use informal assessment (92%), and be present for an individualized education program (IEP) meeting (92%). Additionally, 80% of participants were offered opportunities to engage in supervision of students, use of technology, and reflections related to their field experiences through the development of a performance based portfolio. Furthermore, researchers found that less than half of the cooperating teachers received any training prior to the field experiences and only 36% recorded the instructional activities with any type of audio or video to assess the use of pedagogical knowledge in their content instruction (Conderman et al., 2005).

A study by Bouck (2005) focused on secondary special education teachers' preparation and perceptions of their preparation program for secondary education students. The study surveyed high school special education teachers in one state in the Midwestern region of the United States. While there were many sections in the survey which did not pertain specifically to teacher preparation, the relevant segment included eight questions associated with preparation activities such as courses taken, practicums, disability categories, and grade levels of students addressed in the preparation. Bouck (2005) stated:

Fewer than 50% (48.3%) of teachers felt very satisfied or satisfied with their undergraduate program in terms of its preparing them for becoming a secondary special education teacher. Almost one-fifth (19.5%) felt unprepared

or very unprepared for their current position and approximately one-third (32.2%) were neutral (p. 129).

Regarding courses taken during their preparation, she stated:

Almost two-thirds of respondents (64.2%) indicated that they had courses in their teacher education program that addressed both students with mild mental impairment and learning disabilities, resulting in about one-third of all respondents (35.8%) who either had courses with only one group or none, the latter being very rare. Less than half (48.1%) indicated practicum experience with both students with learning disabilities and mild mental impairment. Conversely, more than half did not have practicum experience with both populations prior to obtaining a job (p.129).

Role of Special Education Program Participation on Reading Preparation

A study conducted by Nougaret, Scruggs, and Mastropieri (2005) investigated the roll of licensure paths on the literacy competence of special education teachers. Participants were recruited from both traditional and nontraditionally licensure paths. To determine differences between the two paths, two measures were utilized: the Teacher Self-Assessment Survey and the Observation Survey. Both measures found that traditionally licensed teachers significantly outperformed the teachers holding emergency provisional licensure. Differences between the two groups were substantial, with effect sizes exceeding 1.5 standard deviation units. Additionally, neither group rated themselves differently on teaching competence indicating that those with emergency and provisional licensures did not accurately know what they did or did not know (Nougaret, Scruggs, & Mastropieri, 2005).

Teacher Preparation to Teach Reading

National Reading Panel

The reading community had been embroiled in an ardent dispute concerning best practices for the teaching of reading for decades with the proponents of two predominant instructional perspectives holding fast to the viewpoint of its own specific philosophy. The two principal philosophies were associated with either whole language or explicit phonics instruction. To address these and other concerns related to reading instruction, the National Institute of Child Health and Human Development was charged by the United States Congress with the task of developing a reading panel to determine the correlates of research based reading instruction. Consequently, the National Reading Panel (NRP) was formed to evaluate the extant body of reading research to determine what would constitute evidence based and scientifically determined practices related to reading instruction. The synthesis of this body of research resulted in a number of conclusions that supported reading instruction to include explicit and direct instruction related to fluency, comprehension, vocabulary development, phonemic awareness, phonics (National Institute of Child Health and Human Development, 2000). As such, these five reading instructional goals were considered the pillars of reading instruction.

Additional inquiries by the NRP included a study on the outcomes related to the effect of teacher preparation to teach comprehension on student achievement and on teacher preparation to teach reading in general (National Institute of Child Health and Human Development, 2000). While the panel stated that research is scanty on the topic of teacher preparation, it nevertheless indicated its belief that “good teacher preparation can result in the delivery of instruction that leads to improvement in

students' reading comprehension" (NICHD, 2002, p.120). It added that the best choice for this teacher education, however, is uncertain. Still the NRP identified four studies that examined the effectiveness of teacher preparation on instructing students in the use of two explicit comprehension strategies (Duffy et al., 1986; Duffy et al., 1987; Anderson, 1992; Brown et al., 1996). These two explicit instructional methods are the direct explanation method (Duffy et al., 1986; Duffy et al., 1987) and the transactional strategy instruction method (Anderson, 1992; Brown et al., 1996). Both of these methods require teachers to be prepared to instruct students on the explicit use of comprehension strategies when they are confronted with roadblocks to their comprehension of text. The National Reading Panel suggested that preparing teachers to teach comprehension strategies results in positive comprehension outcomes for students (NICHD, 2002).

The National Reading Panel further discussed advantages of pre-service and in-service teacher preparation to teach reading (NICHD, 2000, chapter 5-13). After evaluating all research involving teacher preparation, thirty-two (32) studies were determined to have met their criteria for inclusion. Of these studies, eleven involved pre-service reading preparation while the remaining twenty-one percent involved in-service teacher preparations (NICHD, 2000, chapter 5-13). The NRP concluded that:

"The set of results for these studies show overwhelmingly that intervention in teacher education and professional development are successful. That is, teachers can learn to improve their teaching in ways that have direct effects on their students. Although this was demonstrated only for in-service

interventions, there is no reason to believe this is not the case for pre-service teachers” (NICHD, 2000, chapter 5-13).

International Reading Association

The International Reading Association (IRA) formed the National Commission on Excellence in Elementary Teacher Preparation of Reading Instruction (NCEETPRI) to investigate the status of reading preparation in elementary teachers. According to the Executive Summary of the National Commission on Excellence in Elementary Teacher Preparation for Reading Instruction, the commission was given the responsibility to conduct three studies on reading teacher preparation (Hoffman, J.V., Roller, C.M., Maloch, B., Sailors, M., Beretvas, S.N., & the National Commission on Excellence in Elementary Teacher Preparation for Reading Instruction, 2003). The first study (Hoffman, Roller and NCEETPRI, 2001) identified current practices in undergraduate reading teacher preparation; the second study (Maloch, Flint, Eldridge, Harmon, Loven, Fine, Bryant-Shankli, Martinez and NCEETPRI, 2003) investigated the beliefs, understandings, and decision making of first year teachers; and the third study (Hoffman, Roller, Maloch, Sailors, Duffy, Beretvas and the NCEETPRI, 2005) examined the differences in reading instruction found in the three categories of reading preparation programs by interviewing teachers and observing classroom instruction.

In the first study, Hoffman et al. (2001) investigated the features associated with excellent reading preparation programs. This study surveyed 950 reading teacher educators from colleges and universities in the United States on the features of their reading programs and requirements. The study found that reading preparation programs included the following:

- no less than six hours of reading courses were required;
- 84% offered students the option of a four year bachelor's degree;
- an undergraduate option in reading specialization was offered in 40% of programs by completing 16 semester hours of instruction related to reading;
- balanced literacy instruction was evidenced in the topics of textbooks;
- field experiences in reading occurred prior to student teaching;
- faculty members had classroom teaching experience and advanced degrees in reading;
- focusing on diversity in learners; and
- 85% of the teacher educators had favorable opinions of their programs (Hoffman et al., 2001).

The second NCEETPRI study (Maloch, Flint, Eldridge, Harmon, Loven, Fine, Bryant-Shanklin, and Martinez, M., 2003) examined the beliefs, understandings, and decision-making of first year elementary teachers. The commission invited applications from colleges and universities who were interested in participating in research on this issue on reading preparation. Of twenty-eight applicant colleges and universities, eight were chosen to participate and represented what they termed Sites of Excellence in Reading Teacher Education (SERTE). The eight universities chosen to participate then contacted their recent graduates to invite them into the study. This resulted in 101 recent graduate participants from three different reading preparations, which included programs with reading specializations, reading embedded, and general education preparation. Additionally, the reading specialization programs required at least 15 hours in reading or language arts courses. While the reading

embedded preparation had literacy topics integrated throughout its curriculum, it still required only six hours of reading related coursework as was found in the general education preparation. Qualitative interviews explored graduates' views concerning their preparation to teach reading to determine their beliefs and instructional decision making. Three themes emerged concerning their preparation around instructional decisions, dealing with the assigned curriculum and potential limitations, and dealing with school climate. For example, on the theme of making instructional decision based on student responses, participant responses that demonstrated agreement with this practice were indicated by reading specialization teachers (78%); by reading embedded teachers, (76%); and by general education teachers (21%). Similarly, in the theme of working with the prescribed curriculum and its limitations, responses confirming support for this skill were indicated by reading specialization teachers (65%); embedded reading teachers (67%); and by general education teachers (21%). Again this pattern of responses was found in the theme related to working within the school community where reading specialization teachers (73%) and reading embedded teachers (76%) indicated more confirming comments in this area than did teachers in the general education preparation (37%). Indeed, it is not surprising to find that when asked about the value they placed on their reading preparation, teachers in the reading specialization (88%) and reading embedded (94%) programs indicated more positive comments than the general education preparation (36%). In all areas, responses of the reading specialization and reading embedded teachers indicated an overall successful experience in navigating the difficulties and challenges of their first year of teaching.

Concerning the differences between the general preparation programs and those with the concentration on reading preparation, Maloch et al. (2003) stated:

Programs are characterized by their responsive stance toward reading instruction. That is, many of them are constantly mindful of students' reading performance and instructional needs. In contrast, the majority of beginning teachers who graduated from one of the general education programs do not seem to assume such a stance. Rather, these teachers are more likely to make decisions about teaching and learning in relation to external factors, including materials, mandates, administrators, and so on (Maloch et al., 2003, p. 452).

Hoffman, Roller, Sailors, Duffy, Beretvas, and the NCEETPRI, in this third study again used qualitative methods but also incorporated a quasi-experimental method that used preparation program type as the independent variable to develop comparisons between three groups of teachers: beginning teachers from excellent reading program; a comparison group of beginning teachers from general education background; and a group of experienced teachers identified by their principals as excellent. This third study began with the teacher interviews of the previously described second study (Maloch et al., 2003). In other words, those interviews constituted year one for this current studies three year time period. In year one, interviews with teachers from the excellent reading program showed that teachers made deliberate choices in teaching activities. Discussions regarding their classroom experiences "reflected an emphasis on responsive and mindful teaching, reported being committed to meeting the needs of their students, and assumed a responsive instructional stance" (Hoffman, et al., 2005, p. 272). Observation of these teachers followed in the second and third years of the study. In-depth classroom observations

assessed the frequency and decision making around appropriate choices of text use for instructional activities. Again, the researchers found that the teachers with the excellent reading program backgrounds “were successful in creating rich classroom text environments, high engagement with texts, and high levels of understanding and valuing of these texts” (Hoffman et al., 2005).

One the most recent synthesis of the components of effective reading instruction is the manuscript developed by International Reading Association (2007) titled *Teaching Reading Well: A Synthesis of the International Reading Association's Research on Teacher Preparation for Reading Instruction*. The IRA restated the common features found in the most effective reading programs. These programs have the eight identified features common to effective program:

1. The programs with the reading emphasis included foundational knowledge in the curriculum.
2. Pre-service teachers participated in field work practicums to learn from exemplary models.
3. Visionary teaching was supported.
4. Faculty members focused on functions related to new teacher guidance.
5. Teacher educators promoted diversity.
6. Teacher educators represented the needs of their students at their universities.
7. Constructivist philosophy of “community of learners” existed.
8. Ongoing assessment of the program was evidence (Maloch et al, 2003, IRA, 2007).

General Education Reading Knowledge and Preparation

Mather, Bos, and Babur (2001) examined the knowledge and beliefs of pre-service and in-service elementary teachers. This study sought to focus on the knowledge teachers have about explicit instruction for at-risk students. Two measures were used to determine the knowledge and beliefs teachers have. One measure, the Teacher Perceptions toward Early Reading and Spelling (TPERS), sought to identify teachers' beliefs and philosophies related to reading instruction. The second measure, the Teacher Knowledge Assessment (TKA) assessed teacher knowledge of reading. It was found that teachers' perceptions and knowledge of early literacy were related to whether the teacher was a pre-service or in-service teacher. The in-service and hence more experienced group was more positive in their opinions of explicit code based instruction while the pre-service teachers were more positive about meaning based instruction. Additionally, in-service teachers were more knowledgeable about language structures. With respect to teacher preparation and course work, it was found that "Unfortunately, increased course work did not appear to affect perceptions; however it did affect knowledge of structured language teaching" (p. 476).

McCutchen, Abbott, Green, Beretvas, Cox, Potter, Quiroga, and Gray (2002) sought to determine if a two week summer professional development institute with follow up instruction during the school year could impact the knowledge of phonological and orthographic awareness of the teachers, their instructional practices, and the reading progress of their students. The experimental design utilized a pre and posttest assessment of the control and experimental groups. Three areas were examined to determine the effect of the professional development intervention on the experimental group. First, reading instructional knowledge based on performance on the Informal Survey of Linguistic Knowledge (Moats, 1994) was conducted with the

teachers in both groups as a pretest and for a posttest for the experimental group. Secondly, classroom observations by researchers were conducted to observe specific criteria associated with the reading instruction to include the context of the instruction, delivery of reading related knowledge, specific activities, and the group context. Finally, students in each class were assessed either four times per year for the kindergarten students on phonological awareness and oral comprehension or three times per year for the first grade students to assess their phonological awareness, alphabet writing fluency, writing response prompt, the Gates-Mac Ginitie Reading Test, Level 1, Form K (McGinitie & MacGinitie, 1989), and a spelling assessment.

The professional development provided to the experimental group resulted in differences both in their knowledge of reading instruction and reading instructional practices. Teachers in this group demonstrated more precise reading instruction that included emphasis on letter-sound knowledge. Also instruction was more focused and targeted on the intervention that students needed to progress. Student outcomes were seen both in kindergarten and first grade students. Kindergarten students demonstrated fifty percent increase in orthographic fluency and word reading highly correlated with growth in phonological awareness, orthographic fluency, and listening comprehension. The improvement of first graders in the experimental group was expressed in the growth in their slope curves. These slope curves demonstrated increases in phonological awareness (36%), reading comprehension (60%), reading vocabulary (29%), spelling (37%) and composition fluency (100%). However, no growth was observed in orthographic fluency with alphabet writing.

Moats and Foorman (2003) examined what teachers know about reading instruction, how they learn it, and how that knowledge effects their instruction. This

study spanned three years in which three study phases developed teacher knowledge through the use annual sequential teacher knowledge surveys. Teachers in the Washington D.C .and Houston, Texas areas in low performing/high poverty schools were surveyed regarding their knowledge of reading instruction. In the first year, kindergarten through second grade teacher knowledge of reading instruction was assessed with open ended responses. The second year assessed the knowledge of second and third grade teacher's knowledge with the use of a multiple choice assessment. The third year assessed third and fourth grade teachers using the same multiple choice format. From these sources, disciplinary knowledge of reading instruction was found to have many knowledge gaps. Moats and Foorman found:

1. Approximately one-third understood "componential reading processes at the subword, word, and discourse levels" (p.36).
2. Majority of teachers (55%) could not use screening and diagnostic assessments to make choices about children's varying instructional needs" (p.8).
3. Only forty-five percent "demonstrated a partial or tentative conceptual grasp of language, reading development, and informal assessment" (p. 36).

In addition to the finding that suggests that general education do not have the requisite knowledge to address the needs of children, the suggestions for further study address many of the current studies concerns. Moats and Foorman (2003) described two specific recommendations for future research that relate to the current research. They suggested research that focuses on "how regular classroom teacher, rather than specialist internalize sufficient content knowledge to meet the needs of all students in their classrooms and translate it into practice" (p.41). With this appearing true for

regular education teachers, it is even truer for special education teachers. They further state that research should determine “what is the difference between knowledge needed by specialist and knowledge needed by regular classroom teachers?” (p 41).

Another study with Cunningham et al. (2004) sought to determine the knowledge that kindergartens to third grade teachers have in literacy instruction and their ability to accurately calibrate this knowledge. Specifically, this study examined reading instructional knowledge of elementary education teachers in the areas of children’s literature, phonological awareness, and phonics. These researchers compared the perceived and actual knowledge held by kindergarten to third grade teachers in the content area of reading to determine how well teachers are able to calibrate their knowledge. A large sample of teachers (n=722) from an urban inner city school system attending a summer institute volunteered to complete an assessment of their knowledge of children’s literature and language structure to include phonological awareness and phonics. Domain knowledge of reading content was assessed through the use of three knowledge tests: a) Title Recognitions test; b) test based on Moats (1994) phonological awareness test; and c) phonics measure that included two phonics tasks designed to determine both the implicit and explicit phonics knowledge of teachers. Teachers’ ability to calibrate their knowledge was measured with a survey using a Likert scale choice for responses that asked teachers their perceptions concerning their knowledge and skills related to children’s literature, phonological awareness, and phonics. Results found that teachers did not accurately calibrate their own knowledge of reading instruction and that those who perceived themselves to be less knowledgeable of reading content actually in more

cases demonstrated greater knowledge than those who had less knowledge. Teachers in general were not able to accurately calibrate their literacy related content knowledge. Even given this anomaly, teachers in both high and low perceptions of reading knowledge groups demonstrated little knowledge in the areas of phonics, phonological awareness, or of children's literature. In the area of knowledge of children's literature, Cunningham and her colleagues found that the overwhelming majority of teachers did not know the most significant children's literature titles in the grade levels between kindergarten and third grades. Cunningham et al., state:

We found that approximately 10% of our sample was able to identify half or more of the most popular children's book titles. However, 90% of the teachers were not familiar enough with the most popular books for children in kindergarten through third grade to recognize even a majority of the titles (p.149).

Furthermore, as it related to the phonological awareness questions, only fifty-eight percent of teachers were able to correctly answer these items. Cunningham et al. (2004) stated:

These findings illustrate that many K-3 teachers may not be knowledgeable enough to discern which set of words should be taught via sight word methods rather than encouraging their students to employ their decoding skills (p.155).

A more recent study investigated the knowledge and knowledge calibration of a group of pre-kindergarten to third grade teachers participating in a professional development activity. Al-Hazza, Fleener, and Hager (2008) examined the knowledge and the ability of pre-kindergarten to third grade teachers to accurately calibrate their knowledge related to phonological awareness, phonics, and syllabication.

Comparisons of teachers' perceptions of knowledge and their demonstrated knowledge indicated that teachers who perceived greater phonological and phonics knowledge scored higher on a knowledge assessment than teachers who scored themselves less highly. However, on a test of syllabication, there was no statistical difference in the ability of teachers to accurately calibrate knowledge between those with high and low demonstrated knowledge of syllabication (Al-Hazza et al., 2008).

Moats (2009) reexamined the question of the knowledge teachers have to teach reading and spelling in this more recent study. Using an updated version of her knowledge assessment titled Teacher Knowledge Survey, Moats examined the knowledge of language structures that 139 primary teachers participating in a professional development study had. The twenty-seven item survey demonstrated significant weaknesses among teachers. Of concern to the researcher was that these teachers were responsible for identifying miscues and reading errors in student performances. Moats stated:

Differentiated instruction depends on the teacher's insight into what causes variation in students' reading achievement. Further, it depends on the teacher's ability to explain concepts explicitly, to choose examples wisely, and to give targeted feedback when errors occur—or to be smarter than the core, comprehensive program. Knowledge of language structure, language and reading development, and the practices most supported by research are among the assets of flexible, responsive teachers. The better our field understands and documents what is necessary to promote these insights and understandings in teachers, the better we will be at designing courses, evaluation tools, and training regimens (Moats, 2009, p. 393).

Another more recent study by Podhajski and her colleagues (2009) sought to determine the relationship of teacher knowledge of scientifically based reading instruction on student reading outcomes. An experimental group of five first and second grade teachers were compared with a control group of three similar first and second grade teachers in one school located in Vermont. Teachers in both groups indicated that they had taken four courses in reading instruction and believed they were adequately prepared to provide instruction to students on phonological awareness and phonics. The three control group participants felt somewhat less prepared to either teach struggling readers or to provide instruction related to phonological awareness or phonics. Both experimental and control groups had first and second graders and smaller percentages of students with either a 504 plan or an individualized education program (IEP). All teachers in the experimental group participated in a summer professional development activity that involved 35 hours of instruction related to phonemic awareness, phonics, and fluency instruction for primary teachers. The preparation included instruction assessment and interventions such as developing sound and word walls, using a scope and sequence for phonics instruction; and using dictated sentences for spelling instruction. Teachers were assisted after the initial training with ten visits throughout the school year to assist with implementation. The visits were conducted by master reading professionals who observed and provided feedback on classroom instruction and answered questions to assist with implementation of reading instruction. On the pretest measure of teacher knowledge, the experimental group scored more poorly at 45% correct compared to 69% correct for the control group. Students of the experimental group demonstrated similar outcomes on their pretest of knowledge in that the control group actually

performed better. Results indicated that students who received instruction from the teachers in the experimental group made up the differences in the pretest scores and surpassed the control group in their reading skills growth related to phonological awareness and phonics. Podhajski and colleagues stated (2009) regarding students in the first grade experimental group:

Results yielded growth patterns in the experimental group that support the success of the intervention. In terms of DIBELS [Dynamic Indicators of Basic Early Literacy Skills] results, the first-grade experimental students showed greater gains than control students over time on nonsense word fluency, letter name fluency, and phonemic segmentation. As a group, they caught up to the level of the control students and, in fact, exceeded the level attained by the control students on phonemic segmentation by the end of the year (p. 413).

They added regarding outcomes for the students in the second grade experimental group that “This pattern of phonemic segmentation growth was similar in the second-grade students who, on average, made greater gains than controls, closing the group differences by the end of the year (p. 413).

In a recent study conducted by McCutchen and her colleagues (2009), thirty teachers from seventeen schools volunteered to participate in a school university collaborative project on reading instruction. An experimental and control group were formed to determine the effect of the instruction knowledge of reading of teachers on student learning. Teachers in the experimental/intervention and the control group conditions were pretested and post tested using two forms of the Informal Survey of Linguistic Knowledge (Moats, 1994; Moats & Lyon, 1996). Teachers were also observed throughout the year to determine implementation of reading instructional

activities. Teachers in the intervention group participated in a ten day summer professional development institute. Topics addressed included the structural knowledge of the English language related to phonology, orthography, and morphology; a developmental sequence for teaching linguistic skills; explicit instruction in implementing comprehension strategy instruction; and examples of classroom practices. Additional support was provided with three one day follow up sessions, regular classroom visitations, consultations, and assessments. Students were pretested in the fall using a variety of measures to include: a vocabulary and comprehension measures using the Gates-MacGinitie Reading Tests (MacGinitie & MacGinitie, 1989), a measure to assess writing using the writing fluency subtest of the Woodcock-Johnson III (WJ Writing Fluency; Woodcock, McGrew, & Mather, 2001), and a spelling measure using a subtest of the Wechsler Individual Achievement Test (WIAT Spelling; Wechsler, 1991). Outcomes for this study demonstrated growth in teacher knowledge and in student achievement for those in the experimental group. First, teacher performance on the Moats survey demonstrated “that teachers significantly increased their linguistic knowledge after their experiences in the summer institute” (pp. 409-410). Both the role of the teacher knowledge and the depth of teacher knowledge were assessed. Student achievement for those in the intervention classes was greater than in the control classroom. Additionally, the reading improvement of the lower performing students in the intervention classes was even more significant when compared to the control group. Furthermore, it was found that regardless of experimental versus control group, those teachers whose scores on the Moats Survey was more than a standard deviation

higher than other participants demonstrated the greatest improvements in student growth.

Most recently, Al Otaiba, Lake, Greulich, Folsom, and Guidry (2012) examined the influence of a reading practicum involving a tutoring experience on pre-service teacher knowledge of reading. Two groups of pre-service teachers majoring in early childhood education volunteered to participate in tutoring in reading with either a kindergarten or first grade student. Teachers either used one of two approaches in their tutoring session, one of which was a scripted program that included code based instruction while the other had teachers include code based instruction that was not scripted and occurred during opportunities presented during reading. A variety of measures were used to examine pre-service teachers and students. Teachers were pre-tested on a measure of reading knowledge and a survey that measured perceptions of preparation to teach reading. Lesson plans were also coded to determine which instruction activities were included in lessons. The growth of literacy skills for the kindergarten and first grade students was assessed with two subtests to assess phonological awareness and reading fluency of nonsense words on a reading achievement test. Analysis of Variance (ANOVA) was computed on both pre-test and post tests for knowledge. It was found that teachers in both groups had similar levels of knowledge on the pre-tests; however, pre-service teachers who tutored with the scripted program significantly outperformed the other teachers on reading knowledge on the post test. Also, an examination of the logged lesson plans determined that pre-service teachers with the scripted code lessons program demonstrated more evidence of code focused objectives. Furthermore, perceptions of reading instructional ability for pre-service teachers in the scripted lessons group indicated more confidence in

their ability to teach reading than in the unscripted pre-service group. An additional finding was that the tutored students with the scripted code based instruction also demonstrated more growth in the reading objectives for phonological awareness and nonsense word decoding measures.

General Education and Special Education Reading Knowledge and Preparation

One of the earliest studies of teacher knowledge of reading instruction was conducted by Moats (1994). This study focused on the knowledge teachers have on language structures. This early study sought to determine what knowledge of language structures classroom teachers, reading teachers, special education teachers, speech pathologists, and graduate students have. To examine this topic, Moats (1994) developed the Informal Survey of Linguistic Knowledge to assess knowledge of word structures, phonemes, and irregular word patterns. Results found that teachers had insufficient levels of knowledge related to the structure of written language to be effective teachers of reading (Moats, 1994). Pretest results determined that teachers had extremely low levels of knowledge in all areas assessed. For example, only 10% of teachers were able to accurately identify consonant blends, 27% had difficulties identifying morphemes; only 10% could explain the spelling of words with Greek derivations; and none identified consonant digraphs. The relative area of strength was with syllable identification where 77% percent of teachers identified the correct number of syllables. After completing the knowledge survey, teachers participating in a university course designed to improve the deficits found in teacher knowledge of word structures. Following the completion of the course, teachers expressed their positive view on the value of the course and recommended requiring this course in teacher preparation. As stated in Moats (1994):

The teachers who completed the course were emphatic in their endorsement of the usefulness of the information in their teaching. Eighty-five to 93% of each class agreed that the information would be either highly useful or essential in their teaching, regardless of their specialty. Many commented that they should have learned the content before they started to teach, and 91% reported that such a course should be required for all teachers who are charged with teaching reading, writing, or language (p. 97).

Bos, Mather, Dickson, Podhajski, and Chard (2001) sought to extend the research begun by Moats (1994) to include pre-service teacher knowledge and to learn their perception concerning explicit and systematic reading instruction. Participants in this study had either recently completed their university reading courses as with in-service participants or had recently participated in a professional development reading activity. In-service and pre-service general and special education teachers were assessed at the beginning of the study using a knowledge measure and a perception measure to determine teacher reading characteristics. Both pre-service (53 %) and in-service (60%) educators' inability to answer nearly half of the questions found on the Knowledge of Language Structure (Moats (1994). Results of the survey indicated that educators with more years of teaching experience (>11 years) demonstrated greater knowledge of language structure than their colleagues who are relatively new to the profession (1 to 5 years). Also, while special educators demonstrated more knowledge than general educators, all groups had scores falling below two-thirds correct. According to Bos et al., these results suggested that educators who are directly responsible for teaching children how to read have relatively limited knowledge about the structure of the English language. Similar to Moats' (1994)

findings, less than two-thirds of both the pre-service and experienced teachers had mastered the meanings of structured language terminology such as "syllable," "consonant blend," and "digraph." Bos and her colleagues stated:

“Our findings would suggest that general education teachers may not be adequately prepared to instruct students with dyslexia and related reading problems. Furthermore, even when these children receive special education, special educators also appear to have somewhat limited knowledge about language structure and how to implement systematic, explicit reading instruction” (p. 117).

McCutchen, Harry, Cunningham, Cox, Sidman, and Covill (2002b) sought to determine the disciplinary knowledge related to beginning reading instruction that primary general and special education teachers have in English phonology and children’s literature. Teaching knowledge was assessed with two methods. First, knowledge of literature was assessed using checklist of book titles appropriate and inappropriate at first, third, and sixth grade levels. Then teacher knowledge of phonology was assessed with the Survey of Linguistic Knowledge (Moats, 1994) Theoretical Orientation to Reading (DeFord, 1985). McCutchens and her colleagues determined that “It was teachers' content knowledge, not their philosophical beliefs that predicted their classroom practice” (p. 224). While the researchers indicated in their introduction that special education teachers were included in the study, their conclusion eliminated these teachers from the outcomes. They explained thusly:

Participating special education teachers worked in contexts that varied too much to make comparisons meaningful, and because of inclusive practices,

many of their students were assessed in the classrooms of their regular education colleagues (p.215).

Spear-Swerling and Brucker (2005) focused on the relationship of reading coursework and experiences on three areas of reading instructional knowledge: reading development, phonics and phonemic awareness, and morphemic awareness. The researchers used teacher self-reports concerning reading instructional knowledge and performance on five tasks designed to assess reading instructional knowledge with a group that mostly consisted of special education teachers (n=42), reading teachers (n=73) , and elementary education (n=13). Approximately 90% of all participants held teaching certifications in either elementary education (n=68), special education (n=16), dual certification elementary and special education (n=21) or other areas of education (n=14). The study found that individuals with more experience and coursework “perceived themselves as more knowledgeable in all three rating areas than did low-background participant” (p. 286). These individuals also scored higher on the five tasks that assessed reading instructional knowledge. However, coursework was more predictive of performance on tasks related to general knowledge or reading, syllable types, and morpheme counting while experience was more predictive of knowledge related to segmentation and irregular words.

Gormley and Ruhl, K. (2007) sought to determine the effect of a training module related to letter sound and production on the knowledge of special and general education teachers. Undergraduate general and special education students were recruited in the spring semester from either special education (n=100) or educational psychology classes (n=27). The resulting experimental group (n=17) was provided a training video on identifying letter sounds and letter production instruction while the

control group (n=20) received no additional training. Prior to this study, participants in the experimental group had taken a range of literacy courses that represented either no courses (n=2, 12 %), one course (n=7, 41%), between two and three courses (n=4, 24%), or between four to six courses (n=2, 12%). Participants in the control group had taken a range of literacy courses that represented either no courses (n=7, 35 %), one course (n=9, 45%), between two and three courses (n=3, 15%), or between four to six courses (n=1, 5%). Participants receiving the video tutoring and online study guide improved in most of the dependent variables. The experimental group improved in teacher knowledge of language, writing for sounds task, producing sounds, identifying errors in child's letter sound knowledge, and identifying irregular words. There, however, was not a statistical difference between the experimental and control group on their ability to identify children's error in letter sound knowledge.

A more recent study conducted by Carreker, Joshi, and Boulware-Gooden (2010) examined the effect of professional development on the knowledge and instructional activities of teachers. This article reported the findings of two interrelated studies on this topic. The first study compared pre-service teachers involved in a three credit hour reading course (n=36) and in-service teachers (n=38) who were taking a one day literacy professional development workshop. Outcomes indicated that the in-service teachers demonstrated greater ability to count phonemes and morphemes and develop instructional activities. No differences were found in syllable counting. The second study determined that the knowledge of reading instruction demonstrated by teachers was positively related to the number of hours of professional development. Teachers benefited more from the three credit hour reading course in their ability to count phonemes, morphemes, and develop instructional activities. Also, it was found that

those with more professional development in reading instruction had more knowledge.

Most recently a study by Spear-Swerling and Cheesman (2012), examined the implications of teachers' reading instructional knowledge in relation to the implementation of the response-to-intervention model. Specifically, this study sought to determine the characteristics of teachers in two states that are beginning to implement the response to intervention (RTI) approach to reading instruction intervention. As specific teacher knowledge is necessary for implementing the RTI model of intervention, this study sought to determine the knowledge that teachers have. Additional foci for this study examined differences between elementary and special education teacher knowledge, reading-related course work, and the role of additional professional development. Participating teachers with general and special education credentials were administered two surveys. The first survey requested background information on teacher preparation, degrees earned, and specific courses taken in reading instruction completed. Further information of any additional reading instructional preparation was requested to include information on knowledge of assessments and reading programs. The second survey consisted of a teacher knowledge measure modeled on a reading credentialing exam for elementary teachers. The outcomes of the reading assessment for the teachers demonstrated greatest strengths in the areas of fluency, vocabulary, and comprehension. Another area of strength occurred in the areas of phonological awareness and phonics. However, the lowest score occurred in the area associated with assessment and practices necessary for success with the RTI model. In conclusion, Spear-Swerling and Cheesman (2012) identified specific weaknesses in teacher skills. They stated:

Error analyses showed that many participants had particular difficulty giving examples of appropriate words for various phonics activities, recognizing when a child was placed in a text that was too difficult to decode, understanding accurate decoding as a key foundation for automatic word recognition and fluency, and understanding the use of CBM [curriculum based measures] in screening and progress-monitoring (p. 1713).

Additional findings demonstrated that teachers exhibited difficulty with applying knowledge even when content knowledge was strong. They stated:

Items with the highest error rates disproportionately involved application rather than content knowledge. However, participants also demonstrated strengths on certain items, such as those requiring evaluation of a child's phonemic awareness based on spelling errors, the use of Venn diagrams and think-alouds to teach comprehension, and knowledge of the three-tiered model for RTI (p.1713).

Special Education Teachers' Reading Knowledge, Skills and Preparation

Spear-Swerling and Brucker (2003) studied the knowledge in-service and pre-service special education have about word structure and the effect of instruction in phonemic segmentation and classifying pseudowords by syllable type and real words as either regular or irregular. The experimental group included two groups of special education teachers, one pre-service (n=18) and the other in-service (n=32) who were compared to each other and to a comparison group (n=40) of special education teacher education students who had not taken any courses related to phonics, reading, or language arts. The experimental cohorts received instruction in word structure that included phoneme segmentation identifying syllable types of pseudoowords, and

classifying words as either regular or irregular. The pre-service teachers participated in supervised field experiences that afforded opportunities to practice the word structure concepts in tutoring sessions. Background information was obtained on prior reading instruction preparation and reading instructional experiences including no experience, some experience in a volunteer situation, and planning and instructing reading instruction. All three groups were pre and post tested using a test of word-structure knowledge. To determine the influence of prior reading preparation, a multivariate analysis of variance was conducted on the pretest results on the test of word structure knowledge. While both groups scored poorly on the pretest, those with prior reading preparation performed better on all three sub-measures of word structure knowledge. Additionally, the role of previous reading instructional experiences were examined by conducting both pre and post multivariate analysis with results indicating no differences based on prior reading instructional experiences. Both instructional groups improved their knowledge of word structure with no effect observed by prior instruction.

Lava, Recchia, and Giovacco-Johnson (2004) examined early childhood special educators' perceptions of their university preparation and current practice. Using a focus group interview, 25 early childhood special educators who had earned a Master's degree in the past five years volunteered to share their views concerning their special education preparation and current practice. This study had interesting findings related to special education teachers' beliefs concerning their preparation and practice. These views illuminated difficulties related to the demands associated with their work with children and their families, various administrative responsibilities and supervision of other professionals, conflicting requirements resulting from the actual

needs of students and issues with the required curriculum in addition to inadequate resources and support. According to Lava and her colleagues:

They must carry out multiple roles in their work, often with very little support and few incentives for continued growth and commitment to the field. What they confront in their roles as classroom teachers encompasses much more than working with young children. Issues they must face on a daily basis include collaboration with colleagues, seeking supervision and support, working with multi-problem families, and a bureaucratic system that demands a high level of administrative teacher input in order to provide ongoing services for children. Most felt much less prepared to take on these challenges than to teach young children, yet without doing so they could not successfully perform their jobs. In general, they were surprised by how much work was involved in being a good teacher (p. 194).

Three areas of preparation were emphasized that had specific implications for this literature review. These related to their views concerning student teaching, coursework, and the limitations of professional preparation. With respect to student teaching, participants expressed that they should have more hands-on experiences, additional strategies for more information on additional disability categories and settings. Furthermore, they indicated that additional time above the one semester should be spent in student teaching. Regarding course work, teachers overall, expressed positive views concerning their courses. Lava and colleagues stated “Courses on assessment, reading, and curriculum development were seen as contributing to specific competency areas for teachers, while those emphasizing child development and educational philosophies provided a solid theoretical foundation.

Conversely some teachers expressed problems with applying theories to actual situations. One participant stated: It seems like it takes a while to feel like your theoretical background is valuable. I think it was halfway through the first year before I knew the theory made any sense . . ." (as quoted in Lava et al., 2004, p. 198). Furthermore, while it is noteworthy that early childhood special educators positively viewed their coursework in reading, it would seem that they might have had more extensive and elaborate views concerning their preparation in this area. Given the age group they prepared to serve, it would have been interesting to know their views in this area of their university preparation as well as implications for practicums and student teaching experiences.

Seo, Brownell, Bishop, and Dingle (2008) examined the practices of special education teachers who are effective in reading instruction to engage third to fifth grade elementary students with learning disabilities. Special education teachers were selected for this study based on performances on an observation rubric named the Reading Instruction in Special Education (RISE) that identified engaging reading practices. Fourteen teachers participated in the study that used classroom observations to identify reading instructional practices. Using six observations per classroom over a six month period, researchers determined that special education teacher reading engagement was differentiated according to four themes, which were instructional quality, responsiveness to student needs, socio-emotional climate of the classroom, and student autonomy. These four themes differentiated teachers found to be most engaging, highly engaging, moderately engaging, and low engaging teachers based on the level. The study found that "the most engaging teacher was able to

provide comprehensive reading instruction that was explicit, intense, focused, and cohesive” (p. 117).

Brownell and her colleagues (2009) examined teacher quality and the role that knowledge of reading plays in defining teacher reading practices and student learning outcomes. The researchers specifically sought to determine what “engaged” knowledge special education teachers had in the area of reading instruction. “Engaged knowledge” was defined as “knowledge teachers draw on during instruction” (p. 397). Brownell and colleagues used two teacher measures and three student measures to determine those components of teacher practices that resulted in student reading improvement. The first teacher measure was adapted from an observation instrument used to observe teachers of English language learners (Gersten et al., 2005; Haager, Gersten, Baker, & Graves, 2003). By modifying this instrument to exclude items that pertained to English language learners and including item related to instruction in reading and with special education, the Reading in Special Education (RISE) was developed and validated as an observation tool. To determine teacher knowledge, the study utilized the Teaching Reading Survey (Phelps & Schilling, 2004). Student reading achievement was assessed using two subtest of the Woodcock Johnson Reading Mastery Test for word identification and word attach ; oral reading fluency with six reading passages at the second, third, and fourth grade levels; and the Gray Oral Reading Test, 4th ed. Three observations would last for approximately sixty to ninety minutes each resulting in about three to four and half hours per teacher. Additionally, each observation was preceded by a questionnaire to determine the emphasis for the lesson to be observed. Following observations, field notes were correlated with practices found in the RISE observation

schedule. Teachers completed at their leisure the Content Knowledge for Teaching Reading Survey (Phelps & Schilling, 2004). The findings demonstrated that knowledge of reading was not as significant to student reading achievement as were “practices in classroom management, decoding practices, and providing explicit, engaging instruction” (p. 391). Furthermore, they stated that “On average, beginning special education teachers had a fair degree of knowledge for teaching reading. Mean Rasch scores obtained for the two reading scales were slightly lower than the scores achieved by elementary education teachers in a previous study” (Phelps, 2006 in Brownell et al., p. 404) The researcher state:

Moreover, nearly average scores on the knowledge instrument and generally low ratings on the reading subscales of classroom practice scale (compared to other scale scores) suggest that beginning teachers may not have been able to always put their knowledge of reading instruction into practice (p. 405).

The researchers concluded that special education reading outcomes were related more to what was termed generic teaching practices rather than instructional practices related to teaching decoding or comprehension. Brownell et al. state:

Our inability to establish linkages between teacher knowledge and classroom practice and classroom reading practice and student achievement, combined with our ability to establish linkages between more generic classroom practices and student achievement may be interpreted in several ways. First, our findings lend further support to the idea that beginning special education teachers likely rely more on their general knowledge about instructional and classroom management practice than on any domain-specific knowledge they have for teaching reading, when operationalizing classroom practice (p.406).

Carreker, Joshi and Boulware-Gooden (2010) examined the effect of professional development with strategies for spelling instruction. This article reported the findings of two interrelated studies. The first study compared pre-service teachers involved in a three credit hour reading course (n=36) and in-service teachers (n=38) who were taking a one day literacy professional development workshop. Outcomes indicated that the in-service teachers demonstrated greater ability to count phonemes and morphemes and develop instructional activities. No differences were found in syllable counting. The second study determined that the knowledge of reading instruction demonstrated by teachers was positively related to the number of hours of professional development.

Summary of the Literature

The literature first examined the impact that federal special education legislation (P.L. 94-143, P.L. 98-199, P.L. 101-476) has had on the goals and outcomes of special education preparation. Special education teacher preparation has principally pursued the federal mandates around the specific requirements found in successive special education legislation. These mandates now make it critical that special education teachers, teacher educators, and institutions of higher education fulfill the expectation that special education teachers possess the content knowledge necessary for reading instruction. However, the President's Commission on Excellence in Special Education (2002) criticized the preparation special education teachers receive and called for recruiting highly qualified teachers, using research to inform instruction, using only explicit and direct instructional strategies, and implementing field experiences into preparation. In view of these expectation, the characteristics of special education preparation programs (Carlson, 2002), current licensure practices

for special education teachers (Geiger, Crutchfield Mainzer, 2003), field practicum experiences (Prater and Sileo , 2004; Conderman, Morin, and Stephens, 2005), teacher perception concerning their special education preparation program (Bouck, 2005), and the role of traditional versus alternative program involvement on reading preparation (Nougaret, Scruggs, & Mastropieri , 2005) served to identify the current status and context for special education preparation. This group of studies identified the knowledge of how special education teachers are prepared to become special education teachers, which given the implications of current research appears to have in general inadequately addressed the specific needs for a more content focused preparation. Whereas Carlson (2002) demonstrated that greater student achievement was positively correlated with the preparation level of the special education teacher, the licensure path (as discussed in Geiger et al., 2003) did not support the traditional over an alternative route preparation. While it was suggested by the researcher that this lack of difference resulted because the two paths were equivalent, the lack of preparation prior to the field experiences discussed in Prater and Sileo (2004) is an alternate interpretation. With respect to knowledge of reading instruction, Nougaret et al., offered an entirely different view of alternative preparation citing significant benefits for licensure paths on the literacy competence of special education teachers with a traditional preparation background. Traditionally licensed teachers significantly outperformed the teachers holding emergency or provisional licensures.

The literature review then examined the research related to the preparation to teach reading. The literature review examined the findings of the National Reading Panel (NRP, 2000) and the National Commission for the Excellence in Elementary Teacher Preparation for Reading Instruction (Hoffman, Roller and NCEETPRI, 2001;

Maloch, Flint, Eldridge, Harmon, Loven, Fine, Bryant-Shankli, Martinez and NCEETPRI, 2003; and 2005) and the International Reading Association. The NRP established that research does support that in-service preparation results in greater student achievement and supports explicit and systematic instruction to increase student knowledge of fluency, vocabulary development, comprehension, phonics, and phonemic awareness, but did not provide the role of pre-service reading preparation and did not address studies related to special education reading instructional preparation. Contributions to reading preparation found in the three IRA commissioned studies indicated that preparation programs were characterized by at least six hours of reading courses with 40% offering a reading specialization path composed of about 15 hours of instruction. In a follow up study, interview responses between teachers who had received six hours of reading courses in the general preparation programs and the teachers who had received 15 hours of reading courses in the reading specialization program were compared on issues related to their reading instruction preparation. The general preparation teachers expressed about three times less preparedness than the reading specialization teachers to make reading instructional decisions, to deal with the assigned curriculum and potential limitations, and success with the difficulties and challenges of their first year of teaching.

This review attempted to identify the type of knowledge that teachers have to teach reading by examining the literature related to teachers' knowledge of word structure and phonology. Led by the early Moats (1994) study of the knowledge teachers have of language structures, numerous studies examined the knowledge general and special education teachers have related to speech sounds and their relationship to the English sound-symbol relationship. This body of knowledge firmly

established that teachers generally have not received sufficient preparation related to language structure to instruct on those issues which can lead to inaccurate identification of road blocks to students learning to read. With additional preparation in summer institutes and university courses, research in these studies demonstrated that teachers can learn these components of reading instructional knowledge that result in greater reading achievement in students.

However, as the National Reading Panel (2000) observed, it is difficult to determine from recent research exactly what teachers learn from their pre-service reading preparation. As they reported, "The range of variables was so great for the small number of studies available that the NRP could not reach a general conclusion about the specific content of teacher education programs" (NICHD, 2000, page 5-2). Therefore, the primary function of this current research is to add to the body of knowledge related to special education teacher preparation to teach reading by examining the knowledge of what they acquire in reading courses in their university preparation to teach reading.

CHAPTER THREE

METHODOLOGY

Introduction

This purpose of this study was to investigate the role of reading courses taken by prospective special education teachers on their knowledge of reading instruction and their beliefs concerning their reading courses. Using a mixed methods sequential explanatory design-participant-selection model (Creswell & Plano Clark, 2010), the study consisted of two stages of research that occurred sequentially. After completing the quantitative data collection and analysis, the qualitative data collection and analysis were conducted. The use of mixed methods allowed the researcher to first develop outcomes using quantitative measures of knowledge acquisition related to reading instruction that then identified participants for interviews who could illuminate the quantitative outcomes. According to Creswell and Plano Clark (2010), “the explanatory design is well suited when the researcher needs qualitative data to explain quantitative significant (or nonsignificant) results, positive-performing exemplars, outlier results, or surprising results” (p.82). Analysis of data primarily used quantitative statistical procedures followed by synthesis of the quantitative and qualitative findings to bring together the implications suggested by the outcomes of the data (Creswell & Plano Clark, 2010).

Review of Research Questions

The use of this mixed methods approach addressed the following research questions:

1. What knowledge do prospective special education teachers have related to reading instruction?

2. What are prospective special education teachers' perceptions regarding their course preparation to teach reading?
3. Does taking an additional reading course during teacher preparation result in differences in knowledge of reading instruction for prospective teachers?
4. Do prospective special educators differ on their beliefs concerning their preparation to teach reading depending on their knowledge of reading instruction?

Research Design

Quantitative Phase

Three quantitative variables were used for this mixed methods study. Two of these were dependent variables and one was an independent variable. The first dependent variable was the performance of prospective teachers on the Virginia Reading Assessment for Elementary and Special Education Teachers (VRA). The second was a researcher-designed questionnaire on teacher beliefs concerning reading instruction preparation. A comparison group was then utilized to assess the value of an additional language arts course on the knowledge of reading instruction that teachers acquire during preparation to teach reading. Whether or not prospective teachers completed a language arts course served as an independent variable to measure the effect of an additional language arts course on the knowledge teachers acquire to teach reading.

Qualitative Phase

In the second phase of the study, a researcher designed interview protocol was employed to collect qualitative data to explain patterns found in the quantitative data.

This method used qualitative interviews with special educators to determine their views of the role in their reading preparation served by reading courses taken during their teacher preparation. Specifically, the rationale for interviews was to compare perceptions of those who scored high and low on the VRA to determine similarities and differences in their beliefs related to the course work included in their reading instruction preparation.

Samples

The samples used in this study included university students who participated in teacher preparation at a large university in the Mid-Atlantic region of the United States. Multiple purposive samples were developed from a potential sample of 397 prospective special education teachers and 823 prospective elementary education teachers. Following the approval to conduct this study granted by the Institutional Review Board (IRB Ref #11-094) of this university, the actual samples were established using specific criteria based on their participation in university teacher preparation programs. One prerequisite for sample inclusion related to the requirements that prospective teachers had to have taken the reading credentialing state exam, the Virginia Reading Assessment for Elementary and Special Education Teachers (VRA) between the dates of July 2006, when cut scores were enforced for passing the assessment, and November 2010 and had to have taken the two university required courses in reading instruction that comprised the reading content preparation for special education teachers.

The two reading courses that constitute special education teacher preparation to teach reading for this sample were ECI/TLED468/568 and ECI/READ 680. The first course, ECI/TLED468/568, was a three credit course taught at both the undergraduate

and graduate level. This course is titled: Language Acquisition and Reading for Students with Diverse Learning Needs. According to the 2012-13 Old Dominion University Catalog:

This course provides an overview of normal language development and language disorders which impact the acquisition of language based curriculum skills such as listening speaking, reading, and written expression. Emphasis is on instructional techniques to assist students with diverse learning needs to achieve reading and comprehension skills. Effective reading strategies and curricula for individuals with disabilities will be reviewed (Old Dominion University, 2009, p. 211).

The second course required for reading preparation of prospective special education teachers was a three hour graduate level course titled: READ 680: Reading to Learn across the Curriculum. According to the university course catalog:

This class has an emphasis on advanced techniques in reading for classroom teachers who are not reading specialist. Students develop an understanding of the process of reading to learn across the curriculum including a wide variety of comprehension strategies and an understanding of the complex nature of reading throughout the disciplines. Lecture, demonstrations, development of materials, and practice in the techniques of reading (Old Dominion University Website retrieved on July 26, 2012 from <http://catalog.odu.edu>).

Finally, students included in the sample must have taken the VRA while preparing to teach special education students who access the general education curriculum as opposed to those teachers who plan to teach special education students who are taught an alternate curriculum. These stipulations for potential inclusion in the sample were

developed in order to include only individuals who were not merely taking the VRA but who had also participated in the approved reading preparation that is assessed by the VRA. Furthermore, in an effort to not skew the results of the study, only individuals who had taken the prerequisite reading courses were included in the samples. This procedure was thought to result in a more accurate indication of the effect of the courses on the knowledge that individuals demonstrated by their performances on the VRA.

Quantitative Samples

The pool of prospective special education teachers (n=397) netted a sample of 141 individuals who met the criterion for inclusion. From the original sample of prospective elementary teachers, 139 were deleted because they had taken the VRA prior to July 2006; 28 were deleted for VRA test score records that did not include individual scores for the multiple choice and constructed responses; and an additional 79 were deleted due to insufficient reading course completion with some individuals taking less than two courses and some taking more than two courses. The resulting sample was composed of 141 prospective special education teachers of which 83% (n=117) were female and 17% (n=24) were male. All were participating in graduate level programs with anticipated program outcomes that included 58% (n=82) licensure only, 35% (n=50) master's degree, and 6% (n=9) certificate only. Furthermore, it was from this established sample that participants (n=28) were recruited to participate in the Reading Instruction Preparation Questionnaire.

The first sample investigated the first three research questions. First, this sample was used to measure the knowledge that prospective special education teachers acquired in their reading courses to teach reading as exhibited in VRA scores; next it

investigated the perceptions of prospective special education teachers concerning their preparation to teach reading as indicated by their responses on a questionnaire. Finally, this sample was utilized to evaluate the role of reading courses in teacher preparation by analyzing the role of university courses completed during teacher preparation.

To address the third research question, prospective special education teachers were compared with a comparable cohort of prospective elementary teachers on their performances on the VRA. Using the same criteria for sample inclusion as utilized with the special education sample, the sample of prospective elementary teachers was developed from the potential prospective elementary sample (n=823). The pool of prospective elementary education teachers (n=823) netted a sample of 284 when the criterion for inclusion was used. From the potential sample, 315 prospective elementary educators were deleted from the sample due to VRA scores occurring prior to July 2006; 45 were deleted for records that did not include VRA multiple choice and constructed responses; and an additional 179 were deleted due to insufficient reading course completion with some individuals taking less than three courses and some taking more than three reading related courses. As the cohort of prospective elementary education teachers from the same period included approximately two hundred eighty-four individuals (n=284), half of the elementary cohort was randomly chosen to represent this preparation path. The sample of prospective elementary teachers was chosen thusly to assure equal cell sizes for comparison between the special education and elementary education cohorts. The resulting prospective elementary education teacher sample was composed of 143 prospective special education teachers of which 97% (n=138) were female and 3%

(n=5) were male. All were participating in graduate level programs with anticipated program outcomes that included 29% (n=41) licensure only, 69% (n=99) master's degree, and 2% (n=3) were not designated in either category.

These two samples were used to evaluate the role of reading courses taken during preparation by examining the role an additional university course completed during teacher preparation exhibited on reading knowledge. The difference in reading instruction preparation between these two cohorts consisted of one language arts methods course taken by those pursuing the elementary teacher preparation path. This additional course titled TLED 432/532: Developing Instructional Strategies PreK-6 Language Arts was offered at both the undergraduate and graduate level and was required for prospective regular education teachers who were preparing to teach children at the elementary grade levels. The university course catalog describes this course as follows:

Following a theory into practice philosophy, students explore, develop, and use instructional strategies, materials, technologies, and activities to promote children's development of attitudes, behaviors, and concepts in language arts in Prek-6 in support of NCTE material instructional standards and the Virginia Standards of Learning (Old Dominion University, 2009, p. 211).

Hence, information from this comparison determined if an additional course related to literacy resulted in differences in reading instructional knowledge between the two preparation groups. This sample was used to evaluate differences in the preparation received by these two preparation paths related to each of the knowledge domains associated with reading instruction to include knowledge of reading assessment, phonological awareness, reading development, and spelling and writing instruction.

Qualitative Sample

To address the fourth research question, a final purposive sample (n=10) was developed from among the group of prospective special education teachers (n=141) who represented extreme cases on their performance on the VRA. According to Patton (1990), "In many instances, more can be learned from intensively studying exemplary (information-rich) cases than can be learned from statistical depictions of what the average case is like" (p. 234). The first extreme case (n=5) cohort included those prospective special education teachers who performed very well on the VRA assessment thereby demonstrating exceptional knowledge of reading instruction. The second extreme case group (n=5) performed very poorly on the VRA assessment, thereby demonstrating poor knowledge of reading instruction. The rationale for looking at these extreme cases was that by comparing and contrasting the experiences of these extreme cases, the perceptions and realities related to special education preparation to teach reading could be better identified and clarified.

This phase of the study began with the establishment a pool of twenty individuals from the prospective special education teachers who met the overall stated goals for this study's sample. From the pool of individuals who met the criteria for sample inclusion for the interview, the study goal of five interviewees for each case for a total of ten total interviews was met. Individuals from this sample participated in individual interviews concerning their views on their university preparation to teach reading. These interviews then were used to identify similarities and differences in the beliefs of interviewees related to university courses taken to prepare them to teach reading. These interviews identified common beliefs within the groups as well as

differences experienced between them with respect to the course work completed in their reading instructional preparation.

Measures

This study utilized three measures to assist with answering the research questions. The following sections describe these measures in detail and the processes used to assure their validity and reliability.

Virginia Reading Assessment for Elementary and Special Education Teachers (VRA)

The VRA served as the primary measure in this study. Performance on the VRA was used to determine the knowledge teachers held concerning reading instruction. The VRA was chosen as a measure of teacher content knowledge of reading because it was particularly designed and appropriate for such a role. Indeed, the VRA's suitability is justified by both its construction and development to assure that teachers were adequately prepared and possessed the content knowledge and skills necessary to teach reading prior to entering the classroom (Elliott, 2005). Hence, this assessment exhibited the specific characteristics deemed necessary to measure the knowledge teachers acquire from their reading courses. Developed by National Evaluation Systems, Inc. (NES) for the Virginia Department of Education (VDOE), the primary purpose of this assessment was to serve as a credentialing exam to determine that individuals pursuing teacher licensure in Virginia acquired the necessary knowledge and skills to teach reading and that this knowledge was obtained prior to the teacher's commencement as the individual responsible for classroom reading instruction (Elliott, 2005). The VRA therefore served in this present study as the principle quantitative dependent measure of teacher knowledge.

The VRA is composed of ninety multiple-choice questions that constitute eighty percent of the total test with the remaining twenty percent consisting of constructed response items. Two forms of multiple-choice questions are found in this assessment. The first format consists of a single item in which the test taker responds to an incomplete question or statement. The second format requires the test taker to respond to a situation utilizing knowledge of best practices in reading instruction to address a given instructional scenario. The assessment incorporates four constructed response items that address each of the four content domains related to reading instruction found in the test blueprint (Virginia Reading Assessment, 2005). The requirements to pass the assessment provide that the test taker must earn a total score of at least 235 on a scale from 100 to 300 (NES Website at www.va.nesinc.com). In addition, the test blueprint assesses four knowledge domains of reading instruction and provides that forty percent of the total possible points are earned in the domain of reading development with the remaining sixty percent distributed evenly between the remaining three knowledge domains of reading assessment, phonological awareness, and writing and spelling. The total score for the assessment is computed with each knowledge domain receiving a performance indicator that provides a score for both an overall performance related to the tester's multiple-choice responses and a second category of score for constructed response items. The final score is determined by assigning each knowledge domain a value between one and four for both multiple-choice items and constructed response items. The awarding of one point indicates a response that displays "no understanding"; two points indicate "limited understanding"; three points indicate a "general understanding" of the category; and

an award of four points indicates a “thorough understanding” of the domain being assessed (NES, 2007, p.7).

Validation of the VRA

National Evaluation Systems established the validity and reliability of the VRA through a process that exemplifies the dominant methodologies used to create credentialing exams in the current political environment of accountability. This process included specific activities designed to establish that the assessment accurately measured the reading instructional skills and knowledge for pre-kindergarten to third grade-teachers, pre-kindergarten to sixth grade teachers, and special education teachers of students with learning, emotional, hearing, visual, or intellectual disabilities (National Evaluation Systems, 2005). This process included the establishing advisory committees; validating the test blueprint; conducting a match study; developing, reviewing, and validating test items; and determining passing scores (NES, 2005). These procedures are supported by mainstream researchers as the primary methods for validating assessments related to accountability systems for developing credentialing and licensure exams (Wang, Schnipki & Witt, 2006) and setting performance standards (Plake, 1998).

According to Wang, Schnipke, and Witt (2006) developing licensing examinations should follow specific procedures. They provided the following procedure for developing valid credentialing exams that represent the knowledge, skills, and abilities of individuals:

1. Ask subject matter experts (SME) to identify a list of job tasks or activities performed at work and to define the test content domain of the

profession. The tasks/activities may also be grouped in terms of the test content areas.

2. Develop a survey questionnaire using the list of tasks/activities.
3. Select a representative sample of practitioners in the profession to respond to the survey.
4. Have the survey respondents rate each task in terms of separate aspects of the task, such as frequency of performance, criticality to public protection, difficulty of learning, and necessity at time of initial licensure/certification.
5. Analyze the survey data and determine the relative importance of these tasks.
6. Use the resulting quantitative measures of task importance to develop test specification delineating the content to be assessed and the relative weight each content area should receive (Wang et al., 2006, p. 16).

As discussed in Wang (2006), the process of validating the VRA began by developing advisory committees that served in numerous capacities as subject experts. These subject experts were nominated from “educators, school administrators, and other personnel in PreK-3, elementary PreK-6, special education, or a reading specialists; and college and university faculty who were preparing candidates to teach in the areas of elementary PreK-3, elementary PreK-6, special education, or as reading specialists (NES, 2005, p. 3). Test Blueprint was developed by defining the content aligned with the English Standards of Learning and the Virginia Regulations for School Personnel. After the content committee identified the content appropriate for the test, the Blueprint itself was further corroborated

through a content matching process that consisted of matching each objective in the blueprint to the original source document from which the objectives were initially extracted. Finally, each test item was evaluated to assure a match with the blueprint, knowledge necessary for the job performance, and tasks associated with reading instruction.

As referenced in Wang et al. (2006) the validation process for the VRA preceded with the steps to develop a survey on the specific content of the assessment which would then be responded to by the sample of university professors and teachers to determine test specifications. At this stage, a sample was utilized to assist with developing the test blueprint. Two hundred randomly sampled teachers from each group of teachers who would be assessed with this assessment to include kindergarten to third grade teachers, kindergarten to sixth grade teachers, special education teachers, and reading specialists (n=800) and college professors (n=200) were surveyed. The direction for responding to test items was the following statement: "How important is the knowledge or skill described by this objective for performing in Virginia public schools the job of an entry-level elementary (PreK-3 or PreK-6) or special education teacher" (NES, 2005, p.12). Responding using Likert scale response options from no importance to very important, participants rated all items 4.2. Since the criteria for accepting an item for inclusion in the test blueprint was a score of three, all items were accepted for inclusion.

Plake (1998) discussed measures used for setting performance standards. In her survey of the prevalent methods of setting performance standards for credentialing and licensure exams, she explained the strategy developed in the Angoff method. She stated:

Consistent with the survey on national licensure examination programs conducted by Sireci and Biskin (1992), the most prevalent standard-setting method used with multiple-choice questions by the agencies contacted is the Angoff (1971) approach. Small variations on the traditional procedures (e.g. giving panelists categories for the item performance estimates for the minimally competent candidate (MCC), or providing candidate performance information) were common, but the basic strategy of convening a panel of experts, training them on the knowledge, skills and abilities of the MCC and having them make item performance estimates for such candidate was consistently followed (Plake, 1998, p. 67).

NES (2005) discussed its usage of a modified-Angoff and extended-Angoff method thusly:

An iterative procedure was used in which standard setting ratings were gathered in two rounds using procedures commonly referred to as a modified-Angoff method and the extended-Angoff method. In the first round, panel member provided item-by-item judgments of the performance of “just acceptably qualified candidates’ on the multiple choice items and constructed-response items from the first operational test form. They reviewed the results from the initial round of ratings as well as examinee performance on the items. In the second round, panel members were given an opportunity to make revisions on their individual round-one item ratings (NES, 2005, p.15).

Finally, the Performance Standard Setting Panel validated the inclusion of each item by matching each item to the items associated with the reading instructional skill it assessed. The panel sought to assess “the alignment of the draft test items with the

reading instruction knowledge and skills required by entry level elementary and special education teachers of reading.” (NES Inc., 2004, p. 16) Item validity was established thusly. The results of this stage indicated that respondents found “each item separately and the set of items for each test as a whole are aligned with the reading instruction knowledge and skills required by entry level elementary and special education teachers” (NES, 2004, p. 16). One hundred percent of the panel member rated all test items fully aligned (NES. 2004, p. 17).

Reading Instruction Preparation Questionnaire (RIPQ)

The Reading Instruction Preparation Questionnaire (RIPQ) found in Appendix A. is a researcher developed measure designed for use in this study to identify the beliefs of prospective special education teachers concerning their preparation to teach reading. This instrument was developed to explore the beliefs that special educators have regarding the preparation they received from the two reading courses taken in their special education preparation to teach reading. Individuals who volunteered to participate in this questionnaire were asked to respond to thirty-nine statements using a five point Likert scale designed to assess their beliefs concerning the role of the reading courses taken in their preparation to teach reading. An additional question used an open ended format to allow participants to make suggestions to improve the reading preparation special education teachers receive in their reading courses.

For the purposes of this study, reading instruction preparation was operationally defined as the process or outcome related to the acquisition of specific knowledge and skills of reading instruction acquired in the two required reading courses. The two courses that constitute the specified reading courses are TLED/ECI 468/568: Language Acquisition and Reading and READ 680: Reading to Learn across the

Curriculum. Furthermore, it is acknowledged that acquiring the knowledge and skills to teach reading may possibly originate from sources other than the two reading courses required in the setting of this study and both the knowledge and the skills related to reading instruction may possibly have been acquired before, during, or after formal teacher preparation; however, this study is specifically focused on determining the role of reading courses in the knowledge special education teachers acquire during their preparation and their beliefs regarding their reading courses during their preparation to teach reading. As such, this questionnaire was developed to research the beliefs of special education teachers concerning the role of the reading courses they took in their preparation.

Validity and Reliability of the RIPQ

According to Leedy and Ormrod (2005), “Content validity is the extent to which a measurement instrument is a representative sample of the content area (domain) being measured” (p. 92). The content area that special education teachers are asked to master to become special education teachers includes specific knowledge and skills associated with reading instruction. The Virginia Reading Assessment for Elementary and Special Education Teachers (VRA) is a credentialing exam that special education teachers in this sample must pass prior to receiving credentials to become a special education teacher. To develop this questionnaire with accurate representation of the reading content teachers must know in the content of reading, the RIPQ was developed with the goal of alignment with the knowledge domains found in the VRA test blueprint (NES, 2005). As stated by Leedy and Ormrod (2005), “. . . to establish content validity- the researcher often constructs a two-dimensional grid (table of

specification) listing the specific topics and behaviors that reflect achievement in the domain.” (p. 93). For the RIPQ, a table of specifications was developed to correspond with the representation of both knowledge domains and performance indicators found in the VRA. Furthermore, Leedy and Ormrod stated that “In each cell of the grid, the researcher indicates the relative importance of each topic-behavior combination” (p.93). As displayed in Table 3.1, the RIPQ was developed using a table of specifications with the expectation to include equal representation in each area. This resulted in three items for each of the thirteen performance indicators found in the VRA Blueprint that reflected the knowledge represented from each of these performance indicators (NES, 2005). The content of the RIPQ then representationally reflects with equal proportions the content found in the VRA thereby accurately representing the knowledge teachers would know concerning reading instruction (See Appendix B).

An additional measure using an expert panel was used to validate the RIPQ. Again according to Leedy and Ormrod, validity of a measure can be improved by a panel of experts. They stated, “Several experts in a particular area are asked to scrutinize an instrument to ascertain its validity for measuring the characteristic in question.” (p. 93). Therefore, the next step in the validation process was the formation of a subject matter expert panel to review the content of the RIPQ. The procedure establishing the expert panel was to contact professors from the university where this study was conducted by letter to request that they serve as an expert on a committee to review the content of a measure being developed for a study (See Appendix C). Professors who currently teach or had recently taught the two courses that comprise the two required reading courses that

*Table 3.1**Table of Specifications for the Reading Instruction Preparation Questionnaire*

Item	Virginia Reading Assessment Objectives
1, 2, 3, 40	VRA Domain I 0001: Diagnostic Screening & Assessment
4, 5, 6, 40	VRA Domain I 0002: Using Informal Reading Assessments
7, 8, 9, 40	VRA Domain II 0003: Oral Language
10, 11, 12, 40	VRA Domain II 0004: Phonological Awareness
13, 14, 15, 40	VRA Domain III 0005: Concepts Of Print
16, 17, 18, 40	VRA Domain III 0006: Systematic Phonics Instruction
19, 20, 21, 40	VRA Domain III 0007: Word Analysis/Vocabulary Development
22, 23, 24, 40	VRA Domain III 0008: Fluency And Reading Comprehension
25, 26, 27, 40	VRA Domain III: 0009: Comprehension Strategies For Fiction
28, 29, 30, 40	VRA Domain III: 0010: Comprehension Strategies For Nonfiction
31, 32, 33, 40	VRA Domain IV: 0011: Writing Skills
34, 35, 36, 40	VRA Domain IV: 0012: Spelling & Writing Convention
37, 38, 39, 40	VRA Domain IV: 0013: Inquiry and Research

constitute the reading instructional preparation were contacted. The five professors who agreed to participate in this expert panel participated in a short survey to evaluate the appropriateness of each item found in the RIPQ. Appendix D contains the survey questions posed to the panel members regarding the content of the measure. The survey asked:

1. Are the directions written in a clear and concise manner?

2. Do the items adequately and accurately address the content associated with reading instructional knowledge?
3. Are there any topics associated with reading instruction that should have been included that were not present in the survey?
4. Is each item written clearly?
5. Is the overall appearance of the survey professional?
6. Are there any items that should be improved?
7. Do you have any other suggestions for improvement of this survey?

Responses from the expert panel were used to revise items and to identify content to improve the measure. The following suggestions were incorporated in the revised questionnaire:

1. Change wording of item 3 to reduce redundancy of word usage to increase clarity.
2. Item 5 would be improved by deleting “basic phonetic principle” and leave “concepts of print.”
3. Delete “and” statements to increase clarity.
4. Include topics on diversity and diverse learners and technology.
5. Format questions with additional space in comment section.

All suggestions were incorporated into the revised measure with the exception of one item. Four of the five members questioned the inclusion of items related to writing instruction in the RIPQ. One panel member stated that topics related to spelling and writing conventions are not covered in the two reading courses addressed in this study. Another stated that the wording should include specificity to include the term “content” writing. However, to maintain the alignment and focus found in the

table of specifications for the RIPQ that includes writing content in the same proportion as is found in the VRA Blueprint, these items were not revised or eliminated. A subset of the panel was used to review the revised questionnaire.

While a pilot administration was not deemed advisable due to concerns for contaminating the sample, the revised measure was vetted with a volunteer special education teacher. The following questions were discussed:

1. Are the directions written in a clear and concise manner? Is the wording of the questionnaire clear?
2. Is the introduction to the questionnaire clear? Is it likely to result in participants agreeing to complete the interview? Is the introduction well worded?
3. Was the purpose of the questionnaire apparent? Did the questions make sense?
4. How long did the questionnaire take to complete? Did that seem like a reasonable amount of time to ask someone to answer questions in a questionnaire?
5. Were any questions difficult to understand?
6. Are there any items that should be improved?
7. Is the questionnaire too long?
8. Do you have any other suggestions for improvement of this questionnaire?

With this assistance, it was confirmed that items were understandable and required no additional revisions. Therefore, the questionnaire was validated with the use of the table of specification, the expert panel, and field testing of the measure. The validated RIPQ was then resubmitted to the IRB for approval for use in this

study. The Reading Instruction Preparation Questionnaire Introduction can be found in Appendix F and the revised IRB approved RIPQ can be found in Appendix A. The result of this process was a quantitative instrument containing forty questions.

Reliability of an instrument is defined by Leedy and Ormrod (2005) as “the extent to which it [the instrument] yields consistent results when the characteristic being measured hasn’t changed” (p.93). The preferred for determining internal consistency would have been to calculate a Cronbach’s Alpha statistic prior to publishing the survey. However, according to Teijlingen and Hundley (2001) some problems can result from the use of pilot studies when there is a threat of sample contamination. They discuss problems that result from contamination of a sample that has been introduced to the study during the pilot stage who subsequently are also included in the main study. They stated:

The concern about including participants from the pilot study in the main study arises because only those involved in the pilot, and not the whole group will have had the experience. In some cases, however it is simply not possible to exclude these pilot-study participants because to do so would result in too small a sample in the main study (Teijlingen and Hundley, 2001, p.2).

Therefore, given that the total size for the potential sample for the RIPQ included only one hundred forty-one individuals and with the likelihood of poor response rates for the measure having a substantial probability, it was decided by the researcher to develop a reliability statistics immediately after publishing the RIPQ. The Cronbach’s Alpha reliability statistics was utilized in the manner described by Viswanathan (2005) to be conducted “immediately following data collection” during the actual study to “facilitate the interpretation of findings ” (p.296). This method calculated the

construct evaluated by the RIPQ based on the performance objectives for reading instruction on which it was based. Using the statistical program IBM SPSS version 20, the Cronbach Alpha statistic for the RIPQ including all 39 questionnaire items was calculated to be .957 demonstrating that the measure as a whole has high internal reliability. This suggests that the measure as a whole can reliably describe special education teachers' beliefs concerning their preparation.

Reading Instruction Preparation Interview (RIPI)

The Reading Instruction Preparation Interview protocol was developed by this researcher to explain the outcomes suggested by the quantitative measures. It was specifically developed to explain results found in VRA scores of prospective special education teachers, beliefs expressed by participants in the questionnaire, and relationships between those who performed high and low on knowledge indicators of reading instructional knowledge. As previously stated, "the explanatory design is well suited when the researcher needs qualitative data to explain quantitative significant (or nonsignificant) results, positive-performing exemplars, outlier results, or surprising results" (Creswell & Plano Clark, 2010, p.82). Thus the protocol was developed to include interview questions that illuminated information found in quantitative results.

The RIPI included sixteen open ended questions. The first two questions, questions one and two, asked participants about their background in special education and experience with the VRA. The second section, questions number three and four, asked about the topics included in the courses taken to prepare for reading instruction. The last section asked specific questions about the value of required reading courses

to provide knowledge and skills necessary for reading instruction. The interview questions can be found in Appendix G.

Credibility of the Reading Instruction Preparation Interview (RIPI)

The interview protocol was developed with the goal of determining special education teachers' beliefs concerning the preparation they received to teach reading. The procedure for establishing the draft protocol began by first establishing the content validity through the use of a table of specification which can be found in Table 3.2.

The purpose of this table was to assure that each question found in the Reading Instruction Preparation Interview (RIPI) could be justified by the research questions and the domains of knowledge associated with reading instruction as described by the National Reading Panel (2000) and the knowledge of reading identified in the Blueprint of the Virginia Reading Assessment. The interview protocol does accurately represent the content of the VRA. Draft questions were then piloted with a small-scale study with five early career special education teachers who were working as conditionally licensed special education teachers. This pilot administration assisted with determining the clarity of questions, the usefulness of questions to elicit information, and the need for rewording of questions. This revised protocol was then submitted to an expert panel comprised of five professors who currently or had recently taught the two reading courses to review the content and format of the RIPI. The panel responded to the same questions that can be found in Appendix I.

The purpose of this table was to assure that each question found in the Reading Instruction Preparation Interview (RIPI) could be justified by the research questions and the domains of knowledge associated with reading instruction as described by the

National Reading Panel (2000) and the knowledge of reading identified in the Blueprint of the Virginia Reading Assessment. As seen in the table of specifications in Appendix H, the interview protocol does accurately represent the content of the VRA. Draft

Table 3.2

Table of Specifications for the Reading Instruction Preparation Interview

Item	Virginia Reading Assessment Objectives
1, 2	Background: SPED preparation, teaching & VRA experiences
3	Important reading topics in reading courses
4, 12, 13 14, 15, 16	Value of reading courses
5	VRA Domain I 0001: Diagnostic Screening & Assessment
5	VRA Domain I 0002: Using Informal Reading Assessments
6	VRA Domain II 0003: Oral Language
6	VRA Domain II 0004: Phonological Awareness
7	VRA Domain III 0005: Concepts Of Print
7	VRA Domain III 0006: Systematic Phonics Instruction
8	VRA Domain III 0008: Fluency And Reading Comprehension
9	VRA Domain III 0007: Word Analysis/Vocabulary Development
10	VRA Domain III: 0009: Comprehension Strategies For Fiction
10	VRA Domain III: 0010: Comprehension Strategies For Nonfiction
11	VRA Domain IV: 0011: Writing Skills
11	VRA Domain IV: 0012: Spelling & Writing Convention
11	VRA Domain IV: 0013: Inquiry and Research

questions were then piloted with a small-scale study with five early career special education teachers who were working as conditionally licensed special education teachers. This pilot administration assisted with determining the clarity of questions, the usefulness of questions to elicit information, and the need for rewording of questions. This revised protocol was then submitted to an expert panel comprised of five professors who currently or had recently taught the two reading courses to review the content and format of the RIPI. The panel responded to the same questions found in Appendix I.

This expert panel evaluated the appropriateness of each question found in the RIPI and offered editing suggestions to enhance clarity. Again the inclusion of topics on diversity, diverse learners, and technology were suggested for inclusion. These modifications were made to the final interview protocol draft. A subset of the panel was then used to review the revised questionnaire.

Data Collection Procedures

Data collection followed the approval of the Institutional Review Board (Reference # 11-094). Records related to special education and elementary education teacher scores on the VRA, information on course completion and grades, and information necessary to contact special educators to request participation in questionnaires and individual interviews were obtained from teacher education services at the university where the study was conducted. All related data and information was reformatted to protect the privacy and confidentiality of the records of participants. A total of 141 special education and 143 elementary education prospective teachers met the criteria for inclusion in the descriptive data. After the

sample was developed, achievement scores on the Virginia Reading Assessment (VRA) grades were cleaned of personal identifiers.

Next, the sample of prospective special education teachers was contacted by email through the use of a survey development company called Survey Monkey. The email correspondence included a description of the study, informed consent and ethical consideration, an Amazon.com gift card incentive, and a request that they participate in the RIPQ. After two weeks, those who had not responded to the questionnaire were sent a gentle reminder. Email responders resulted in a total of ten participants from a group that included 141 potential responders. After the second reminder email request, potential questionnaire participants were contacted with the last known United States postal service address to request their participation. This resulted in an additional eighteen participants for a total of 28 responses to the RIPQ.

Finally, the names and contact information of ten individuals from two groups resulting in a total of twenty possible interviewees were selected according to criteria that identified each group as either high or low on knowledge of reading instruction as indicated by performance on the VRA. Using the most recent phone number available for the individual, this researcher contacted the current or prospective special education teachers requesting their participation in this study. When the potential interviewee agreed to participate in the interview, the individual was then thoroughly informed both verbally and in writing of their rights and protections as a participant in a study. Prior to the beginning of the interview, informed consent was obtained. Appendix J demonstrates the form that participants were asked to sign prior to participation in the study interview. The agreement by the participant to participate in the interview resulted in the assignment of a pseudonym and then purging of data

during transcription of personal data, statements, or identifiers that could be associated with the individual or that could deductively identify interview participants. Individual interview locations were set at up with each person based on the convenience of the interviewee. This usually resulted in an interview location where the teacher was working or a university setting. However, one interview occurred at a coffee shop and one occurred at a library per the request of these individuals. All individuals were provided information related to informed consent to participate and were requested permission to audio tape prior to beginning the interviews. Table 3.3 below summarizes each of the described data sources.

Summary

Chapter three discussed the design and methodology used in this mixed method study to examine the knowledge that special education teachers acquire in the two required reading course taken during their reading preparation. This section discussed the development of multiple samples, data collection procedures, instrumentation, and analytic procedures to evaluate outcomes. The procedures for establishing validity and reliability of the quantitative measures and the credibility of the qualitative measure were also discussed.

Table 3.3

Data Collection Plan matrix with research questions

Research Question	Sample	VRA	Course	RIPQ	RIPI
1. What knowledge do special education teachers have related to reading instruction?	n= 141	X			
2. What are special education teachers' perceptions regarding their course preparation to teach reading?	n= 28			X	
3. Does taking an additional reading course during teacher preparation result in differences in prospective teacher knowledge of reading instruction?	n=141 SPED n=143 ELED	X	X		
4. Do special educators differ on their beliefs concerning their preparation to teach reading depending on their knowledge and beliefs concerning reading instruction?	n= 5 high n= 5 low				X

CHAPTER FOUR

RESULTS

Introduction

This study identified the knowledge prospective special education teachers demonstrated in the domains of reading instruction, their beliefs concerning their preparation, and the role of courses related to reading instruction in order to determine the effect of the reading courses on special education teachers' knowledge and their beliefs concerning their preparation to teach reading. The results are reported in relation to the individual research questions they address. This chapter first describes the quantitative measures conducted in phase one.

Phase One: Quantitative Findings

This section will first address the outcomes for the quantitative measures. Therefore, it will begin by reporting the knowledge of reading instruction that prospective special education teachers acquire in reading preparation as indicated by performance scores on the Virginia Reading Assessment, the assessment used as the knowledge of reading measure for this study. Means, standard deviations, frequencies, and percentages for categories of reading domain knowledge are reported based on the performance demonstrated by prospective special education teachers on the VRA. Next, reading courses were examined to determine their role on four knowledge domains of reading instruction. For this, t-tests were employed to examine potential differences between VRA scores of elementary and special education teachers. The final quantitative measure describes teachers' beliefs on the value of reading courses taken during preparation for reading instruction. Frequency and percentages of responses are reported based on Likert scale response options

from strongly disagree to strongly agree for items on the RIPQ questionnaire. Comments and suggestions offered by respondents to the questionnaire are also reported.

Research Question One: Knowledge of Reading Instruction

The first research question was: What knowledge do prospective special education teachers have related to reading instruction? The Virginia Reading Assessment for Elementary and Special Education Teachers (VRA) was chosen to examine the knowledge of reading instruction that teachers acquire in their reading instruction courses. Scores were obtained from individuals who were participating in university special education teacher preparation programs in cohorts between the dates of 2004 and 2011, had completed the two university required reading courses, and had taken the (VRA) between the dates of July 2006, when cut scores were enforced for passing the assessment, and November 2010. The sample that met this criteria included one hundred forty-one (n=141) prospective special education teachers. Knowledge of reading for this sample included determining the reading related learning outcomes based on the overall VRA score and in each of the knowledge domains of reading instructional knowledge assessed by the VRA.

VRA Scores

The overall score on the VRA was used to determine the level of knowledge related to reading instruction exhibited by the individual. Eighty percent of the total score on the VRA is determined by performance on multiple choice items while the remaining twenty percent consists of performance on constructed response items. Table 4.1 presents the means, standard deviations, and ranges for the overall VRA

scores and for each knowledge domain as seen in multiple choice and constructed responses. The overall mean score on the VRA was 252.75 (SD =21.43) where the cut score for passing was 235. Both the mean and the mode were 255 indicating a slightly negatively skewed normal curve with less negative scores than occur in a normal distribution. Similarly, scores ranged in this sample from a low score of 192, where the lowest possible score was 100, to a high score of 296, where the highest possible score was 300.

Table 4.1

VRA Results for Prospective Special Education Teachers

Item	Mean	SD	Range
Overall VRA Score	252.74	20.43	100-300
MC: Diagnostic Assessment	3.34	0.73	1-4
CR: Diagnostic Assessment	2.81	0.99	1-4
MC: Oral Language	3.16	0.73	1-4
CR: Oral Language	2.40	1.14	1-4
MC: Reading Development	3.38	0.67	1-4
CR: Reading Development	2.72	1.05	1-4
MC: Spelling and Writing	3.43	0.71	1-4
CR: Spelling and Writing	2.62	1.18	1-4

Table 4.1 further displays the performance outcomes on both multiple choice and constructed response items for each of the four knowledge domains to include domain one, diagnostic assessment; domain two, oral language; domain three, reading

development; and domain four, spelling and writing. The VRA also reported an overall score for each domain using a range from one to four where a score of one point indicated “no understanding”; two points indicated “limited understanding”; three points indicated a “general understanding” of the category; and an award of four points indicated a “thorough understanding” of the domain being assessed (NES, 2007, p.7). The highest mean score on multiple choice items of 3.43 was observed for the writing and spelling domain and the highest mean score on the constructed response items of 2.81 was observed for the domain of diagnostic assessments. The lowest mean scores for both multiple choice and constructed response were observed in the domain of oral language with a score of 3.16 for the multiple choice and 2.40 for the constructed responses.

Multiple Choice/Constructed Responses

Table 4.2 demonstrates the percentage of prospective special education teachers who demonstrated by responses to multiple choice and constructed response items either “no knowledge”, “limited knowledge”, “general knowledge” or “thorough knowledge” in each of the four knowledge domains. Responses to multiple choice items demonstrated that 91% demonstrated either “general knowledge” or “thorough knowledge” in the domains of reading development and spelling/writing. Additionally, 53% of constructed responses demonstrated either “no knowledge” (29%) or “limited knowledge” (23%) in the area of oral language.

Table 4.2

Summary of VRA Multiple Choice and Constructed Responses

	Domain I: Assessment		Domain II: Oral Language		Domain III: Reading Dev.		Domain IV: Spell/Write	
	MC%	CR%	MC%	CR%	MC%	CR%	MC%	CR%
No Knowledge	2	12	4	29	1	18	2	26
Limited Knowledge	9	24	9	23	9	21	6	16
General Knowledge	41	35	55	26	43	34	38	28
Thorough Knowledge	48	29	33	22	48	28	53	30

Summary of Knowledge of Reading Instruction

Prospective special education teachers demonstrated specific knowledge related to reading instruction as measured by the VRA. With the use of the VRA, it was determined that prospective special education teachers performed well above the minimum cut score of 235 for passing with a mean score of 252.75 (SD =21.43). Differences were observed between the four knowledge domains of reading knowledge and between performances on multiple choice and constructed responses. Based on multiple choice response, the vast majority of teachers demonstrated either general or thorough knowledge in all areas of reading instruction with the highest knowledge of reading observed in the knowledge of reading development and spelling and writing. However, there were deficiencies in reading knowledge observed in constructed responses especially in the domain of oral language where 53% of responses demonstrate either limited or no knowledge in that area of

instruction. These results then would tend to indicate that these prospective teachers are largely knowledgeable about reading development and spelling and writing and weakest in the area of oral language.

Research Question Two: Perceptions of Reading Instruction Preparation

The second research question asked: What are prospective special education teachers' perceptions regarding their course preparation to teach reading? To address this question The Reading Instruction Preparation Survey (RIPQ) was developed to identify the perceptions of prospective special education teachers concerning their preparation to teach reading. Participants responded to thirty-nine statements using a five point Likert scale with responses for strongly disagree to strongly agree options. Included were three items for each of the thirteen performance indicators found in the VRA with an additional question that employed an open ended format to allow participants to make suggestions to improve the reading preparation special education teachers receive in their reading courses.

Results from the Reading Instruction Preparation Questionnaire

Diagnostic Assessments

The domain of diagnostic assessment consisted of two performance objectives each with three items for a total of six items. The first performance objective addressed diagnostic screening and assessment and the second addressed using informal reading assessments. Perceptions of teachers in this domain principally reflected a belief that reading courses had prepared them well. Exceptions were observed in two of six items related to using informal assessments. As displayed in Table 4.3, on item four, only 50% agreed or strongly agreed that they were prepared on how to use assessment results to differentiate reading instruction; and on item six,

only 39% of respondents either agreed or strongly agreed that they were prepared to create flexible groupings of students for reading instruction.

Table 4.3

Beliefs for Preparation Related to Diagnostic Assessments

Item	Objectives 1: Diagnostic screening and assessment	SD	D	N	A	SA
1	The reading courses taken during my preparation to teach taught me about formal assessments such as norm and criterion referenced assessments.	0.0	7.1	14.3	50.0	28.6
2	The reading courses taken during my preparation to teach taught me about informal assessments to include informal reading inventories, teacher observations, literacy screenings, and diagnostic assessments.	0.0	3.6	14.3	50.0	32.1
3	The reading courses taken during my preparation taught me how to use formal and informal assessments to monitor ongoing reading progress.	0.0	17.9	10.7	53.6	17.9
Objective 2: Using informal reading assessments						
4	The reading courses taken during my preparation to teach taught me how to use assessment results to differentiate reading instruction.	0.0	25.0	25.0	32.1	17.9
5	The reading courses taken during my preparation to teach taught me how to use assessment data to plan reading instruction to assist struggling readers.	3.6	17.9	25.0	39.3	14.3
6	The reading courses taken during my preparation to teach taught me how to use assessment data to create flexible groupings of students.	3.6	28.6	28.6	25.0	14.3

Oral Language

The second knowledge domain, oral language and phonological awareness, also consisted of two performance objectives each with three items for a total of six items.

These two performance objectives were comprised of knowledge of oral language in reading development and knowledge related to developing phonological awareness in students. As displayed in Table 4.4, teachers in this sample, as demonstrated on item seven, expressed reduced amounts of positive belief concerning their preparation to assist English language learners acquire Standard American English and, as observed on item eight, to assist with the needs of students with language delays.

Table 4.4

Beliefs for Preparation Related to Oral Language and Phonological Awareness

Item	Objective 3: Oral language	SD	D	N	A	SA
7	The reading courses taken during my preparation to teach taught how to assist English language learners acquire Standard American English.	21.4	17.9	28.6	25.0	7.1
8	The reading courses taken during my preparation to teach demonstrated how to address the needs of students with language delays and disorders.	3.7	29.6	18.5	37.0	11.1
9	The reading courses taken during my preparation to teach provided me knowledge of how to create a learning environment that honors linguistic and cultural diversity.	0.0	14.3	21.4	57.1	7.1
Performance Objective 4 Phonological awareness						
10	The reading courses taken during my preparation to teach taught me effective instructional strategies and skills to promote students' phonological awareness.	0.0	11.1	7.4	70.4	11.1
11	The reading courses taken during my preparation to teach taught me to identify effective instructional strategies for promoting students phonemic awareness.	0.0	7.1	10.7	64.3	17.9
12	The reading courses taken during my preparation to teach taught me instructional strategies to help students hear, say, and manipulate phonemes in spoken words containing one or more syllables.	3.6	10.7	10.7	57.1	17.9

Reading Development

The third knowledge domain, reading development, consisted of six performance objectives each with three items for a total of eighteen items. These performance objectives considered teachers' beliefs concerning their preparation related to knowledge of concepts of print, systematic phonics instruction, word analysis and vocabulary, fluency and comprehension, comprehension strategies for fiction, and nonfiction comprehension strategies. As displayed in Table 4.5, teachers overwhelmingly expressed that they either agreed or strongly agreed that they were prepared in each of these areas with the exception of items found in performance objective nine where responses indicated that teachers did not feel well prepared to choose appropriately leveled poetry and fiction selections, recognize story elements, or teach about various literary genres.

Table 4.5

Beliefs for Preparation Related to Reading Development

Item	Objective 5: Concepts of print	SD	D	N	A	SA
13	The reading courses taken during my preparation to teach taught me how to promote an understanding in my students of concepts of print.	0.0	3.6	10.7	57.1	28.6
14	The reading courses taken during my preparation taught me ways to help students recognize and name uppercase and lowercase letters and to encourage students' automatic recognition of common sight words.	0.0	21.4	21.4	35.7	21.4

Continued on Next Page

		SD	D	N	A	SA
15	The reading courses taken taught me how to teach the concept that sounds are represented by letters, how to identify the beginning sounds of consonants, and how to identify vowel sounds in one syllable words.	0.0	10.7	21.3	50.0	17.9
Objective 6: Systematic phonics instruction						
16	The reading courses taken during my preparation to teach taught me to teach reading using a scope and sequence that begins with strategies to help beginning readers to blend consonant and vowel sounds to decode single syllable words.	7.4	14.8	3.7	66.7	7.4
17	The reading courses taken during my preparation to teach taught me to teach beginning readers to use knowledge of word families with single-syllable words to help decode unfamiliar words containing these patterns.	0.0	18.5	14.8	51.9	14.8
18	The reading courses taken during my preparation to teach taught me explicit strategies for teaching students how to decode words that have consonant blends or digraphs, various vowel digraphs or r-controlled vowels, and words with many syllables.	7.4	11.1	18.5	48.1	14.8
Objective 7: Word analysis and vocabulary development						
19	The reading courses taken during my preparation to teach taught me how to use word-analysis for vocabulary development.	7.4	18.5	14.8	40.7	18.5
20	The reading courses taken during my preparation taught me to help students use context clues in a sentence to determine the meaning of text.	0.0	11.1	11.1	40.7	37.0
21	The reading courses taken during my preparation provided me with instructional strategies to improve my students' understanding and comprehension of vocabulary through word analysis and dictionary skills	3.7	14.8	11.1	51.9	18.5
Objective 8: Fluency Instruction and comprehension						
22	The reading courses taken during my preparation to teach taught me the value of increasing the reading fluency of students and methods to increase the reading fluency of students.	3.7	14.8	7.4	40.7	33.3

Continued on Next Page

		SD	D	N	A	SA
23	The reading courses taken during my preparation to teach taught me how to teach students to comprehend text using literal, inferential, and evaluative comprehension skills and to use comprehension strategies before, during, and after reading.	3.8	11.5	0.0	61.5	23.1
24	The reading courses taken during my preparation provided an understanding of the important role of culture, the family, the community, and independent reading on reading development	0.0	19.5	11.5	46.2	23.1
Objective 9: Comprehension strategies for fiction						
25	The reading courses taken during my preparation to teach provided me with knowledge on how to choose appropriately leveled poetry and fiction selections that increase student comprehension and enjoyment of independent reading.	3.8	23.1	23.1	46.2	3.8
26	The reading courses taken during my preparation to teach taught me how to recognize story elements to strengthen students' comprehension and their skills to respond and analyze literature.	3.8	30.8	19.2	42.3	3.8
27	The reading courses taken during my preparation to teach taught me how to teach students about various literary genres and the differences between them.	3.8	26.9	26.9	42.3	0.0
Objective 10: Comprehension strategies for nonfiction						
28	The reading courses taken during my preparation to teach provided me with the knowledge of how to teach the use of reading comprehension strategies and instructional strategies with nonfiction materials.	3.8	7.7	30.8	46.2	11.5
29	The reading courses taken during my preparation to teach helped me to promote students' comprehension by helping the identify text structure and organization on nonfiction text and materials.	0.0	30.8	11.5	46.2	11.5
30	The reading courses taken during my preparation to teach provided the knowledge I need to assist students with developing skills related to locating evidence to support opinions, predictions, and conclusions.	0.0	32.0	16.0	44.0	8.0

Writing and Spelling

The fourth knowledge domain, writing and spelling, consisted of three performance objectives each with three items for a total of nine items. These performance objectives assessed teachers' beliefs concerning their preparation related to teaching writing skills, spelling and writing conventions, and writing for inquiry and research. As displayed in Table 4.6, six of these nine items reflected concerns of teachers around preparation in this area. Three items demonstrated that less than 50% of teachers either strongly agreed or agreed their preparation included knowledge that writing has both developmental and recursive stages, ways to promote students' skills in using technology and media resources, and instructional strategies that help students develop writing skills related to mechanics, punctuation, and other writing conventions. Additional items reflecting teacher beliefs concerning their preparation were found on three items in which more than 30% of teachers indicated that they either strongly disagreed or disagreed that their preparation included knowledge of teaching spelling patterns with a systematic/explicit sequence of instruction, the connection between developmental writing and spelling stages, and text features such as tables of contents and indices. Moreover, of the six identified instructional concerns, five occurred in two of the performance objectives found in the domain of writing and spelling. Three of the six are in performance objective twelve that considered teachers' beliefs concerning their preparation related to writing and spelling conventions. The second performance objective represented by two of the items occurred in objective thirteen that related to inquiry and research.

Table 4.6

Beliefs for Preparation Related to Spelling and Writing

Items	Objective 11: Writing skills	SD	D	N	A	SA
31	The reading courses taken during my preparation to teach taught me to teach that writing has both developmental and recursive stages.	11.5	19.2	23.1	38.5	7.7
32	The reading courses taken during my preparation to teach taught me to teach writing with the use of instructional strategies that engage students in writing for a variety of purposes and to promote comprehension.	0.0	15.4	15.4	53.8	15.4
33	The reading courses taken during my preparation to teach taught me how to teach writing for a variety of purposes and to use teacher conferences to help students develop proficiency in techniques such as choosing vocabulary, varying sentences and using transitions.	3.8	19.2	26.9	34.6	15.4
Objective 12: Spelling and writing conventions						
34	The reading courses taken during my preparation to teach reflected the connection between developmental writing and spelling stages.	3.8	26.9	11.5	50	7.7
35	The reading courses taken during my preparation taught me to teach spelling patterns using a systematic and explicit sequence of instruction.	0.0	34.6	11.5	42.3	11.5
36	The reading courses taken during my preparation taught me instructional strategies that help students develop writing skills related to mechanics, punctuation, and other writing conventions.	0.0	26.9	34.6	34.6	3.8
Objective 13: Inquiry and research						
37	The reading courses taken during my preparation taught me effective reading and writing techniques to help students locate, organize, evaluate, and synthesize information from a variety of print and electronic sources.	3.8	19.2	26.9	42.3	7.7
38	The reading courses taken during my preparation to teach taught me strategies for helping students to recognize text features such as tables of contents, indices, and how to use dictionaries and other reference materials.	0.0	30.8	15.4	46.2	7.7
39	The reading courses taken during my preparation to teach taught me ways to promote students' skills in using technology and media resources.	3.8	38.5	15.4	34.6	7.7

Qualitative Comments to the RIPQ

The final question, number forty, on the RIPQ asked: What suggestion do you have for improving the reading preparation special education teachers receive in their reading courses? Of the twenty-eight participants, nineteen offered suggestions. While the tone of suggestions for improvement was positive, the suggestions for improvement settled in three major areas of possible reading preparation activities. Twenty-five percent of the participants (n=7) suggested that reading preparation include more specific strategies, be more hands on, explicit or interactive. One representative comment stated:

“I believe it would be helpful if student teachers could prepare a portfolio that includes the methods, strategies and assessments which that teacher used to instruct at least two different students. The students should have different abilities and needs so that the teacher would have to design different instruction for each student. The teacher should be able to keep this portfolio after it has been graded and perfected. After the stress of completing state testing and job-hunting, the new teacher would have the portfolio as a "one stop" reference tool in his or her classroom.”

Twenty-one percent of participants (n=6) suggested that the reading preparation should result in a highly qualified status for the teacher, include additional reading courses, a reading practicum, or volunteer hours with low functioning readers. One teacher described her situation in the following manner:

“I started my career in SPED at a secondary school and felt that I had a pretty good handle on helping students increase their comprehension, improve their writing skills, and increase their vocabularies. Once I moved into an

elementary position, however, I felt completely unprepared to teach students how to read that didn't have basic reading skills already established. I understand the pedagogy. I know what is developmentally appropriate. My problem was that I didn't know what teaching reading actually looked like in practice. I would suggest practicum component to the reading classes, and possibly required volunteer hours working with low functioning readers.”

Other represented opinions suggested a focus on older and high school reading instruction (n=3, 11%), a greater focus on elementary reading instruction (n=2, 7%), and a special education versus regular education focus (n=2, 7%). All of the suggestions offered by questionnaire participants for improvement can be found in Appendix K.

Summary of Results from the Reading Instruction Preparation Questionnaire

Beliefs of special education teachers concerning their preparation to teach reading were examined using the Reading Instruction Preparation Questionnaire; a researcher designed questionnaire. Thirteen performance objectives representing knowledge of reading instruction in four domains found that teachers largely believed that they are well prepared by their reading courses to teach reading. Additionally, items found in the domain of reading development suggested the strongest beliefs that preparation adequately addressed those components of instructional knowledge. However, exceptions to an overall positive sentiment are found predominately in five specific performance objectives. Responses observed in performance objective two, three, nine, twelve, and thirteen indicated areas in which teachers expressed that their preparation was not adequately addressed in their reading course. Identified in these objectives is knowledge to differentiate reading instruction, create flexible reading

groups, assist with English language learners and students with communication disorders and delays, teaching comprehension strategies for fiction, spelling and writing conventions, and using writing for inquiry and research. Qualitative comments suggested a more active pedagogy for preparing teachers to teach reading by including additional practicums, volunteer opportunities, and hands on and interactive activities. Teachers also suggested additional reading courses and a more special education focused preparation. A summary of the responses for each of the thirty-nine items can be found in Appendix K.

Research Question Three: Courses and Reading Instructional Knowledge

The third research question asked: Does taking an additional reading course during teacher preparation result in differences in prospective teacher knowledge of reading instruction? To address this question, prospective special education teachers were compared with a comparable cohort of elementary teachers on their performances on the VRA. The difference in reading instruction preparation between these two cohorts consisted of one language arts methods course taken by those pursuing the elementary teacher preparation path. Independent samples t tests were utilized to compare these two groups on their knowledge of reading instruction based on their performances on the Virginia Reading Assessment to include the overall score on the VRA and performances in four knowledge domains for multiple choice and constructed response items. As such, nine independent samples t tests were conducted to examine the hypothesis that there is no significant difference between the reading instructional knowledge of prospective special and elementary education teachers as observed in their performances on the VRA related to overall score and multiple choice and constructed choice items for each of the nine scores reported on

the VRA. To avoid the possibility of Type 1 errors that result from inflated alpha levels that occur with multiple hypothesis testing, the Bonferroni method was utilized to adjust the alpha level. Therefore, the alpha level was set at $\alpha=.05/9=.006$. Only one of the independent samples t test approached the alpha level set for significance. This occurred in the multiple choice t tests for the domain of spelling and writing. However, the t test determined at the .006 significance level that the t test result was not significant, $t(273.59) = -2.52, p = 0.01$. As seen in Table 4.7, the role of the additional literacy related reading course was not significant for the additional language arts course completed by the prospective elementary education teachers.

Table 4.7

Summary of independent samples t tests for prospective special education and elementary teacher for each knowledge domain of reading instructional knowledge

Domains	Special Ed.	Elementary Ed.	MD	95% CI	t	df	(2tai)
VRA Score	252.74(20.5)	256.26(16.6)	-3.52	7.88 to .84	-1.59	268.83	.11
<u>Multiple Choice Responses</u>							
Diagnostic Assessment	3.34(.74)	3.44(.69)	-.10	-.27 to .07	-1.19	282	.24
Oral Language	3.16(.73)	3.23(.70)	-.07	-.24 to .10	.80	282	.43
Reading Development	3.38(.67)	3.43(.65)	-.05	-.20 to .10	-.65	282	.52
Writing & Spelling	3.43(.71)	3.62(.60)	-.20	-.35 to -.04	-2.52	273.59	.01
<u>Constructed Responses</u>							
Diagnostic Assessment	2.81(.99)	2.97(1.04)	-.16	-.40 to .07	-1.36	282	.18
Oral Language	2.40 (1.14)	2.45 (1.16)	-.05	-.32 to .22	-.37	282	.71
Reading Development	2.72(1.06)	2.84 (1.01)	-.12	-.37 to .12	-1.00	282	.32
Writing & Spelling	2.62 (1.19)	2.70 (1.10)	-0.08	-.34 to .19	-.55	282	.58

Phase Two: Qualitative Interviews

Research Question Four: Role of Knowledge on Beliefs Concerning Preparation

The fourth research question asked: Do prospective special educators differ on their beliefs concerning their preparation to teach reading depending on their knowledge of reading instruction? This question assessed prospective and current special education teachers' beliefs regarding the two reading courses taken during their preparation. Each component of reading instructional knowledge identified in the thirteen performance indicators found in the VRA Blueprint was addressed in the interview questions to determine if teachers believed their preparation prepared them to address all of the components associated with reading instruction. With the use of a semi-structured interview format, this phase evaluated the responses of two groups of test takers considered extreme cases. The two extreme cases consisted of a high knowledge group composed of prospective special education teachers who performed extremely well on the VRA and a low knowledge group, composed of prospective special education teachers who performed extremely poorly on the VRA knowledge measure of reading instructional knowledge.

Demographic information for individuals who participated in the Reading Instruction Preparation Interview (RIPI) included the overall VRA score and eight individual scores in four domains of reading instructional knowledge for both multiple choice and constructed responses. Table 4.8 exhibits VRA scores for the two groups. The mean VRA scores for the high knowledge of reading instruction group who scored extremely well on the VRA was 282.8 (SD=3) where the range of possible scores was between 100 and 300. Mean scores on multiple choice items were

4.0 in all domains except spelling which was 3.8. Mean scores on constructed responses ranged from a high of 4.0 in oral language to 3.4 for the domain of diagnostic assessments. Among those individuals in the low knowledge of reading instruction group, the mean VRA score was 218.4 (SD=5.14) where the range of possible scores was between 100 and 300. The highest mean score of 3.2 was observed in the domain of diagnostic assessment on the constructed response while the lowest mean score of 1.6 was observed for the constructed response item in the domain of oral language.

Table 4.8

VRA Scores for High and Low Knowledge Cases

Dependent Variables	High Knowledge	Low Knowledge
	Means (SD)	Means (SD)
Overall Score	282.8 (3.00)	218.4 (5.14)
Multiple Choice Assessment	4.0 (SD=.00)	2.4 (SD=.49)
Multiple Choice: Oral Language	4.0 (SD=.00)	2.8 (SD=.75)
Multiple Choice: Rdg Dev	4.0 (SD=.00)	2.8 (SD=.75)
Multiple Choice: Spell & Write	3.8 (SD=.40)	2.4 (SD=.49)
Constructed Response: Assessment	3.4 (SD=.80)	3.2 (SD=.40)
Constructed Response: Oral Language	4.0 (SD=.00)	1.6 (SD=.49)
Constructed Response Rdg Dev	3.8 (SD=.40)	2.4 (SD=.80)
Constructed Response: Spell & Write	3.5 (SD=.49)	2.8 (SD=1.47)

Qualitative Interview Results

Responses by teachers in high and low knowledge groups were compared and contrasted to determine on which issues teachers agreed and disagreed concerning their preparation to teach reading. The purpose of these interviews was to answer the question in research question four: Do prospective special educators differ on their beliefs concerning their preparation to teach reading depending on their knowledge of reading instruction?

Similarity in Background

Most of the teachers in both the low and high knowledge of reading cases (9:10) worked in the field of special education with a provisional license while completing requirements for licensure. Some individuals from the low knowledge group (n=2) and the high knowledge group (n=1) entered the field of special education through a background and preparation in the field of social work. All of the individuals included in both knowledge cases (10:10) had significant teaching experiences with teaching special education students prior to completing their licensures in special education.

In describing her experience, one teacher from the low knowledge case stated that she worked in special education “under a provisional license.” She continued by explaining:

“I was taking my classes as I was teaching. I felt that the courses paralleled to my job so whatever I was studying I was able to implement into my classroom. So I think that it made it a lot easier because I could go back and try it on my students and I think it helped that you were able to use some of your own students.”

Similarly, a response from an individual from the high knowledge case stated:

“I was a teacher’s assistant for one year one school year. And that’s where I kind of decided that I wanted to teach to get into the field and so I started taking classes with [name of university deleted] just a few at a time and I got my provisional license and I started teaching the following year while I was taking classes and I completed all of my course work through [name of university deleted] and got my teaching license.”

Agreement Concerning Reading Preparation

Reading Development

Adequate preparation in vocabulary development

Teachers in both knowledge groups responded positively concerning their preparation in the area of vocabulary development and felt adequately prepared in this area. One teacher commented that she learned about “word walls, dialog, you know, drawing a picture and writing a story and the setting.” There was one suggestion for improvement from each of the groups. The suggestion from the high knowledge group stated that preparation should include “apply and practice the strategies not just telling us ‘this is what you could do.’” Additionally, those in the low knowledge group suggested “Maybe refresher courses, workshops to keep teachers abreast.”

Adequate preparation in reading comprehension

Teachers in both the high and low knowledge of reading instruction groups (9:10) responded that their reading courses prepared them with strategies to improve students’ reading comprehension. A comment by one teacher sums up the perspective on this issue: “I believe that comprehension is addressed in all of the classes. I mean

it's in your learning disability class; it's in every class. So, to the extent that it was specific in my reading class, I think reading comprehension is probably one of the more addressed topics in your reading classes because it is so important and it can still be built on for years to come."

Adequate preparation in reading fluency

All teachers in both the high and low knowledge group answered that they were taught about fluency in their reading preparation classes. Some responses, however, offered by the low knowledge group were vague or inaccurate concerning specific strategies learned in their courses to improve reading fluency of their students. Overall, teachers offered few suggestions to improve special education teacher preparation in the area of reading fluency. One individual from the high knowledge group did recommend: "Just like with the decoding: more ideas, more ideas that would reach kids of different age groups because we're teaching for special education K-12. That's a big span." Overall, teachers felt their preparation was acceptable to meet their requirements in fluency instruction.

Inadequate Preparation in Phonics Instruction

Most teachers in the both knowledge groups indicated that their reading courses taught strategies or activities to improve decoding skills of students. Nevertheless, the majority of teachers from both knowledge groups indicated in their suggestions for ways to improve reading preparation a need for more preparation in the area of phonics/decoding instruction. Teachers from both groups mentioned a need for preparation to teach reading to older nonreaders and struggling readers, lack of activities to promote decoding skills among low functioning readers, and for

interventions with students with intellectual or multiple disabilities. Additionally, teachers expressed concerns with the procedures utilized in their preparation and suggested that preparation include more activities for intervening, more modeling, more hands on and less independent reading assignments.

One teacher from the low knowledge group explained her opinion of her phonics preparation experience by stating that “They [reading preparation courses] really didn’t offer that [referring to phonics instruction]. They just say, ‘This is how you teach the kids to read’, but the actual phonetics, how to combine sounds to help the students work with phonics was not included. A teacher from the high knowledge case corroborated that view with her comment. She stated ”Instead of focusing on: this is how to teach onset, decoding, and rime, they focused on what it was and what the importance was, but the actual teaching aspect of it was secondary to what it was.”

Lastly, one teacher stated: “So what I ‘m saying is that when it came to specific topics, there was a focus on what the definition and the rules of language acquisition is, what the rime is, what the code is, what these different areas of language acquisition are but then little connection to how to actually teach it. ”

Oral Language

Adequate Preparation Relevant to Diverse Learners

Overall, teachers in both groups indicated that they were prepared to instruct diverse learners. There were two exceptions to this overall agreement. One teacher in the high knowledge group believed her preparation was focused mostly on instruction for students with a learning disability as contrasted to students with other disabilities

such intellectual disability while one individual from the low knowledge group indicated she felt unprepared to deal with English language learners.

University reading courses

Special education teachers in both groups felt that the two reading courses were beneficial. When specifying examples of benefits they experienced in the reading courses, teachers in both groups most often mentioned strategies that they would have learned in the content reading course rather than the language acquisition course. The topic that special education teachers in the high knowledge case most often identified as the topic missing from their reading instructional preparation was how to teach beginning developmental reading to emergent and struggling readers in a systematic and explicit manner. The pattern of responses among the low knowledge group of teachers expressed a similar view that the preparation did not adequately prepare them to teach reading. One teachers' comment on her reading preparation summed up the sentiment of both groups of teachers. She responded with a question when asked about her reading instruction preparation: "To all students? It probably taught me better to teach reading to general ed more so than it did special ed."

Perceived Value of Reading Courses

Neither group of teachers had any difficulty identifying significant worth of the reading courses taken during their preparation. Teachers in the low knowledge of reading group responded to this question by naming activities or skills to which they were exposed. Responses to this query included learning about magic squares, scavenger hunts, adapting books for all grade levels, and modifying reading materials.

Teachers from the high knowledge also indicated that they benefited from both classes. One teacher summed up the general consensus. She stated: "I enjoyed both

classes. There was a lot I got out of both classes. I think the language acquisitions class gave me a real good over view of a lot of different things like an understanding of how to do running records, exposure to basic principles. That class prepared me for the VRA more than the other class. The other class gave me exposure to a lot of ideas of things I could implement.”

Topics necessary for improved reading instruction preparation

Both knowledge groups indicated that preparation was not comprehensive enough to actually differentiate the instruction necessary to address the reading characteristics of their students. Both suggested that special education teachers require reading instructional preparation that recognizes the needs of lower functioning students who may have communication deficits or may need emergent level reading instruction. Additional concerns addressed the individual needs of special education students in inclusion classrooms that work from general education pacing guides and the need for reading preparation that focuses on adolescents who have reading achievement deficits.

Greatest Weakness in Reading Courses

Assortments of views concerning reading preparation were expressed as teachers identified the greatest weakness they perceived in their reading courses. Comments of teachers in the high knowledge group identified problems in the following areas of preparation:

1. Preparation to address requirements found in inclusion classes to maintain students with a learning disability on a pacing guide that does not honor the student’s current level of performance.

2. Flexibility in inclusion settings to adapt instruction or increase instructional time for students who receive special education services.
3. Preparation to address how to teach reading to secondary students who have a learning disability.
4. Instruction on differentiating reading instruction based on reading levels and learning characteristics of students.
5. Preparation on determining the instructional reading level of students in order to know where to begin reading with various students.
6. Instructional focus for special education versus general education.

Mixed Views Concerning Reading Preparation

Spelling and Writing

Opinions related to preparation to instruct in the knowledge domain of spelling and writing were mixed in both high and low knowledge of reading groups. In the high knowledge case, one teacher indicated that she was well prepared; two indicated they were not, and one stated, "I think so." Views were also mixed in the low knowledge group in the area of preparation to teach spelling and writing. Three said there was no preparation on strategies to teach spelling or writing, one said there was preparation, and one said, "We didn't do a lot." There was little distinction in the overall sentiment concerning preparation in this area. Only one teacher had a suggestion for improvement in the area of spelling and writing instructional preparation. This teacher who was a high knowledge group member suggested adding word sorts into spelling and writing preparation. She stated: "I'm following what the gen [general] ed teacher does. We do word sorts and use that. I don't ever remember discussing that in the class in my courses."

Disagreement Concerning Reading Preparation

Diagnostic Assessment

While teachers from both knowledge groups indicated concerns with their preparation in the area of diagnostic assessments, four of the five special educators from the low knowledge group indicated that they did not learn to incorporate diagnostic teaching in their instruction and only one could name any assessments to use to guide instruction. In fact, one special educator from the low knowledge group commented that the most significant problem with her reading preparation was that she did not learn how to determine where her students were functioning in their reading levels.

Individuals in the high knowledge voiced some concern in this area, but did indicate at least some limited knowledge in the area of reading assessments. Additionally while the individuals in the high knowledge group did identify some limited disciplinary knowledge on the concept of diagnostic assessments, they expressed few specific reading applications for such knowledge. Suggestions from both groups for improvement included more hands on activities and practice in administering reading assessments.

Oral language

Teachers differed based on their knowledge group regarding their views on their preparation in the area of phonological and phonemic awareness. The majority of teachers in the low knowledge groups expressed that they had not been prepared adequately in the area of learning strategies or activities to use to develop phonological or phonemic awareness of students. Most teachers in the high

knowledge group responded that they learned a great deal in their preparation related to strategies and skills used in instruction to develop phonological or phonemic awareness of students. Overall, teachers in the high knowledge group had no specific suggestions to improve instruction in this area. As one teacher commented, "I think that phonemic awareness was one that I felt pretty comfortable on."

Important Topics Addressed in Reading Courses

Individuals in the low knowledge group (4:5) recalled comprehension strategies and skills as representing the most important topics taught in their reading instructional courses. The one participant that reflected somewhat differently on her preparation concerning topics of study found in reading courses felt that the overall focus of reading preparation consisted of strategies to address the needs of students with an emotional or learning disability and did not assist with students who have multiple disabilities or intellectual disabilities.

Only the high knowledge group recalled topics from both of the reading courses reading classes; they however distinguished the two courses more according to the manner in which the courses were delivered. The responses of individuals concerning the content reading course reflected an emphasis on learning how to teach comprehension skills and strategies versus the second course where topics were only mentioned with few opportunities to apply knowledge in practical and explicit situations.

Summary of Qualitative Results

Semi-structured interviews with test takers from two extreme cases representing high and low knowledge of reading instruction were conducted to determine similarities and differences in reading preparation experiences. Responses identified

similarities in background and preparation experiences as well as agreement, disagreement, and mixed views concerning the two reading courses taken in their preparation to teach reading.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS, AND FUTURE RESEARCH

Introduction

The purpose of this study was to investigate the role of reading courses taken by prospective special education teachers on their knowledge of reading instruction and their beliefs concerning their reading courses. While the requirements found in recent federal legislation in combination with the poor reading achievement of students with a disability make apparent the importance for special education teachers to be well prepared and knowledgeable about reading instruction. It, however, has been uncertain whether the preparation they receive to teach reading is satisfactory. The knowledge special education teachers have in the content area of reading instruction was studied by examining the knowledge teachers acquire in the reading instructional courses they take during their special education teacher preparation; their beliefs concerning the reading courses taken to prepare them to teach reading, and the role of an additional reading related course on reading instructional knowledge.

This study used a mixed methods explanatory design-participant-selection model (Creswell & Plano Clark, 2010) that consisted of two stages of research that occurred sequentially. After completing the quantitative data collection and analysis, the qualitative data collection and analysis were conducted. This procedure allowed the investigation to first develop outcomes using quantitative measures of knowledge acquisition related to reading instruction that then identified participants for interviews who could illuminate the quantitative outcomes. Discussion of the findings and the implications for reading preparation for special education teachers, limitations of the study, and suggestions for future research will follow.

Phase One: Quantitative Findings and Interpretations

Research Question One: Knowledge of Reading Instruction

The first research question asked: What knowledge do prospective special education teachers have related to reading instruction? Prospective special education teachers demonstrated specific knowledge related to reading instruction as measured by the VRA. Performance on the VRA demonstrated that teachers exhibited a great deal of knowledge as evidenced by their multiple choice responses. However, there were deficiencies in reading knowledge observed in constructed responses where they were asked to apply their knowledge to presented instructional scenarios. While performance and application of knowledge was weaker in all domains, it was particularly concerning in the area of oral language.

These findings were consistent with other research that examined special education teachers' knowledge specifically related to differences between content knowledge and teachers' ability to apply reading instructional knowledge. One study conducted by Lava, Recchia, and Giovacco-Johnson (2004) that examined early childhood special educators' perceptions of their university preparation found that teachers experienced difficulties in applying content knowledge. Interviews with early childhood educators determined that teachers expressed problems with applying theories learned in their courses to actual situations. One participant stated: "It seems like it takes a while to feel like your theoretical background is valuable. I think it was halfway through the first year before I knew the theory made any sense" (p. 198). Similarly, research conducted by Spear-Swerling and Cheeseman (2012) found that the performance by teachers on reading credentialing exams exhibited the greatest number of errors on items that required application of knowledge even when content

knowledge was strong. They stated: “Items with the highest error rates disproportionately involved application rather than content knowledge” (p.1713). Teacher performances on the VRA in this current study exhibited the same pattern with significant differences noted between multiple choice and constructed response items.

Research Question Two: Perceptions of Reading Instruction Preparation

The second question asked: What are special education teachers’ perceptions regarding their course preparation to teach reading? Beliefs of special education teachers concerning their preparation to teach reading were examined using the Reading Instruction Preparation Questionnaire; a researcher designed questionnaire. Thirteen performance objectives representing knowledge of reading instruction in four domains found that teachers largely believed that they are well prepared by their reading courses to teach reading. Additionally, items found in the domain of reading development suggested the strongest beliefs that preparation adequately addressed those components of instructional knowledge. However, exceptions to an overall positive sentiment are found predominately in five specific performance objectives. Responses observed in performance objective two, three, nine, twelve, and thirteen indicated areas in which teachers expressed that their preparation was not adequately addressed in their two reading courses. Identified in these objectives is knowledge to differentiate reading instruction, create flexible reading groups, assist with English language learners and students with communication disorders and delays, teaching comprehension strategies for fiction, spelling and writing conventions, and using writing for inquiry and research. Qualitative comments suggested a more active pedagogy for preparing teachers to teach reading by including additional practicums,

volunteer opportunities, and hands on and interactive activities. Teachers also suggested additional reading courses and a more special education focused preparation.

Once again the current study shares many of the findings of the Spear-Swerling and Cheesman study (2012). Whereas the Spear-Swerling study focused on the knowledge special education teachers acquired in their preparation to implement the Response to Intervention initiative (RTI), many similarities otherwise exists. As with the current study, Spear-Swerling and Cheesman used results from a reading credentialing exam and survey results from recent special education graduates to determine their preparedness with knowledge necessary to implement RTI. As found in the interviews of the current study, the outcomes of the credentialing exam in Spear-Swerling and Cheesman demonstrated greatest strengths in the areas of fluency, vocabulary, and comprehension. However, the lowest score occurred in the area associated with assessment and practices necessary for success with the RTI model. While overall teachers in the current study did not express disagreement concerning their preparation in the area of assessment, they did indicate that they did not feel well prepared by their reading courses to create flexible groupings or to differentiate instruction for struggling readers. As a solid background in assessment is necessary to use assessment data to form flexible groupings and to differentiate instruction, both studies have the same finding in this area.

Research Question Three: Courses and Reading Instructional Knowledge

The third research question asked: Does taking an additional reading course during teacher preparation result in differences in prospective teacher knowledge of reading instruction? The role of the additional literacy related reading course was not

significant for the additional language arts course completed by the prospective elementary education teachers. The value of additional course work cannot be confirmed by some research. However, many studies do demonstrate the role of additional instruction on teacher knowledge. Mather, Bos, and Babur (2001) studied the role of, courses on the perceptions and knowledge of teachers. They found that “Unfortunately, increased course work did not appear to affect perceptions; however it did affect knowledge of structured language teaching” (p. 476).

Even more authoritative findings occur in in Hoffinan, Roller, Maloch, Sailors, Beretvas, and the National Commission on Excellence in Elementary Teacher Preparation for Reading Instruction (2003). This study compares three reading preparations between teachers prepared in reading specialized programs and general reading preparations. Hoffinan et al. found that the teachers who received the general preparation expressed beliefs indicating three times less preparedness than the reading specialization teachers to make reading instructional decisions, to deal with the assigned curriculum and potential limitations, and success with the difficulties and challenges of their first year of teaching. This relationship between knowledge and courses was not established in the current study with the additional language arts course that elementary education teachers receive.

Phase Two: Qualitative Findings and Interpretations

Research Question Four: Role of Knowledge on Beliefs Concerning Preparation

The fourth research question asked: Do prospective special educators differ on their beliefs concerning their preparation to teach reading depending on their knowledge of reading instruction? Both knowledge cases had significant experiences as paraprofessionals, special education teaching assistants, or as provisionally

licensed teachers prior to and during the period of their preparation. Agreement was found in both groups' views concerning their preparation related to vocabulary development, and for improving reading comprehension and fluency of students. Additionally, both cases believed they were well prepared to instruct diverse learners. However, they expressed that they were not prepared to address the reading instructional needs of students with more complicated reading instructional needs. Furthermore, teachers from both groups mentioned a need for preparation to teach reading to older nonreaders and struggling readers, activities to promote decoding skills among low functioning readers, and for interventions with students with intellectual or multiple disabilities. Moreover, teachers expressed concerns with the methods utilized in their preparation and suggested that preparation include more activities for intervening, more modeling, more hands on and less independent reading assignments.

Mixing of Quantitative and Qualitative Results

In this section, the quantitative and qualitative findings related to special education teacher knowledge of reading instruction are merged. Rather than addressing each research question individually, the findings determined by each research question are examined in the context of the four domains of reading instructional knowledge in an attempt to explain what was determined regarding knowledge of reading instruction that was provided in view of both the quantitative and the qualitative results. By merging and triangulating the results, a more comprehensive view of the knowledge special education teachers have of reading instruction occurs. This section then describes what was found by merging the quantitative and qualitative results regarding the preparation prospective special

education teachers receive in their reading courses during their preparation to teach reading. These results are reported for each of the domains of reading instructional knowledge to include diagnostic assessment, oral language and phonological awareness, reading development, and spelling and writing.

Diagnostic Assessment

Quantitative results on VRA multiple choice items demonstrated an overwhelming majority of prospective special education teachers exhibited either “general knowledge” (41%) or “thorough knowledge” (48%) in this domain of reading instruction. A less positive view is presented when constructed responses were examined. On constructed response items, only 64% of prospective special education teachers demonstrated either “general knowledge” (35%) or “thorough knowledge” (29%) of assessment and the average response on this component was 2.81 (SD=.99), indicating less than “general knowledge.” Furthermore, 36% of the constructed responses of prospective special education teacher indicated either “no knowledge” (12%) or “limited knowledge” (24%) of diagnostic assessment.

This discrepancy in performance in the domain of diagnostic assessment can be observed in responses on the Reading Instruction Preparation Questionnaire on two of six items related to diagnostic assessments. On the first item, only 39% either agreed or strongly agreed that they were prepared to create flexible groupings of students for reading instruction and only 50% agreed or strongly agreed that they were prepared on how to use assessment results to differentiate reading instruction.

Further support for this interpretation of results is found in interview responses. Further illuminating possible reasons for low knowledge in the area of diagnostic assessments were differences found between members of the low and high knowledge

cases. Interview responses by four of the five special educators from the low knowledge group stated that they did not learn to incorporate the concept of diagnostic teaching into their instruction. Furthermore, because diagnostic teaching is essentially using assessments to guide and differentiate instruction, it is the knowledge of how to use assessment outcomes to choose instructional goals which seamlessly explains responses on the questionnaire concerning less preparation related to creating flexible groupings and using assessment results to differentiate reading instruction. Indeed, these instructional skills may differentiate the well prepared and underprepared special education teachers in the domain of diagnostic assessment.

Additional confirmation for this interpretation is found in responses to an additional interview question that purposed to access teachers views about their preparation related to phonics instruction. While the topic of the interview question was phonics preparation, the majority of teachers from both knowledge groups expressed the view that their preparation was not aligned with the phonics instruction needed by special education students, which would appear to be more related to the previous issues related to differentiating instruction for reading instruction. Teachers from both groups mentioned a need for preparation to address the instruction necessary to teach reading to older nonreaders and struggling readers, lack of activities to promote decoding skills among low functioning readers, and for interventions with students with intellectual or multiple disabilities. More differentiated preparation was suggested to meet the needs of students who have a disability.

This same pattern was found when the interview question asked about topics that should have been in their preparation but were not included. The topic that special education teachers in the high knowledge case most often identified as the topic missing from their reading instructional preparation was how to teach beginning developmental reading to emergent and struggling readers in a systematic and explicit manner. The pattern of responses among the low knowledge group of teachers expressed a similar view that the preparation did not adequately prepare them to teach reading. One teachers' comment on her reading preparation summed up the sentiment of both groups of teachers. She responded with a question: "To all students? It probably taught me better to teach reading to general ed more so than it did special ed."

Oral Language and Phonological Awareness

Quantitative results on VRA multiple choice items demonstrated that 88% of prospective special education teachers exhibited either "general knowledge" (55%) or a "thorough knowledge" (33%) in this domain of reading instruction. While fifteen percent fewer responses demonstrated "thorough knowledge" of oral language than of diagnostic assessments, there was even a more negative status for reading instructional knowledge presented when constructed responses were examined. On constructed response items, only 48% of prospective special education teachers demonstrated either "general knowledge" (26%) or "thorough knowledge" (22%) of oral language and the average response on this component was 2.40 (SD=1.14), indicating responses that reflected more "limited knowledge." Moreover, 52% of constructed responses of prospective special education teacher indicated either "no

knowledge” (29%) or “limited knowledge” (23%) of instruction related to oral language and phonological awareness.

This discrepancy in performance in the domain of oral language can be seen on two of six items on the Reading Instruction Preparation Questionnaire. These two items identify instruction for English language learners and addressing the needs of students with language delays and disorders. Regarding English language learners, only 32.1% either agreed or strongly agreed that they were prepared for instruction for this purpose. On addressing language delays and disorders, only 48.1% agreed or strongly agreed that they were prepared for this goal of instruction.

Further support for this interpretation of results is found in interview responses. Further illuminating possible reasons for low knowledge in the area of oral language were differences found between members of the low and high knowledge cases. With the exception of one teacher in the low knowledge group who stated that she was unprepared to deal effectively with English language learners, teachers in both groups indicated that they were prepared to instruct diverse learners. However, there was an overall difference in the beliefs between those in the low and high knowledge of reading instruction on the issue of preparation in the area of oral language and phonological awareness. This was seen in the response of the majority of teachers in the low knowledge group who expressed that they had not been prepared adequately in the area of learning strategies or activities to use to develop phonological or phonemic awareness of students. Conversely, most teachers in the high knowledge group responded that they learned a great deal in their preparation in this area of reading instruction.

Reading Development

Quantitative results for VRA multiple choice items demonstrated that 91% of prospective special education teachers exhibited either “general knowledge” (43%) or “thorough knowledge” (48%) in this domain of reading instruction. Performance on multiple choice items represented the strongest area of reading instruction preparation. On constructed responses, 62% exhibited either “general knowledge” (34%) or “thorough knowledge” (28%). However, constructed responses still suggested some problems in this domain where 39% of responses reflected either “no knowledge” (18%) or “limited knowledge” (21%).

The Reading Instruction Preparation Questionnaire identified possible explanations for deficiencies in preparation based on responses to three of 18 items. These three items represented all three items found in performance objective nine that represents knowledge of comprehension strategies for teaching fiction. These three items addressed knowledge of teaching students how to recognize story elements, how to teach students about various literary genres and the differences between them, and how to choose appropriately leveled poetry and fiction selections. Only 42.3% agreed they were prepared to teach differences between the various literary genres; 46.1% either agreed or strongly agreed that they were prepared to teach story elements; and only 50% either agreed or strongly agreed that they were prepared on how to choose appropriately leveled poetry and fiction selections.

Interview responses appeared to confirm most of the quantitative findings on knowledge of reading development. Teachers in both knowledge groups expressed that they felt adequately prepared with knowledge of vocabulary development, reading fluency and reading comprehension. The only area in which an additional need for preparation was identified by teachers was in the area of differentiated

phonics instruction which appears more related to the domain of diagnostic assessment and differentiation of instruction previously discussed.

Spelling and Writing

Quantitative results for VRA multiple choice items demonstrated that 91% of prospective special education teachers exhibited either “general knowledge” (38%) or a “thorough knowledge” (53%) in the domain of spelling and writing. On constructed responses, 58% of constructed responses exhibited either “general knowledge” (28%) or “thorough knowledge” (30%). Conversely, 42% of responses reflected either “no knowledge” (26%) or “limited knowledge” (16%). Explanations for this mixed view of knowledge can be suggested from responses on the RIPQ and from interview responses on the RIPI.

The Reading Instruction Preparation Questionnaire identified areas of possible deficiency in preparation based on responses to six of the nine total items found in this knowledge domain. There were three items where less than 50% of participants responded that they either strongly agreed or agreed that they were prepared in that area of instruction. Only 46.2% either agreed or strongly agreed that their preparation addressed knowledge of writing instruction based on the concept that writing has both developmental and recursive stages; 42.3% either agreed or strongly agreed that they were prepared to promote the use of technology and media resources; and only 38.4% either agreed or strongly agreed that their preparation included teaching writing mechanics, punctuation, and writing conventions. Additional items concerning possible deficiencies in preparation were found on items in which teacher responses either strongly disagreed or disagreed that their preparation included knowledge of teaching spelling patterns with a systematic/explicit sequence of instruction (34.6%);

understanding of the connection between developmental writing and spelling stages (30.7%); and recognizing text features such as tables of contents, indices, etc. (30.8%).

Interview responses reflected a mixed assortment of opinions related to preparation to instruct in spelling and writing. Views concerning preparation in this knowledge domain were mixed in both high and low knowledge of reading groups. In the high knowledge group, one teacher indicated that she was prepared; two indicated they were not, and one stated, "I think so." Views were also mixed in the low knowledge group. Three said there was no preparation on strategies to teach spelling or writing, one said there was preparation, and one said, "We didn't do a lot." There was little distinction in the overall sentiment concerning preparation in this area. Only one teacher had a suggestion for improvement in the area of spelling and writing instructional preparation. This teacher who was a high knowledge group member suggested adding word sorts into spelling and writing preparation. She stated: "I'm following what the gen [general] ed teacher does. We do word sorts and use that. I don't ever remember discussing that in the class in my courses."

Discussion on Merged Quantitative and Qualitative Results

The National Reading Panel (2000) stated that there were too few studies on the role of teacher education to report on its role in teacher preparation to teach reading. The NRP stated: "The range of variables was so great for the small number of studies available that the NRP could not reach a general conclusion about the specific content of teacher education programs" (NICHD, 2000, page 5-2). They reflected that teacher preparation did not focus on specific variables associated with reading preparation which made it difficult to offer recommendation for the content of pre-

service reading preparation. One of the purposes of this study was to add to the body of knowledge of reading instruction by examining the knowledge special education teachers acquire in reading courses in their university preparation and their beliefs concerning their courses taken during their preparation. The current study utilized three quantitative variables, two of these were dependent variables and one was an independent variable and responses to an interview protocol to identify the knowledge special education teachers acquire to teach reading. The first dependent variable was the performance of prospective teachers on the Virginia Reading Assessment for Elementary and Special Education Teachers (VRA). The second was a researcher-designed questionnaire on teacher beliefs concerning reading instruction preparation. A comparison group was then utilized to assess the value of an additional language arts course on the knowledge of reading instruction that teachers acquire during preparation to teach reading. Specifically, this study sought to identify what knowledge special education teachers acquire from reading courses in their preparation in four domains of reading instructional knowledge and their perceptions concerning their preparation to teach reading.

Results indicated that teachers generally acquired significant amounts of knowledge related to reading instruction; however, a number of specific courses and topics of instruction as well as practicum experiences necessary for successful reading instruction with special education students appeared to be absent in their preparation. This was also evident in Lava, Recchia, and Giovacco-Johnson (2004) who examined student teaching, coursework, and the limitations of professional preparation. As with Lava et al., individuals interviewed in the current study expressed that they should have more hands-on experiences, additional strategies, and

more information on additional disability categories and settings. Furthermore, the similarities between these two studies indicate that teachers need additional instructional time above one semester in student teaching. Lava and colleagues (2004) stated “Courses on assessment, reading, and curriculum development were seen as contributing to specific competency areas for teachers, while those emphasizing child development and educational philosophies provided a solid theoretical foundation” (p. 198). It is also noteworthy that in regarding their courses associated with reading preparation, teachers in the current study generally expressed positive views concerning their courses. This current study extends the findings of Lava et al. by revealing the strengths and limitations found in current reading preparation for special education teachers by more precisely identifying the areas where additional and more focused reading preparation is suggested. As such it can offer recommendations for the content of pre-service reading preparation for special education teachers not observed in the Lava et al. (2004).

The need for additional focused reading preparation was also observed in Bishop, Brownell, Kingener, Leko, and Galman (2010). In their study, beginning special education teachers overwhelmingly expressed the view that they were not adequately prepared in some areas of reading instruction. Whereas Bishop et al. did not specifically identify actual reading knowledge and skills in which teachers felt unprepared, the current study extended the findings of Bishop et al. by specifically identifying areas of instruction that special education teachers viewed as unsatisfactory for certain goals of reading instruction. Furthermore, unlike Bishop et al., the teachers in the current study did not believe their preparation over emphasized “basic early reading skills while providing insufficient preparation for teaching

students with more complex reading disabilities in the upper grades” (p.85).

Whereas, the current interview sample did identify a lack of interventions specific to students in upper grades as one area of weakness in preparation, they viewed their reading preparation in general as exhibiting no focus relating to students who receive special education services and expressed that their preparation had a more general education focus. The teachers in the current study indicated that their preparation lacked sufficient coursework in teaching reading to any students with disabilities. In fact, the current study would seem to support adding additional reading courses to the current preparation to address specific knowledge and skill deficiencies for reading instruction identified in this study.

Further support for the addition of reading courses can be found in Hoffman, Roller, Maloch, Sailors, Beretvas, and the National Commission on Excellence in Elementary Teacher Preparation for Reading Instruction (2003). This study compares three reading preparation paths between teachers prepared in reading specialized programs and general reading preparations. Hoffman et al. found that the teachers who received the general preparation expressed beliefs indicating three times less preparedness than the reading specialization teachers to make reading instructional decisions, to deal with the assigned curriculum and potential limitations, and success with the difficulties and challenges of their first year of teaching. The teachers in the current study could be considered roughly equivalent in their reading preparation to the teachers in the Hoffman (2003) study. While the teachers in the Hoffman study were general education teachers, the two reading preparations appear to be roughly equivalent in that both required only six hours of reading instructional course work. Furthermore, it appears unusual that as reported by Hoffman et al. (2001) that 40% of

elementary education preparation programs offer the specialized reading preparation as part of the preparation program while a similar reading preparation does not appear to be available for special education teachers. This would be an option that could significantly improve the preparation for reading instruction for special education teachers and is most likely the only manner to make real differences in teachers' knowledge and skill to intervene in the reading status of their students.

Conclusions

This study suggests a number of conclusions related to special education teacher preparation to teach reading. One conclusion is that teachers do acquire specific knowledge related to reading instruction from two university reading courses. The majority of teachers who took the required courses performed well in each domain of reading instruction examined by the state credentialing exam used in this study. However, it appears that there are significant differences between what can be termed the declarative, procedural, and conditional knowledge that teachers obtain in their preparation that is suggested by their performance on constructed response items that present scenarios to apply reading instructional content knowledge. Differences between performance on multiple choice and constructed response indicate that special education teachers are less able to apply their knowledge of reading instruction to instructional situations such as might occur in a classroom teaching scenario. Furthermore, teachers' responses to the questions on both the questionnaire and interview indicate that special education teachers do not believe they are receiving the specialized preparation of reading instruction needed to intervene with the complex reading instruction needed by their students.

Implications for Reading Preparation for Special Education Teachers

The Council for Exceptional Children (CEC, 2009) in its publication, *What Every Special Educator Should Know: Ethics, Standards, and Guidelines*, specifically identifies skills and knowledge necessary for all special education teachers.

1. foundations and legal issues of special education;
2. learning characteristics associated with special education populations;
3. the role of the family, community, and culture in the unique learning characteristics of individuals;
4. knowledge of specific instructional strategies;
5. ability to create and modify learning environments;
6. knowledge of language development;
7. knowledge to plan and individualize instruction;
8. Knowledge of assessments and interventions to address learning deficiencies;
9. knowledge of ethical standards for special education professionals; and
10. the role of collaboration with community, regular educators, family members, and other professionals (CEC, 2009).

The results of this study would seem to suggest that special education teachers could benefit from specific additional reading preparation to correspond to the expectations found in some of these value statements. It appears obvious that special education teacher preparation to teach reading could benefit from additional emphasis on increasing instruction on reading characteristics associated with special education

populations(#2); knowledge of focused instructional strategies that can benefit specific disability groups (#4); additional emphasis on the knowledge of language development (#6); specific knowledge to assist with planning and individualizing reading instruction (#7); and knowledge of reading assessments and interventions to address deficiencies in reading abilities(#8).

It would appear prudent to require more course work for special educators who are responsible for instructing students who generally are considered to have severe deficiencies in the area of reading achievement. A number of suggestions could meet the requirement. First, an increase in the number of reading courses should be implemented into special education preparation. Additionally, this preparation should include the suggestions found in CEC (2009) that address the need for additional practicum and field experiences. Furthermore, it appears necessary that a special education focus should be employed that specifically addresses the learning characteristics of special education students. This should result in explicit instruction on emergent literacy skills adjusted for specific ages and developmental characteristics of students. Furthermore, differentiation of special education teacher preparation should be the anticipated focus that emphasizes the differences in the needs of various ages and disability groups across the continuum from pre-kindergarten students to high school students that is individualized according to student exceptionality with specific adaptations for the various communication and language requirements of students. While the task would appear to be daunting, less than a specialized reading preparation for special education teachers would not meet the requirements found in the most recent federal legislation (IDEIA, 2004) or the need for additional reading instruction observed in reading achievement found among

students with a disability (NAEP, 2011). These conditions should be met in order for special educators to be in the best possible situation as the Response to Intervention initiative is implemented in more school systems. If the field of special education does not groom itself for this mission, general educators will become the actual reading teachers of these students. This appears to be occurring more often with the placement of more students with disabilities in inclusion settings. And without more specialized reading instructional knowledge, students will continue to receive a general education intervention to address their reading disability and children will continue to be left behind.

Limitations of the Study

This study purposively used a mixed methods design to strengthen weaknesses that often are found in studies that are strictly quantitative or qualitative. A number of limitations nevertheless still are acknowledged. First, it is acknowledged that this study utilized a pre-experimental design. Therefore, no determination can be made in a causal relationship between the knowledge prospective teachers acquire and the courses taken during preparation to teach reading. This lack of true experimental design allows other possible explanations for the knowledge teachers have acquired to teach reading.

Additionally, the small sample sizes results in poor generalizability. The small sample for the descriptive statistics resulted from the need to include only those individuals who had met requirements of having taken both of the required reading courses during a specific period after cut scores had been established for passing the credentialing exam. Furthermore, the response to the survey may have been less robust as individuals were initially contacted to participate in the questionnaire

through their university email address and with the most recent postal address. After leaving the university, many of these addresses were no longer valid. While there were a number of measures utilized to enhance the strength of the findings, the small sample remained a concern in itself. The small sample also resulted in difficulties in establishing reliability questionnaire as previously noted.

Furthermore, limitations to generalizability also occur due to problems associated with self-report data. This arises from data collected from both the survey and the interviews. People do not always accurately recall experiences or may deliberately misrepresent their experiences for a variety of reasons including social desirability which could affect the accuracy of reported incidents. Recall could be even a greater concern for those who participated in either the survey or interview in this study as some may have completed the courses five years prior to this study.

A limitation also occurs due to problems with determining the reliability of one of the measures. This occurs with the Virginia Reading Assessment for Elementary and Special Education Teachers (VRA) which was used in this current study to determine outcomes for teacher knowledge. At the time of the publication of the VRA, no reliability statistics were established because it was a new measure of teacher knowledge of reading instruction. Cronbach alpha statics, inter rater reliability, and other internal consistency measures were not available to determine the reliability for scores that all elementary and special education teachers received on this credentialing exam. While there may be updated information on the reliability of this measure, this information has not accessed from the publisher, Pearson Education Inc. An additional limitation must be acknowledged due to an inability to determine the reliability procedure used for scoring of the constructed responses. Information on

scoring was not available concerning determining agreement with more than one judge on constructed responses.

Finally, the results from this study cannot be generalized to any other setting or group other than to those individuals whose preparation included similar reading courses and course requirements for their special education teachers. The university setting for this study requires two courses for reading instruction preparation for those seeking credentials to become special education teachers to include one language acquisition course and a content reading course. Results from this study cannot be generalized to preparation programs that include more or less reading instructional preparation or preparation or that include reading courses that address other areas of reading instruction.

Recommendations for Future Research

The National Assessment of Educational Progress (2011) has found severe deficits in the reading achievement of special education students in their biannual reports. In its most recent 2011 report, they revealed that eighty-nine percent of fourth graders with a disability and ninety-three percent of eighth grader with a disability read below a proficient level (NAEP, 2011). In view of these facts, requirements found in recent federal education legislation, and results of this study, a number of studies are needed to enrich the body of knowledge related to special education teacher preparation. First, the generalizability of the current study could be increased by conducting the same study at the national level by examining a wider range of university special education preparation programs to examine teacher knowledge of reading instruction using performance of teachers on a broader spectrum of state reading credentialing exams, teacher perception of preparation surveys, and

interviews of teachers. This could serve to determine differences in knowledge of teachers resulting from various preparations. Normative data could be collected on numbers of reading courses, topics covered, and practicum experiences offered to enhance teaching learning outcomes.

A second study could explore specific reading courses offered by special education programs that have a specific focus on special education reading preparation. The value of the focused courses would be compared by observing the actual instruction in the classes of teacher who took the courses with the special education focus to a similar class with a special education teacher who did not take the special education focused reading courses. Then the differences in knowledge between the two groups could be examined again using credentialing exam performance to determine outcomes between programs to determine the effect of additional courses on differences in knowledge between the preparations. The quantitative phase would use analysis of variance to determine the effect size for additional topics and courses to determine the impact of a focused reading instruction preparation.

Finally, special education teacher preparation could benefit from a study that examines the effects of a course related to emergent literacy that follows the teacher back to the classroom. The seventeen week course would include the declarative, procedural, and conditional knowledge necessary to identify through assessments, student progress monitoring in order to assist teachers with identifying the level of instruction indicated by assessment. This would be supported with specific knowledge and teacher interventions to address the emergent level reading demonstrated by students. The instructional knowledge introduced to prospective

teachers would include a heavy emphasis on designing the emergent classroom, activities that assist students with developing and improving early literacy skills such as language experience approaches, metacognitive activities such as think alouds, and appropriate activities to differentiate emergent literacy across the age spectrum.

Knowledge of emergent literacy is an important component of reading preparation for all special education teachers given the reading difficulties of this population.

Determining the effect of specific special education focused reading preparation should result in important information on its role on increasing effectiveness of teacher preparation for special education teachers and on their effectiveness in impacting their students.

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Appendix A: Reading Instruction Preparation Questionnaire

Directions: Please circle the numeral that most accurately represents your beliefs about your preparation to teach reading.					
	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither Agree Nor Disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
1. The reading courses taken during my preparation to teach taught me about formal assessments such as norm and criterion referenced assessments.	1	2	3	4	5
2. The reading courses taken during my preparation to teach taught me about informal assessments to include informal reading inventories, teacher observations, literacy screenings, and diagnostic assessments.	1	2	3	4	5
3. The reading courses taken during my preparation taught me how to use formal and informal assessments to monitor ongoing reading progress.	1	2	3	4	5
4. The reading courses taken during my preparation to teach taught me how to use assessment results to differentiate reading instruction.	1	2	3	4	5
5. The reading courses taken during my preparation to teach taught me how to use assessment data to plan reading instruction to assist struggling readers.	1	2	3	4	5
6. The reading courses taken during my preparation to teach taught me how to use assessment data to create flexible groupings of students.	1	2	3	4	5
7. The reading courses taken during my preparation to teach taught how to assist English language learners acquire Standard American English.	1	2	3	4	5
8. The reading courses taken during my preparation to teach demonstrated how to address the needs of students with language delays and disorders.	1	2	3	4	5
9. The reading courses taken during my preparation to teach provided me knowledge of how to create a learning environment that honors linguistic and cultural diversity.	1	2	3	4	5

Cont.

Appendix A: Reading Instruction Preparation Questionnaire

	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither Agree Nor Disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
10. The reading courses taken during my preparation to teach taught me effective instructional strategies for promoting students' phonological awareness and skills.	1	2	3	4	5
11. The reading courses taken during my preparation to teach taught me to identify effective instructional strategies for promoting students phonemic awareness skills.	1	2	3	4	5
12. The reading courses taken during my preparation taught me various instructional strategies to develop the phonemic awareness in students.	1	2	3	4	5
13. The reading courses taken during my preparation to teach taught me how to promote an understanding in my students of concepts of print.	1	2	3	4	5
14. The reading courses taken during my preparation taught me ways to help students recognize and name uppercase and lowercase letters and to encourage students' automatic recognition of common sight words.	1	2	3	4	5
15. The reading courses taken during my preparation taught me how to teach students the concept that sounds are represented by letters, how to identify the beginning sounds of consonants, and how to identify vowel sounds in one syllable words.	1	2	3	4	5
16. The reading courses taken during my preparation to teach taught me to teach reading using a scope and sequence that begins with instructional strategies to help beginning readers to blend consonant and vowel sounds to decode single syllable words.	1	2	3	4	5

Cont.

Appendix A: Reading Instruction Preparation Questionnaire

	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither Agree Nor Disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
17. The reading courses taken during my preparation to teach taught me to teach beginning readers to apply knowledge of word families with single-syllable words to help decode unfamiliar words containing familiar patterns.	1	2	3	4	5
18. The reading courses taken during my preparation to teach taught me explicit strategies for teaching students how to decode words that have consonant blends or digraphs, various vowel digraphs or r-controlled vowels, and words with many syllables.	1	2	3	4	5
19. The reading courses taken during my preparation to teach taught me how to use word-analysis for vocabulary development.	1	2	3	4	5
20. The reading courses taken during my preparation taught me to distinguish how to help students use context clues in a sentence to determine meaning.	1	2	3	4	5
21. The reading courses taken during my preparation provided me with instructional strategies to improve my students' understanding and comprehension of vocabulary through word analysis and dictionary skills.	1	2	3	4	5
22. The reading courses taken during my preparation to teach taught me the role of fluency in the reading achievement and methods to increase the reading fluency of students.	1	2	3	4	5

Cont. Appendix A: Reading Instruction Preparation Questionnaire

	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither Agree Nor Disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
23. The reading courses taken during my preparation to teach taught me how to teach students how to comprehend text using literal, inferential, and evaluative comprehension skills and to use comprehension strategies before, during, and after reading.	1	2	3	4	5
24. The reading courses taken during my preparation provided an understanding of the important role of culture, the family, the community, and independent reading on reading development.	1	2	3	4	5
25. The reading courses taken during my preparation to teach provided me with knowledge on how to choose appropriately leveled poetry and fiction selections that increase student comprehension and enjoyment of independent reading.	1	2	3	4	5
26. The reading courses taken during my preparation to teach taught me how to recognize story elements to strengthen students' comprehension and their skills to respond and analyze literature.	1	2	3	4	5
27. The reading courses taken during my preparation to teach taught me how to teach students about various genres and strategies to assist in recognizing the differences between genres.	1	2	3	4	5
28. The reading courses taken during my preparation to teach provided me with the knowledge of how to teach the use of reading comprehension strategies and instructional strategies with nonfiction materials.	1	2	3	4	5

Cont.

Appendix A: Reading Instruction Preparation Questionnaire

	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither Agree Nor Disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
29. The reading courses taken during my preparation to teach helped me to promote students' comprehension by helping them identify text structure and organization on nonfiction text and materials.	1	2	3	4	5
30. The reading courses taken during my preparation to teach provided the knowledge I need to assist students with developing skills related to locating evidence to support their opinions, predictions, and conclusion from nonfiction sources.	1	2	3	4	5
31. The reading courses taken during my preparation to teach taught me to teach that writing has both developmental and recursive stages.	1	2	3	4	5
32. The reading courses taken during my preparation to teach taught me to teach writing with the use of instructional strategies that engage students in writing for a variety of purposes and to promote comprehension.	1	2	3	4	5
33. The reading courses taken during my preparation to teach taught me how to teach writing for a variety of purposes and to use teacher conferences to help students develop proficiency in techniques such as choosing vocabulary, varying sentences, and using transitions.	1	2	3	4	5
34. The reading courses taken during my preparation to teach reflected the connection between developmental writing and spelling stages.	1	2	3	4	5
35. The reading courses taken during my preparation taught me to teach spelling patterns using a systematic and explicit sequence of instruction.	1	2	3	4	5

<i>Cont.</i> Appendix A: Reading Instruction Preparation Questionnaire					
	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither Agree Nor Disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
36. The reading courses taken during my preparation taught me instructional strategies that help students develop writing skills related to mechanics, punctuation, and other writing conventions.	1	2	3	4	5
37. The reading courses taken during my preparation taught me effective reading and writing techniques to help students locate, organize, evaluate, and synthesize information from a variety of print and electronic sources.	1	2	3	4	5
38. The reading courses taken during my preparation to teach taught me strategies for helping students to recognize text features such as tables of contents, indices, and how to use dictionaries and other reference materials.	1	2	3	4	5
39. The reading courses taken during my preparation to teach taught me ways to promote students' skills in using technology and media resources.	1	2	3	4	5
40. What suggestions do you have for improving the reading preparation special education teachers receive in their reading courses?					

Thank you for participating in this questionnaire.

Appendix B: Table of Specifications for Reading Instruction Preparation Questionnaire

Item	Virginia Reading Assessment Objectives
1, 2, 3, 40	VRA Domain I 0001: Diagnostic Screening & Assessment
4, 5, 6, 40	VRA Domain I 0002: Using Informal Reading Assessments
7, 8, 9, 40	VRA Domain II 0003: Oral Language
10, 11, 12, 40	VRA Domain II 0004: Phonological Awareness
13, 14, 15, 40	VRA Domain III 0005: Concepts Of Print
16, 17, 18, 40	VRA Domain III 0006: Systematic Phonics Instruction
19, 20, 21, 40	VRA Domain III 0007: Word Analysis & Vocabulary Development
22, 23, 24, 40	VRA Domain III 0008: Fluency And Reading Comprehension
25, 26, 27, 40	VRA Domain III: 0009: Comprehension Strategies For Fiction
28, 29, 30, 40	VRA Domain III: 0010: Comprehension Strategies For Nonfiction
31, 32, 33, 40	VRA Domain IV: 0011: Writing Skills
34, 35, 36, 40	VRA Domain IV: 0012: Spelling & Writing Convention
37, 38, 39, 40	VRA Domain IV: 0013: Inquiry and Research

Appendix C: Expert Panel Participation Request

Cynthia Blakeslee
4129 Maple Drive
Chesapeake, Virginia 23321

Re: Request to Serve on an Expert Panel

Dear Dr.

I am a doctoral student at Old Dominion University studying the knowledge and perceptions about reading instruction of people preparing to become special education teachers. My study is titled "A mixed methods study of special education teachers' knowledge of reading instruction and perceptions concerning their preparation to teach reading." Both my dissertation committee and the Institutional Review Board have approved my study.

As part of my dissertation study, I am attempting to validate two instruments to use to examine the perceptions of special education candidates concerning their courses in reading instruction. In order to achieve this, I am attempting to contact professors who have recently taught either TLED 468/568: Language Acquisition and Reading or READ 680: Reading to Learn Across the Curriculum to serve on an expert panel to review my study measures.

My reason for contacting you is to request that you agree to serve on this expert panel to assess the quality of the two instruments I have designed to assess special education teacher candidates/teachers belief concerning the content of the reading courses taken during their preparation. The first instrument is called the Reading Instruction Preparation Questionnaire and the interview protocol is called the Reading Instruction Preparation Interview.

As someone who has taught either one or both of these courses, you are specifically qualified to offer the type of information that can assist me with improving these measures. If you agree to participate, I want to assure you that your individual responses will be kept confidential and no personal information that you suggest will be disclosed. If you have any concerns, I can be contacted at 757-621-4536 or at my email address at cblak002@odu.edu.

May I ask you to take a few minutes of your valuable time to complete the two expert panel questionnaires: the Expert Review of Reading Instruction Preparation Questionnaire and the Expert Review of Reading Instruction Preparation Interview? I have copied each of the two forms that should be returned to me onto either blue or green paper for ease of identification. Unless you choose to add comments onto the instruments, there is no need to return those documents. A stamped envelope has been included for your convenience. Thank you so very much for your time and expertise. I remain

Sincerely,

Cynthia Blakeslee
Doctoral Candidate

Appendix D: Expert Review of Reading Instruction Preparation Questionnaire

Directions: Please provide your views as they concern the Reading Instruction Preparation Questionnaire included with this questionnaire. Specific information related to appropriateness and clarity of items and suggestions for improvement are appreciated.

<p>1. Are the directions written in a clear and concise manner? Comments/Suggestions:</p>	<p>Yes _____ No _____</p>
<p>2. Do the items adequately and accurately address the content associated with reading instructional knowledge? Comments/Suggestions:</p>	<p>Yes _____ No _____</p>
<p>3. Are there any topics associated with reading instruction that should have been included that were not present in the survey? Comments/Suggestions:</p>	<p>Yes _____ No _____</p>
<p>4. Is each item written clearly? Comments/Suggestions:</p>	<p>Yes _____ No _____</p>
<p>5. Is the overall appearance of the survey professional? Comments/Suggestions:</p>	<p>Yes _____ No _____</p>
<p>6. Are there any items that should be improved? If yes, which one(s)?</p>	<p>Yes _____ No _____</p>
<p>7. Do you have any other suggestions for improvement of this survey? Comments/Suggestions:</p>	<p>Yes _____ No _____</p>

Appendix E: Pilot Test Review of Reading Instruction Preparation Questionnaire

Directions: Please provide your views as they concern the Reading Instruction Preparation Questionnaire. Specific information related to appropriateness and clarity of items and suggestions for improvement are appreciated.

<p>1. Are the directions written in a clear and concise manner? Is the wording of the questionnaire clear? Comments/Suggestions:</p>	<p>Yes ___ No ___</p>
<p>2. Is the introduction to the questionnaire clear? Is it likely to result in participants agreeing to complete the interview? Is the introduction well worded? Comments/Suggestions:</p>	<p>Yes ___ No ___</p>
<p>3. Was the purpose of the questionnaire apparent? Did the questions make sense? Comments/Suggestions:</p>	<p>Yes ___ No ___</p>
<p>4. How long did the questionnaire take to complete? Did that seem like a reasonable amount of time to ask someone to answer questions in a questionnaire? Comments/Suggestions:</p>	<p>Yes ___ No ___</p>
<p>5. Were any questions difficult to understand? Comments/Suggestions:</p>	<p>Yes ___ No ___</p>
<p>6. Are there any items that should be improved? If yes, which ones?</p>	<p>Yes ___ No ___</p>
<p>7. Is the questionnaire too long?</p>	<p>Yes ___ No ___</p>
<p>8. Do you have any other suggestions for improvement of this questionnaire? Comments/Suggestions:</p>	<p>Yes ___ No ___</p>

Appendix F: Reading Instruction Preparation Questionnaire Introduction

Dear Special Educator:

I am a doctoral student at Old Dominion University studying the knowledge and beliefs of special educators related to their preparation to teach reading. I am writing to you to request your participation in a survey. This survey requests your views regarding the preparation you received to teach reading.

As someone who has recently attended classes for special education teacher preparation, you have important information related to the knowledge that teachers acquire in their preparation program to teach reading. Thirteen areas of special education teacher preparation to teach reading will be examined. The survey will take approximately fifteen minutes to complete.

Your participation of course is completely voluntary. I, however, want to thank you if you choose to participate in this survey by putting your name into a drawing for a chance to *win \$100.00*. The link at the end of the survey will take you to a site to put your information for the drawing. I want to assure you that your identity in the survey will continue to remain anonymous. All of your answers will remain completely free of individual identifiers and no individual responses will be included in the final survey results.

If you have any further questions regarding this survey, my contact information, is listed below for your convenience.

Your participation could help improve the quality of teacher preparation. I thank you in advance for your assistance.

Cynthia Blakeslee, Ed. S.
Doctoral Candidate
E-mail: cblak002@odu.edu
Phone: (757) 621-4536

P.S. If you have concerns later or wish to be withdrawn, you may contact the following individuals with the information provided below.

Dr. Charlene Fleener, Ed.D.,
Chair Teaching & Learning
E-mail: cfleener@odu.edu
Phone: (757) 683-3284

Additional points of contact with concerns with this research or requests for withdrawal from this study may be directed to the Old Dominion University Office of Research at (757) 683-3460 or Dr. George Maihafer, Ph. D., Institutional Review Board Chairperson at (757) 683-4520.

Appendix G: Special Education Teachers Preparation to Teach Reading Interview

Category: Well Prepared Special Educator _____ or Poorly Prepared _____

Directions: Please answer the following questions related to the two reading courses taken during your special education teacher preparation experiences.

Background

1. To begin with, can you tell me about your preparation to teach special education?
Follow up questions:

Do you or have you taught in the field of special education?
Could you explain?

2. Have you passed the Virginia Reading Assessment for Elementary and Special Education Teachers?
Follow up:

What was your experience with this assessment? Did you take the VRA more than once? If so, how many times did you take it prior to passing it?

Preparation: (Courses)

3. Could you tell me some of the important topics addressed in your reading courses?
Follow up:

What topics, if any, could be added to the topics taught to improve reading instruction preparation? Were topics missing from your reading coursework?

4. Overall, how well did your university reading courses prepare you to teach reading? Were both courses helpful with learning about how to effectively teach reading and to integrate reading into instruction?

Knowledge:

5. Did your reading courses teach you to incorporate the concept of diagnostic teaching into your instruction?

Follow up:

If so, how did each course assist in this area? Can you name diagnostic assessments with which you became aware during your courses? Do you believe you were adequately prepared in this area of instruction? Do you have any suggestions to improve teacher preparation in this area?

Cont. Appendix G Special Education Teachers Preparation to Teach Reading Interview

6. Did either of your reading courses teach you strategies or activities to use to develop phonological or phonemic awareness of students?

Follow up:

If so, how did each course assist in this area? Do you believe you were adequately prepared on methods to use to in this area of instruction? Do you have any suggestions to improve teacher preparation in this area?

7. Did either of your reading courses teach strategies or activities to improve decoding skills of students?

Follow up:

If so, how did each course assist in this area? Do you believe you were adequately prepared on methods to use in these areas of instruction? Do you have any suggestions to improve teacher preparation in this area?

8. Did either of your reading courses teach you strategies or activities to improve reading fluency of students?

If so, how did each course assist in this area? Do you believe you were adequately prepared on methods to use in these areas of instruction? Do you have any suggestions to improve teacher preparation in this area?

9. Did either of your reading courses teach you strategies or activities to improve vocabulary development of students?

Follow up:

If so, how did each course assist in this area? Do you believe you were adequately prepared on methods to use in these areas of instruction? Do you have any suggestions to improve teacher preparation in this area?

10. Did either of your reading courses teach you strategies or activities to improve students' reading comprehension? Did either of your courses teach you about content reading strategies?

Follow up:

If so, how did each course assist in this area? Do you believe you were adequately prepared on methods to use in these areas of instruction? Do you have any suggestions to improve teacher preparation in this area?

Cont. Appendix G: Special Education Teachers Preparation to Teach Reading Interview

11. Did either of your reading courses teach you strategies or activities that could incorporate spelling and writing into your reading instruction?

Follow up:

If so, how did each course assist in this area? Do you believe you were adequately prepared on methods to use in this area of instruction? Do you have any suggestions to improve teacher preparation in this area?

12. What was the greatest value to you with the reading courses taken during your teacher preparation?

Follow up:

Can you tell me a little more?

13. What was the greatest weakness in the reading courses taken during your teacher preparation?

Follow up:

Can you tell me a little more?

14. How did your courses prepare you to teach diverse learners?

Follow up: Can you explain your belief regarding your preparation?

15. Did course adequately prepare you to pass licensure exams such as the VRA? Please explain.

16. What, if any, additional courses do special education teachers need to teach reading effectively?

Follow up: How would that improve reading instruction?

Appendix H: Table of Specifications for Reading Instruction Preparation Interview

Item	Virginia Reading Assessment Objectives
1, 2	Background: SPED preparation, teaching & VRA experiences
3	Important reading topics in reading courses
4, 12, 13 14, 15, 16	Value of reading courses
5	VRA Domain I 0001: Diagnostic Screening & Assessment
5	VRA Domain I 0002: Using Informal Reading Assessments
6	VRA Domain II 0003: Oral Language
6	VRA Domain II 0004: Phonological Awareness
7	VRA Domain III 0005: Concepts Of Print
7	VRA Domain III 0006: Systematic Phonics Instruction
8	VRA Domain III 0008: Fluency And Reading Comprehension
9	VRA Domain III 0007: Word Analysis/Vocabulary Development
10	VRA Domain III: 0009: Comprehension Strategies For Fiction
10	VRA Domain III: 0010: Comprehension Strategies For Nonfiction
11	VRA Domain IV: 0011: Writing Skills
11	VRA Domain IV: 0012: Spelling & Writing Convention
11	VRA Domain IV: 0013: Inquiry and Research

Appendix I: Expert Review of Reading Instruction Preparation Interview

Directions: Please provide your views as they concern the Reading Instruction Preparation Interview included with this questionnaire. Specific information related to appropriateness and clarity of items and suggestions for improvement are appreciated.

<p>1. Are the directions written in a clear and concise manner? Comments/Suggestions:</p>	<p>Yes _____ No _____</p>
<p>2. Do the items adequately and accurately address the content associated with reading instruction courses? Comments/Suggestions:</p>	<p>Yes _____ No _____</p>
<p>3. Are there any topics associated with reading instruction that should have been included that were not present in the interview? Comments/Suggestions:</p>	<p>Yes _____ No _____</p>
<p>4. Is each item written in a clear and concise manner? Comments/Suggestions:</p>	<p>Yes _____ No _____</p>
<p>5. Are there any items that should be improved? If yes, which ones?</p>	<p>Yes _____ No _____</p>
<p>6. Do you have any other suggestions for improvement of this interview? Comments/Suggestions:</p>	<p>Yes _____ No _____</p>

Appendix J: Informed Consent Document

PROJECT TITLE: A mixed methods study of special education teachers' knowledge of reading instruction and perceptions concerning their preparation to teach reading

INTRODUCTION

The purpose of this form is to provide information that will assist you in your decision to either agree to participate or decline to participate in an interview that seeks to study special education teachers' knowledge of reading instruction and their perceptions concerning their preparation to teach reading. The end of the form will also serve to provide space to document your agreement to participate in this interview if you decide to participate.

RESEARCHERS

The Principal Investigator for this study is Dr. Charlene Fleener, Ed.D., Chairperson of the Department of Teaching & Learning in the College of Education. Other investigators in this project include Dr. Linda Bol, Ph. D., Professor of Educational Foundations; Dr. Leigh Butler, Ph. D., Director of Teacher Education Services; and Cynthia Blakeslee, Ed.S., doctoral candidate.

DESCRIPTION OF RESEARCH STUDY

The topic of teacher preparation has been addressed in numerous studies. Fewer studies have studied the preparation of special education teachers to teach reading. This study investigates the knowledge special educators have to teach reading, the role of reading courses in preparing teachers to teach reading, and the beliefs special education teachers and teacher candidates have concerning the reading courses taken during their preparation to teach reading. If you agree to participate in this study, you will be asked to answer interview questions related to the reading courses you took during your preparation to become a special education teacher.

RISKS AND BENEFITS

RISKS: No known risks exist for participating in this study above the concerns associated with maintaining the confidentiality of individuals and their responses. As interview responses will be recorded both in the form of manually recorded interview notes taken by the interviewer and audio recordings, all information that could serve to identify participants will be coded and securely stored. All data collected during the interview to include but not limited to participants' names, class member identities, references to specific professors, discussions of course activities or other data that could result in deductively identifying the participant will be replaced in the transcripts with pseudonyms. Field notes from this project will be kept secured in a protected locked location that can only be accessed by the researchers in this study.

BENEFITS: No known benefits exist for you participating in this study.

Cont.

Appendix J: Informed Consent Document

COSTS AND PAYMENTS

Your participation of course is completely voluntary and no payment is possible. We, however, want to thank those who choose to participate by putting each participant's name into a drawing for a chance to win a prize: Three chances are offered with the first place winner receiving \$200.00, second place receiving \$150.00 and third prize receiving \$100.00.

NEW INFORMATION

If new information is obtained that could affect your willingness to participate, you will be contacted with this information.

CONFIDENTIALITY

Every effort will be made to protect the identity and privacy of each participant. All responses will remain completely free of individual identifiers. Any quotes used will be coded and cleaned to assure that all markers that could disclose the identity of participants are removed.

WITHDRAWAL PRIVILEGE

If you grant permission to be interviewed, but decide to change your mind later, your request will be honored. In either case, your decision will not affect your relationship with Old Dominion University.

If you give permission to be interviewed as part of this research project, please sign here.

Signature

Date

If you have further concerns later, you may contact me at the number listed below.

Dr. Charlene Fleener, Ed.D.,
Chair Teaching & Learning
E-mail: cfleener@odu.edu
Phone: 757-683-3284

Cynthia Blakeslee, Ed. S.
Doctoral Candidate Literacy Leadership
E-mail: cblak002@odu.edu
Phone: 757-621-4536

Appendix K: Response Percentages for RIPQ Items

Item	Objectives 1: Diagnostic screening and assessment	SD	D	N	A	SA
1	The reading courses taken during my preparation to teach taught me about formal assessments such as norm and criterion referenced assessments.	0.0	7.1	14.3	50.0	28.6
2	The reading courses taken during my preparation to teach taught me about informal assessments to include informal reading inventories, teacher observations, literacy screenings, and diagnostic assessments.	0.0	3.6	14.3	50.0	32.1
3	The reading courses taken during my preparation taught me how to use formal and informal assessments to monitor ongoing reading progress.	0.0	17.9	10.7	53.6	17.9
Objective 2: Using informal reading assessments						
4	The reading courses taken during my preparation to teach taught me how to use assessment results to differentiate reading instruction.	0.0	25.0	25.0	32.1	17.9
5	The reading courses taken during my preparation to teach taught me how to use assessment data to plan reading instruction to assist struggling readers.	3.6	17.9	25.0	39.3	14.3
6	The reading courses taken during my preparation to teach taught me how to use assessment data to create flexible groupings of students.	3.6	28.6	28.6	25.0	14.3
Objective 3: Oral language						
7	The reading courses taken during my preparation to teach taught how to assist English language learners acquire Standard American English.	21.4	17.9	28.6	25.0	7.1
8	The reading courses taken during my preparation to teach demonstrated how to address the needs of students with language delays and disorders.	3.7	29.6	18.5	37.0	11.1
9	The reading courses taken during my preparation to teach provided me knowledge of how to create a learning environment that honors linguistic and cultural diversity.	0.0	14.3	21.4	57.1	7.1

Cont.

Appendix K: Response Percentages for RIPQ Items

Performance Objective 4: Phonological awareness		SD	D	N	A	SA
10	The reading courses taken during my preparation to teach taught me effective instructional strategies and skills to promote students' phonological awareness.	0.0	11.1	7.4	70.4	11.1
11	The reading courses taken during my preparation to teach taught me to identify effective instructional strategies for promoting students phonemic awareness.	0.0	7.1	10.7	64.3	17.9
12	The reading courses taken during my preparation to teach taught me instructional strategies to help students hear, say, and manipulate phonemes in spoken words containing one or more syllables.	3.6	10.7	10.7	57.1	17.9
Objective 5: Concepts of print						
13	The reading courses taken during my preparation to teach taught me how to promote an understanding in my students of concepts of print.	0.0	3.6	10.7	57.1	28.6
14	The reading courses taken during my preparation taught me ways to help students recognize and name uppercase and lowercase letters and to encourage students' automatic recognition of common sight words.	0.0	21.4	21.4	35.7	21.4
15	The reading courses taken taught me how to teach the concept that sounds are represented by letters, how to identify the beginning sounds of consonants, and how to identify vowel sounds in one syllable words.	0.0	10.7	21.3	50.0	17.9
Objective 6: Systematic phonics instruction						
16	The reading courses taken during my preparation to teach taught me to teach reading using a scope and sequence that begins with strategies to help beginning readers to blend consonant and vowel sounds to decode single syllable words.	7.4	14.8	3.7	66.7	7.4

Cont.

Appendix K: Response Percentages for RIPQ Items

		SD	D	N	A	SA
17	The reading courses taken during my preparation to teach taught me to teach beginning readers to use knowledge of word families with single-syllable words to help decode unfamiliar words containing these patterns.	0.0	18.5	14.8	51.9	14.8
18	The reading courses taken during my preparation to teach taught me explicit strategies for teaching students how to decode words that have consonant blends or digraphs, various vowel digraphs or r-controlled vowels, and words with many syllables.	7.4	11.1	18.5	48.1	14.8
Objective 7: Word analysis and vocabulary development						
19	The reading courses taken during my preparation to teach taught me how to use word-analysis for vocabulary development.	7.4	18.5	14.8	40.7	18.5
20	The reading courses taken during my preparation taught me to help students use context clues in a sentence to determine the meaning of text.	0.0	11.1	11.1	40.7	37.0
21	The reading courses taken during my preparation provided me with instructional strategies to improve my students' understanding and comprehension of vocabulary through word analysis and dictionary skills	3.7	14.8	11.1	51.9	18.5
Objective 8: Fluency Instruction and comprehension						
22	The reading courses taken during my preparation to teach taught me the value of increasing the reading fluency of students and methods to increase the reading fluency of students.	3.7	14.8	7.4	40.7	33.3
23	The reading courses taken during my preparation to teach taught me how to teach students to comprehend text using literal, inferential, and evaluative comprehension skills and to use comprehension strategies before, during, and after reading.	3.8	11.5	0.0	61.5	23.1

Cont. Appendix K: Response Percentages for RIPQ Items

24	The reading courses taken during my preparation provided an understanding of the important role of culture, the family, the community, and independent reading on reading development	0.0	19.5	11.5	46.2	23.1
Objective 9: Comprehension strategies for fiction						
25	The reading courses taken during my preparation to teach provided me with knowledge on how to choose appropriately leveled poetry and fiction selections that increase student comprehension and enjoyment of independent reading.	3.8	23.1	23.1	46.2	3.8
26	The reading courses taken during my preparation to teach taught me how to recognize story elements to strengthen students' comprehension and their skills to respond and analyze literature.	3.8	30.8	19.2	42.3	3.8
27	The reading courses taken during my preparation to teach taught me how to teach students about various literary genres and the differences between them.	3.8	26.9	26.9	42.3	0.0
Objective 10: Comprehension strategies for nonfiction						
28	The reading courses taken during my preparation to teach provided me with the knowledge of how to teach the use of reading comprehension strategies and instructional strategies with nonfiction materials.	3.8	7.7	30.8	46.2	11.5
29	The reading courses taken during my preparation to teach helped me to promote students' comprehension by helping the identify text structure and organization on nonfiction text and materials.	0.0	30.8	11.5	46.2	11.5
30	The reading courses taken during my preparation to teach provided the knowledge I need to assist students with developing skills related to locating evidence to support their opinions, predictions, and conclusions from nonfiction sources.	0.0	32.0	16.0	44.0	8.0

Cont.

Appendix K: Response Percentages for RIPQ Items

Objective 11: Writing skills						
31	The reading courses taken during my preparation to teach taught me to teach that writing has both developmental and recursive stages.	11.5	19.2	23.1	38.5	7.7
32	The reading courses taken during my preparation to teach taught me to teach writing with the use of instructional strategies that engage students in writing for a variety of purposes and to promote comprehension.	0.0	15.4	15.4	53.8	15.4
33	The reading courses taken during my preparation to teach taught me how to teach writing for a variety of purposes and to use teacher conferences to help students develop proficiency in techniques such as choosing vocabulary, varying sentences and using transitions.	3.8	19.2	26.9	34.6	15.4
Objective 12: Spelling and writing conventions		SD	D	N	A	SA
34	The reading courses taken during my preparation to teach reflected the connection between developmental writing and spelling stages.	3.8	26.9	11.5	50	7.7
35	The reading courses taken during my preparation taught me to teach spelling patterns using a systematic and explicit sequence of instruction.	0.0	34.6	11.5	42.3	11.5
36	The reading courses taken during my preparation taught me instructional strategies that help students develop writing skills related to mechanics, punctuation, and other writing conventions.	0.0	26.9	34.6	34.6	3.8
Objective 13: Inquiry and research						
37	The reading courses taken during my preparation taught me effective reading and writing techniques to help students locate, organize, evaluate, and synthesize information from a variety of print and electronic sources.	3.8	19.2	26.9	42.3	7.7
38	The reading courses taken during my preparation to teach taught me strategies for helping students to recognize text features such as tables of contents, indices, and how to use dictionaries and other reference materials.	0.0	30.8	15.4	46.2	7.7
39	The reading courses taken during my preparation to teach taught me ways to promote students' skills in using technology and media resources.	3.8	38.5	15.4	34.6	7.7

Appendix L: RIPQ Responses to Open-Ended Question 40

1. "The items that I circle 3 may have been covered. I don't recall. My reading courses were probably 4-5 years ago so I don't remember for sure."
2. "More on evaluation and how to help older students who do not read. In one class the professor had us D.E.A.R. for a portion of the class about 30 minutes. I think the time might have been better spent learning some strategies to assist struggling readers."
3. "More instruction on specific strategies, techniques, etc. would be helpful. I felt totally ill equipped to help my struggling readers on both the high school and now the elementary level. Also, helping teachers access other resource materials would be helpful."
4. "My program only had 1 reading course, and it revolved around elem. I teach H.S."
5. "Since many of us will not be reading teachers, but may need to teach or support reading skills/lesson, maybe the teacher preparation should also incorporate the necessary course work to be considered highly qualified in reading."
6. "More hands-on opportunities."
7. "Realize that making learning "fun" increases learning exponentially."
8. "I am not sure this questionnaire applies to me because my focus was on LD and BD. I only seemed to take reading course for general special ed, not specific reading instruction. I could use more specific reading and writing instruction."
9. "I have been teaching toddlers w/ASD since student teaching in 2007. When I student taught, it was a shock to discover that my supervising teachers did not know how to teach reading. I was able to easily teach the multi-age group (2nd-6th grade)

of boys in the Behavior Intervention Program where I student taught both decoding and comprehension skills. I am so happy with the education I received at [university name deleted]. It made it easy for me to complete the coursework to become a board certified behavior analyst which is what I do now.

10. "Put together student folders for collecting data on reading."

11. "I only had to take 2 reading courses. More are needed !!!"

12. "Most classes were an overview, and had little focus on explicit teaching strategies."

13. "Anything they can include to help students understand the process of writing would be helpful. Many of the things I did not learn in my reading classes I did learn, or was expose to during my student teaching."

14. "There are a lot of questions in this survey that I answered "neither agree nor disagree" because I don't remember going over that information in my reading classes. I started my career in SPED at a secondary school and felt that I had a pretty good handle on helping students increase their comprehension, improve their writing skills, and increase their vocabularies. Once I moved into an elementary position, however, I felt completely unprepared to teach students how to read that didn't have basic reading skills already established. I understand the pedagogy. I know what is developmentally appropriate. My problem was that I didn't know what teaching reading actually looked like in practice. I would suggest a practicum component to the reading classes, and possibly required volunteer hours working with low functioning readers."

15. "May spend more time in going over dyslexic possibilities, as most students I have worked with see letters in a different aspect."

16. "None really. Reading to Learn across the Curriculum was an amazing course. I only wish I'd been able to take it in person."

17. "I believe it would be helpful if student teachers could prepare a portfolio that includes the methods, strategies and assessments which that teacher used to instruct at least two different students. The students should have different abilities and needs so that the teacher would have to design different instruction for each student. The teacher should be able to keep this portfolio after it has been graded and perfected. After the stress of completing state testing and job-hunting, the new teacher would have the portfolio as a "one stop" reference tool in his or her classroom."

18. "Allow more time for student practice. The practice based assignments we had were excellent. I just needed more of them so I could be proficient when I first entered the classroom."

19. "I would definitely have more interactive activities. Also teaching teachers how to teach the courses through various strategies, instead of just the conceptual basis of the course would be prudent. Class time should be cut down and more contact with actual in class time should be used. Also some courses should be waived or signed off on so provisionally licensed teachers could get their 5yr. renewable faster."

Appendix M: Interview Responses for Low Knowledge of Reading Case

Responses to each interview question were in most cases analyzed within the context of the given question. There were some occasions in which follow up questions were compressed into the initial question and some instances where individuals added to an earlier posed question while responding to a different question. These responses were added to the earlier question when appropriate.

Question 1: To begin with, can you tell me about your preparation to teach special education?

The first question posed to participants concerned their background and experiences that assisted with their process to become prepared to teach special education students. Teachers in the poor knowledge of reading case exhibited a variety of preparation experiences in their field while they were participating in the course work to complete licensure requirements to obtain credentials in their field. One circumstance shared by all five of the teachers in the poor knowledge of reading case was that they all were working in the field of special education with a provisional license while completing requirements for licensure. One member of this group described her special education preparation thusly by stating that she “took legal aspects of special education; fundamentals of reading; reading across the curriculum; and several other special education classes.” while she was working as a provisionally certified special education teacher.

In describing her experience, another teacher stated that she worked in special education “under a provisional license.” She continued by explaining:

“I was taking my classes as I was teaching. I felt that the courses paralleled to my job so whatever I was studying I was able to implement into my

classroom. So I think that it made it a lot easier because I could go back and try it on my students and I think it helped that you were able to use some of your own students.”

Another teacher explained that she had little preparation prior to entering the classroom as a teacher, she explained: “The preparation I had was really the masters’ level 500 course that I took that everyone has to take in order even to get a provisional license.”

Two of the members of the group had an additional indirect route from social work to the special education field and one included personal and family reasons for entering the field. This teacher stated:

“First I got a degree in social work. I have a BSW [Bachelor’s degree in social work] degree from [university name deleted] in 1975. I didn’t do social work I didn’t pursue social work I decided that maybe it was not my calling. At that time, I got married and I became the mother of twins and I had a special needs child and he has autism so I stayed at home with him for about 14 years. At 2 and a half, he was diagnosed as developmentally delayed with characteristics of autism. So in order for me to help him, he was in the program with [school system name deleted] public schools and he was placed with [program name deleted] when he was two and a half to three and I decided then that in order for me to help him I had to know something about autism because strangely enough I had never heard the word autism or the word related to autism so I decided to substitute or volunteer in his classroom and then I became a substitute for the program. I was only working a few hours a month just trying to get my hand in it about what was going on with

his disability and I found it interesting so I decided to go back to school and pursue an educational degree so at that time I applied to [program name deleted] as a teacher assistant and I decided to enter their growing teacher's program since I already had a degree in social work. And I just had to take a few classes for certification and I got my license as a teacher."

Question 2: Do you or have you taught in the field of special education?

All of the individuals included in this case (5:5) had significant experiences with teaching students who receive special education services prior to their completing requirements for licensure. Each individual indicated that they had between three and ten years of experience in the classroom with some type of special education position. One individual stated concerning her teaching experience: "I am a math teacher for 6th, 7th, and 8th grade in a self-contained setting at an alternative school." Another individual stated, "I've been teaching for ten years, but have only been fully licensed for the last three. The ten years includes being a TA [teaching assistant]."

Question 3: What was your experience with the Virginia Reading Assessment?

As would be expected, this group found the VRA to be challenging as they were identified for participation in the interview based on poor performance on the VRA. The current question, however, was not meant to emphasize their status on the test, but rather sought to determine their perspective on the credentialing exam as it related to the reading instructional courses that should have prepared them for reading instruction and hence the knowledge expected of teachers as evidenced by the content of the VRA assessment. At the times of the interviews, all individuals in this extreme case had passed the VRA, but had required numerous retests before finally passing

the assessment. One individual in the group took the VRA four times, two took it three times, and the remaining two took it twice before passing the exam. Each of the special educators indicated that the exam was very difficult. One teacher stated:

“It was stressful. I took it three times. My first time around I didn’t know how to study for it. The second time I missed it by five points. The third time I actually looked on line and found a VRA study guide with study cards and I studied those and I was able to pass it the third time. It was stressful.”

Another teacher felt that she was the cause of her lack of success on the exam. She stated:

“I did not take it [the VRA] as seriously as I should have. I had been led to believe, and I’m not making an excuse because it’s still my responsibility, that the VCLA [another required assessment for teachers] and the VRA were the same. And the VCLA, I just took because I needed to have it in order to give to human resources so I figured that the VRA was the same thing. It was a completely my fault. As soon as I looked down at that test booklet, I said this is going to be a problem.”

Another teacher also expressed difficulty with the test. She indicated that:

“It was challenging. I had to take in twice and I had to work with the English teachers here in the building [in her school] to assist me with the writing portion to teach me what to look specifically for, polish up on my grammar, and all that.”

Question 4: Could you tell me some of the important topics addressed in your reading courses?

There was quite a variety of responses related to the topics covered in the required reading courses. According to the participants, some of the prominent topics addressed in the courses included the following:

- Using before, during, and after strategies to increase comprehension
- Using assessment to determine student ability
- Motivating students to read
- Using different instructional games
- Fluency
- Modifying a lesson plan
- Modifying a lesson for a specific student reading level
- Modifying books
- Adjust reading activities in to differentiate instruction
- Using props and concrete objects
- Using anticipation guides
- Activating prior knowledge
- Developing cloze notes and modified cloze notes with highlighting
- Using the jigsaw strategy

Based on the above examples of responses, most of the individuals (4:5) recalled comprehension strategies and skills as representing the most important topics taught in their reading instructional courses. The one participant that reflected somewhat differently concerning topics of study considered what she ascertained as the focus of the preparation. She felt that the overall focus of reading preparation consisted of strategies to address the needs of students with an emotional or learning disability and

did not assist with other disabling conditions found among special education students who have multiple disabilities or intellectual disabilities. She explained her view as follows:

“I really thought it [the reading instruction preparation] leaned more towards ED [emotional disability] and LD [learning disability] not necessarily multiple disabilities or intellectual disabilities because while they may not be able to read, they still need to be exposed to a reading program. Okay I can’t hand them a book and say read this. I have to come up with some way and I’m not so sure that was really addressed.”

Question 5: What topics, if any, could be added to the topics taught to improve reading instruction preparation?

Special education teachers in this group expressed strong views on topics that should be added to those currently taught to improve reading instruction preparation. All five individuals in this case scenario indicated that preparation in general did not appear to be comprehensive enough to actually differentiate the instruction necessary to address the reading instructional needs of their students. Two of the interviews addressed concerns perceived around the need to differentiate instruction based on lack of communication skills of students and three believed that the reading instruction preparation did not differentiate instruction based on the reading levels and characteristics of the students.

One of the teachers who expressed a strong view concerning what she perceived as the need for special education teachers to have additional preparation stated that students receiving special education services often times have significant differences in instructional needs due to perceptual and communication disorders. Her position

was that teachers need to be skillful in dealing with those communication difficulties of students who could not adequately convey problems with their text comprehension. She explained: “I wish I had more experience in I guess it was with how kids read and make sure they get the content of what you’re trying to get across to them because some kids you don’t know if they are retaining it because they are not really capable of giving you their answer back.”

Similarly, a second teacher expressed concerns about difficulties with addressing processing difficulties of students. She said:

“It’s something along the lines of in special education we learn that it is a processing deficit. The speed at which the students are trying to grasp this information and reading is separate in that it teaches me how to prepare them for the content but putting the two together. You have a student with a processing deficit that we are trying to work on with the reading skills. How do we teach then reading to assist with their processing so that they can learn on the same level with the rest of the other students? That’s why we look at their accommodations so that they are at the same level as their peers.”

Three teachers expressed concerns about the differentiating of reading instruction based on the reading levels and ages of students. One special education teacher who prior to passing the VRA was working as a provisionally certified special education teacher of mathematics in a middle school program stated, “For teachers not entering from the teaching profession and they’re coming from a different profession, I think there should be more courses given to teachers for reading. The two courses that I took for reading didn’t actually prepare me for reading.” While she also added that she was not very interested or invested in the reading instructional courses that she

was required to take because she was already at that time working as a provisionally certified special education teacher who was teaching only middle school math in a self-contained classroom, she explained her view the somewhat conflicted view of additional reading preparation thusly:

“For teachers like me who knew they would not be teaching reading it was very hard for me to take the information and to apply it to students as a teacher not teaching reading or English and not an elementary teacher teaching in the middle school.”

She, however, indicated her belief that special education teachers should be well prepared in reading instruction by explaining that there are additional skills necessary to assist special education teachers who are teaching students with lower reading levels in a middle school setting. She stated:

“By the time they get to me, I’m expecting them to know about their vowels and their short vowels, the running vowels. But by the time they get here, some of our students are so low, and they don’t know about the dip the dip. I don’t know how to say the word, diphthongs, all this other stuff the clapping. All this stuff you teach in elementary, you don’t teach in middle so you lose that information.”

From a different instructional perspective was the view of the kindergarten special education teacher. She stated:

“I wish that they would focus more on how to differentiate their instruction. I think it may be needed. I think the classes mainly focus on early elementary activities. I kind of wish that they would at the time add a course. What if a child is not on that reading level and you do have to start with concrete objects

so basically early early reading skills. I wish that would have been covered as well.”

Finally, there was the concern expressed by the teacher who felt the instructional level addressed in her preparation did not address her students’ reading needs. This teacher stated that her reading instruction preparation classes did not actually teach reading at an instructional level that reflected the beginning reading level skills evidenced by most of her students. She explained the situation she experienced in the following manner:

“One good example of one of my classes, actually two of them, where we had to teach a lesson: When it came to reading, I tried to make sure that everything I did through [name of university name deleted] if I was going to spend time on a lesson, it was going to be something I could use here [in the classroom with authentic instruction]. And when I got to my reading courses I couldn’t. I had to do them for a level that my students would never have been able to use it because they just could not. One of the professors told me that my population of students was too low for this assignment. You’re going to have to do ... I honestly don’t remember what her name was but I thought ‘Gosh’ and maybe they[her students] are [too low]but all of these courses are for my special education preparation and all the classes were geared around trying to get a special education endorsement. I found a little difficulty with that.”

She reiterated that she did not feel that she was exposed in her preparation to differentiating reading instruction for lower functioning students. As she said, “And it doesn’t have to be an eighteen week course on teaching lower functioning, but certainly some exposure to it.”

Question 6: Overall, how well did your university reading courses prepare you to teach reading?

The general pattern of responses among this group expressed a view that the preparation did not adequately prepare them to teach reading. Only one of the five teachers expressed an overall positive sentiment to the question that addressed the proficiency of the reading courses taken during pre-service preparation taken to learn how to teach reading. This teacher stated “I gained a lot from the courses. I would not know what I know without the courses.” The remaining four expressed a less positive sentiment. One such view was expressed by a teacher who stated that “It prepared to a certain extent. The courses didn’t prepare us for all learners.”

Other responses expressed a mixed view concerning their preparation to teach reading. In total three of the five teachers indicated that the professional development they received in-service and through other opportunities such as through the A Beka reading program were more helpful in their preparation to teach reading. At one end of the continuum was the teacher who stated: I think they prepared me well.” As she continued explaining, however, her statement mitigated her initial statement as she explained, “... but I’ve always worked with phonics throughout the years teaching. I’ve never taken formal classes but I’ve always used the A Beka program teaching the phonics and blend sounds.” She additionally stated concerning preparation to teach beginning phonics instruction, “They [reading preparation courses] really didn’t offer that [referring to phonics instruction]. They just say, ‘This is how you teach the kids to read’, but the actual phonetics, how to combine sounds to help the students work with phonics was not included.”

The two remaining teachers stated that the professional development they received after their university preparation was more helpful. One of these teachers stated:

“It [reading preparation] was more a little bit of everything. It was a variety of things you can use.” This same teacher concerning her in service professional development offered by the school system after employment she stated : “I have to be honest with you. I though what I learned in our literacy training was more helpful than what I got from taking the courses.”

Further reinforcing the point of reading instructional preparation was the view expressed by the remaining teacher in this case. When asked her view on how well the university preparation taught her to teach reading, her response began in the form of a question. She asked: “To all students? It probably taught me better to teach reading to general ed [general education students] more so than it did special ed [special education students].” In her concluding statement on this issue, she indicated the view that additional preparation should be added “even if it’s an extra course or even one little section ...”

Question 7: Were both courses helpful with learning about how to effectively teach reading and to integrate reading into instruction?

Even with previously mentioned concerns, all five of the teachers in this case felt that both classes were helpful. Teacher comments were:

- “Reading across the content did. But again I teach math and math is a subject that has some reading but is more numbers and by the time you get to me, if you don’t know how to read, it’s going to be very difficult to be able to do math because in the special education setting that I am, I really don’t have

enough time to be able to stop to help you read or teach a student how to read when everything is so focused on SOLs.”

- “You can do reading all day. They taught me the concept that students are reading all day.”
- “It’s always helpful to learn how to prepare the students so that when you present them with information they have enough of the background that you can jump right into the content area so they’re not coming in cold.”
- “Oh yes, again there was a lot of hands on activities. “
- “Yes, not necessarily my curriculum that I use here, but it was interesting to learn.”

Question 8: Did your reading courses teach you to incorporate the concept of diagnostic teaching into your instruction?

Four of the five special educators who were interviewed indicated that they did not learn to incorporate diagnostic teaching in their instruction and only one could name any assessments to use to guide instruction. One special educator commented that this was the most significant problem she had with her preparation. She explained this by stating:

“That might be where I’m trying to tell you. How do you diagnose where a child from special education might be weak in and how am I supposed to bring that weakness up to their greatest potential. I think that was what I was trying to get at [in an earlier response]. I can’t diagnose. Are you really having a problem? I don’t know how to diagnose. Is there some kind of way [to

know] of a low functioning child if he really retained what I am doing with them?"

The only suggestion for improvement of preparation in this area of reading instructional knowledge was to include more hands on activities.

Question 9: Did either of your reading courses teach you strategies or activities to use to develop phonological or phonemic awareness of students?

Three of the five expressed that they had not been prepared adequately in the area of learning strategies or activities to use to develop phonological or phonemic awareness of students. Some comments included the following:

- “The book offered examples of how to implement strategies, but little kinesthetic modes of applying strategies. Little if any application or hands on.”
- “That was the class I took in the summer and I felt it to be overwhelming. And I think it was because I took it in the summer. There was so much that the professor was trying to cover and I just felt like I’m not getting it. But it helped a lot. I really did enjoy it I’m glad I was not taking any other classes at the time.”
- “The reading course did not [assist with strategies to develop phonological awareness], but the elementary class I had to take taught about phonological awareness and using the PIN strategy but this was not taught in the reading classes.”

Question 10: Do you have any suggestions to improve special education teacher preparation in the area of instructional strategies related to phonological or phonemic awareness?

Teachers offered three practical ideas for improvement of course content in this instructional area.

- “We need more hands on opportunities to learn. An opportunity to apply learning strategies in real situations such as is afforded through practicums is needed. . Also teacher preparation should include modeling of reading instructional strategies.”
- I felt it was rushed and I felt like there was a lot of independent work. We did not have a lot of hands on or projects. It was a lot of reading and finding out on our own trying to decipher ourselves. Because I know in that class I did need a study group. That was hard and I felt like I was rushed
- Again I would say more activities the more that you are studying in that area, you need activities to go along with it and possibly work with peers in your class You understand how to give it . Everything that I had activities to go with it are the ones I remember. And I was comfortable using and the ones we didn’t have activities to go with I wasn’t too sure about it.

Question 11: Did either of your reading courses teach strategies or activities to improve decoding skills of students?

While the majority of teachers (4:5) indicated that their reading courses did teach strategies or activities to improve decoding skills of students, their comments indicated exceptions to their accord. One teacher stated: “Yes but again I did not get

to use those strategies in Pre-K. And I think again they didn't touch base. I don't remember a lot of activities associated with decoding. I remember that we did read about it and how a student should start decoding." A similar comment from another teacher stated, "There was stuff there that I would never be able to use here [with her current low functioning students] but I could use parts of it, could adapt parts of it.

Other comments included:

- "The games didn't seem like you were teaching reading but did teach you how to decode."
- "It helped me to understand the concept of decoding."

Question 12: Do you have any suggestions to improve special education teacher preparation in the area of phonics instruction?

The following suggestions for improvement were offered. One teacher suggested that instruction should include more hands on and kinesthetic activities stating that teachers also need to be taught using multisensory methods. She stated that her only suggestion was to "teach to all your modalities." Reiterating this concern, other teachers commented:

- "I just had a lot of independent work. We didn't have a lot of hands on projects. There was just a lot of reading and finding out on our own and trying to decipher for ourselves. Because I know in that class I did have a study group. That was hard. We needed more detail from the teacher. We needed more instruction on how to get the projects done."

- “Again more activities associated with decoding skills, how to determine the level the student is at. I think the more that we do the group activities; it’s just easier to understand.”

While one high school special education teacher responded that she did not have a suggestion to improve teacher preparation, her response indicated both frustration and concern for the reading status of her students and her current options for assisting.

She stated

“No, we have kids who come in here with second and third grade reading levels. I don’t have time to implement a strategy. Whatever we do, we do it as we go along. Like I say, if it’s like breaking down a bigger word to make it small so that they can grasp the word to grasp the concept, it helps more than a formal reading strategy. These are tenth and eleventh graders. I don’t know how they got this far and can’t read. I’ve got kids in here that can’t read at all. Like you have to read, I was reading to the student. He got up to blow his nose, and lost his place.”

A teacher working with students with intellectual and multiple disabilities explained her frustration at not having learned strategies she can use with her population of students. She stated: “Just like I said earlier, even if it’s chapter [on students with other disabilities such as intellectual or multiple disabilities]. It’s not all. Not everybody can decode so you have to find a way to expose them.”

Question 13: Did either of your reading courses teach you strategies or activities to improve reading fluency of students?

All five teachers answered that they were taught about fluency in their reading preparation classes. Some responses, however, were vague while others were

inaccurate concerning specific strategies learned in their courses to improve reading fluency of their students. Examples of these comments include:

- “Lot of reading in the class and activity to bring in books, go through books, and teacher tell how to build fluency.”
- “Well the fluency comes in with the cloze notes that help them develop that fluency. Like these notes were developed and a set of comprehension questions were given so they finished the test and so what they did was they grabbed a copy of these notes and a copy of the comprehension questions I developed and they set there and they answered the questions . And the average grade was about an 85 because all they had to do So these are the kinds of things that help them improve, gets their reading stronger, get their comprehensions up. So we just sort of build the curriculum up. And they are none the wiser.”
- “Reading fluency is where they read it and really retain it and understand the concept of reading. It’s understanding the basics of it, so it’s reading and getting what you’re reading.”
- “All of these questions are way up here compared to where I was teaching. Actually I didn’t use the strategies for Pre-K for fluency because the students may have read two words read together.”

Question 14: Do you have any suggestions to improve teacher preparation in the area of strategies or activities to improve reading fluency of students?

Overall, teachers did not have any suggestions to improve special education teacher preparation in the area of reading fluency. One teacher commented:

“I think the biggest thing is that you have to know your students. You know and by knowing their group lower functioning, middle functioning impacts the decisions about how I’m going to present this lesson in this amount of time and stay on the pacing guide which is our challenge.”

Question 15: Did either of your reading courses teach you strategies or activities to improve vocabulary development of students?

Teachers responded favorably concerning their preparation in the area of vocabulary development and felt adequately prepared in this area. Two comments illustrate their views:

- “Actually, this was very good. The vocabulary development area because we were always taught to pair pictures with words, the importance of using objects, the importance of building vocabulary, the expressive language, and the receptive language. Just knowing that how to build vocabulary. There are different ways such as they taught us how to do the word wall, how to do.”
- “Absolutely that word bank was invaluable. Learning to use a word bank to develop vocabulary. They had little videos that you could see of how teachers actually use these strategies. Not only did you have book examples you got to see how these strategies worked in a classroom. I had an opportunity to go and observe an elementary classroom and I got to see how they used a web and how the teacher presented the key information and how students were attentive. All the students were able to answer questions from these strategies that the teachers used.”

Question 16: Do you have any suggestions to improve teacher preparation in the area of strategies or activities to improve vocabulary development of students?

Only one suggestion was offered to improve teacher preparation in this area. One teacher suggested, "Maybe refresher courses, workshops to keep teachers abreast."

Question 17: Did either of your reading courses teach you strategies or activities to improve students' reading comprehension?

Special education teachers (4:5) responded that their reading courses prepared them with strategies to improve students' reading comprehension. Two teachers had specific observations concerning their preparation in this area:

- "They taught us strategies on how to teach students how to retell, recall events in the story, again how to pair visuals with retelling. I do want to make note here that when I took this course I learned I think it was the PAR method. It was the PAR method preparing students for learning, so if we were learning about a certain subject, it would be a way of preparing the student before you read. Let's say, if they are learning about pumpkins, so I you kind of introduce the whole topic. Then you take a field trip to a pumpkin patch just to give a lot of hands on. And that was the most important thing to have the hands on. So in terms of that it was more of introducing them to it and then kind of diving into it so I feel the course definitely helped with that."
- "Like those strategies like jigsaw, breaking up information and making it small. Make it interesting for them. Teach them in such a way about a subject so they want to know more about the subject."

Question 18: Do you have any suggestions to improve teacher preparation in the area of strategies or activities to improve reading comprehension of students?

The opinion of the group is summed up with one teacher's comment concerning suggestions for improvement in teacher preparation the area of reading comprehension. She stated, "No that was pretty good."

Question 19: Did either of your reading courses teach you strategies or activities that could incorporate spelling and writing into you reading instruction?

Views were mixed regarding teacher preparation in the area of spelling and writing. Three said there was no preparation on strategies to teach spelling or writing, one said there was preparation, and one said, "We didn't do a lot." The individual who indicated there was preparation stated:

"For spelling and writing, it was pairing objects with words. We also were taught that because I did teach Pre-K that it didn't matter if they could write the word or not. That even scribbling was some form of writing so I do believe that the courses did prepare me for the spelling and definitely the writing."

Question 20: Do you have any suggestions to improve teacher preparation in the area of strategies or activities to improve spelling and writing of students?

No suggestions for improvement were offered for improvement in this area.

Question 21: What was the greatest value to you with the reading courses taken during your teacher preparation?

Teachers (4:5) responded to this question on the greatest value of their reading courses by naming activities or skills to which they were exposed. Responses to this query included:

- “I learned about magic squares, KWL , scavenger hunts.”
- “How to adapt books for all grade levels, modifying reading materials.”
- “The greatest value of the reading courses was that preparing students to read are the steps you take before you teach, preparing the students getting them ready to learn.”
- “Again the hands on activity. Being able to utilize our students. I was teaching for some of the activities and how to modify the activities and differentiate the instruction among the students.”

Question 22: What was the greatest weakness in the reading courses taken during your teacher preparation?

The greatest weaknesses of the reading preparation included the following comments:

- “For me because I am a kinesthetic learner, there were not a lot of hands on. The hands on information that you did learn was projects, but you had to know how to do the projects.”
- “My only thing is that I was not prepared for the test [the VRA]. Without getting outside help and doing study groups and buying books, I don’t think I would ever have passed it going on what I had been taught in school.”
- “The suggestions were there, but they didn’t allow for different groups breaking it down to show which strategy works good at the elementary level, middle school, high school, so we could more personalize it.”

- “Again I felt that I wasn’t prepared for the early foundations of reading. I think it really focused on students that already had some level of reading and not teaching them from the very beginning.”

Question 23: How did your courses prepare you to teach diverse learners?

Three of the five teachers indicated that the preparation they received to teach diverse learners was satisfactory. Some of the comments follow:

- “It did okay. I asked a lot about my population. . . Well I didn’t know how to teach this kid and I asked a lot of questions and my teachers, my professors were able to teach me. They did an excellent job to make sure they helped me.”
- “A lot has to do with processing speed. Teaching such that no matter what no matter I can understand what the teacher is saying grasping those concepts .Again I always deal with processing speed that’s the first thing that comes to my mind when I deal with special needs students emotional needs.”
- Again that focuses on differentiating instruction. I mean they had some activities that showed how to modify instruction based on each student’s level of reading so I feel they adequately prepared us for that.

One particular individual felt that some diverse populations were not addressed in her preparation. She stated:

‘That’s one thing but on that VRA with English as a second language, I don’t remember learning that and there were always questions on the VRA about that. The classes did cover other diverse learners such as black, slow But no, I don’t think I was prepared for it.’

Question 24: Did courses adequately prepare you to pass licensure exams such as the VRA?

While it would be anticipated that these special education teachers who were chosen to represent the low knowledge of reading instruction group based on their poor achievement on the VRA, it is nonetheless appropriate to view the critique of the courses that should have prepared them for the reading credentialing exam and for teaching reading. While one individual voiced complete responsibility for her lack of success on the exam, the remaining four teachers reflected on their preparation thusly:

1. "After taking the VRA, I did not feel that I was adequately prepared. The information that you learned yes it was on the VRA. When you went back, you see a lot of the same people. It was a difficult test."
2. "You went in on a hope and a prayer. By the time I took it on the third time, I just wrote everything about the question. I don't know if they should teach a class on passing the VRA as part of their program. I didn't know anyone who passed the VRA on the first try."
3. I had to go to a colleague to assist me with writing to help me. A teacher set with me for about an hour and just worked with me and I could hear that teacher. I heard her voice when I was taking that test. I heard everything she said and the voices she said. And that's how I took that test and that's how I passed that test. You actually need a VRA test class."
4. I wasn't. It didn't go into great detail. I know they had to cover a lot of things but I think some of the activities that I learned I felt they could I have associated it with some of the strategies on the VRA. I think in terms of I mean they gave you the broad definition of what phonemic awareness

was, what phonemes are, and I think what they gave was great when it came to defining what it is and that helped out a lot but some of the strategies as how to teach decoding, that to me was not enough activities to me. I don't feel that there were activities associated with teaching decoding skills. So when I took the VRA, I wasn't comfortable with explaining the strategies because I didn't practice that. I mean I just I didn't practice some of the strategies and if there wasn't like the hands on activities, those were some of the areas I had difficulty with."

Question 25: What if any additional course do special education teachers need to teach reading effectively?

The answer expressed by each of the five interviewed teachers reflects an overall concern for the struggling readers in their classrooms and a greater need for reading preparation for teachers working with special education population. A middle school self-contained special education teacher stated:

"I believe that reading is based on different tiers. Elementary school is elementary school reading and then you have middle school reading. The way I look at it is I've got kids in my classroom reading on a third grade level and they are 15 to 16 years old, so somewhere in third grade or first grade it didn't catch on. So we need to have more emphasis on how to teach your basic skills the basic fundamentals of reading and truly the diphthongs and phonics and stuff like that putting the classes together. It should be broken down into tiers because we have lost generations of children because that basic foundation isn't there."

A high school special education teacher working in a science inclusion class stated:

“These kids can’t read today. They are in so much trouble and they don’t even know it. Someone can’t read to you all your life. They need to be taught how to read, how to track, to learn those sight word, build their vocabulary, and to learn how to read. “

A special education who taught students at the pre-kindergarten level stated: “I would think they need to have more courses that help teachers differentiate their instruction. That’s the main thing because you always have different students on different levels in your classroom. So there should be additional information on telling teachers how to do it.” Additionally, the special education teacher working with elementary students with an intellectual disability stated numerous times during her interview that course work in reading should address the specific reading characteristics and instruction needed by these students.

Appendix N: Interview Responses for High Knowledge of Reading Case

As was conducted with the previous case, responses to each interview question were in most cases analyzed within the context of the given interview question. However, in some instances, there were answers to either follow up questions or to additional questions that added to an earlier posed question while the individual was responding to a different question. In these situations, these responses were added to the alternate question when appropriate.

Question 1: To begin with, can you tell me about your preparation to teach special education?

The majority of teachers comprising the high knowledge group (4:5) discussed their preparation experiences as consisting of first working as a paraprofessional or teaching assistant in a special education classroom followed by working with a provisional/conditional licensure (5:5) while completing university course work to earn full licensure to teach special education. A response that represented the initiating experience found among those in this case stated:

“Well it started; I was a teacher’s assistant for one year one school year. And that’s where I kind of decided that I wanted to teach to get into the field and so I started taking classes with [name of university deleted] just a few at a time and I had I got my provisional license and I started teaching the following year while I was taking classes and I completed all of my course work through [name of university deleted] and got my teaching license.”

Two individuals possessed educational backgrounds that included receiving undergraduate qualifications in English for one of the individuals and in social work for the other. The teacher who switched from the field of social work explained:

“Well I stumbled into it. My undergrad was in social work and I could not find a job to work at when I got out of college so I stumbled into this as a subbing job that led in to a one to one TA [teaching assistant] position and I liked it but it was not paying the bills, so I decided to go into special education and all of my study was through the [name of university deleted] program. I went on and got my conditional [license] and then my masters [degree].”

Question 2: Do you or have you taught in the field of special education?

All of the individuals included in this case (5:5) had significant experiences with teaching special education students. Two of the teachers had all of their special education teaching experiences at the kindergarten to third grade level, two had all of their experiences at the high school level, and one has had experiences both at the primary and high school level. These teachers have additionally taught a varied range of special education populations from students with multiple handicapping conditions, learning disability, autism spectrum, and intellectual disability. One of the teachers who teach at the primary level stated:

“This is my sixth year and I’ve always been at [special education program deleted] and I’ve always had the lower elementary students K-3. I’ve never taught above grade three. And of course, that’s their grade level on paper; it’s not where they are academically. I’ve had a wide degree [of learning characteristics represented in my students] from verbal to nonverbal. I’ve had students who use pictures to communicate and I’ve had students who use a mixture of pictures and verbal. I have some students who are very verbal but still may need some visual supports in the classroom. I’ve had some higher academic skills and some higher functioning that were not working on their

grade level on paper, but we are trying to work through the general ed curriculum. I've had that and ASOLs[alternate standards of learning]. So I've had the gamut."

One of the high school special education teachers explained her teaching experiences in special education and the variety of learning characteristics in her self-contained class. She stated:

"I'm currently teaching MID which is moderately intellectually disabled. These kids are generally academically-they tend to be ranging from Pre-k [kindergarten] to second grade at the highest academically. This is what they're capable of. I have hearing impaired students, multi-disabled students. A big focus with this level of kids is also teaching them life skills, adaptive skills, and this is my first year with this set of kids. With the previous three years I was teaching moderate to severe autism."

Question 3: What was your experience with the Virginia Reading Assessment?

This group was chosen for the current interview based on their high score on VRA that represented exceptional knowledge of reading instruction. Comments in general (5:5) reflected an overall sense of preparation. The responses of three teachers (3:5), however, revealed some concerns regarding the alignment of their university courses on the content of the VRA. One teacher stated, "I felt prepared. I didn't have any problems, but I knew a fellow student of mine that took it multiple times and she and I took the very same classes at the same time." Additionally reflecting on her personal analysis of the content of the VRA, this same teacher added, "I think it had more phonics than I thought. And I know they had more questions different questions about different assessments than just teaching reading than I expected on the test."

A second teacher did not comment on the content of the VRA as it related to course content, but instead stated: "It [the VRA] followed what the preparation books followed." The statement would appear to reflect no opinion related to the supposed role of course work in the preparation process for the test. Further emphasizing the breakdown between the credentialing exam and course work, she added, "I had to reteach myself for the VRA."

The least positive response from among this group seemed to reflect a view that the VRA was inappropriate to measure the knowledge of reading instruction a classroom special education teachers requires. She stated:

"The VRA: I never left a test feeling so unsure about how I had done. I felt like some of the questions-I know I hadn't had course work that covered a lot of those questions. It seemed like maybe a reading specialist would know. A lot of it seemed at the level that reading specialist would need. A lot of it would almost seem like a speech language pathologist would have needed. So I didn't really feel confident as to whether I would pass one way or another but I ended up scoring really well. I think it helps to be already in the field while you're doing your course work because you're seeing how it applies as you're learning it. That was a tough test."

Question 4: Could you tell me some of the important topics addressed in your reading courses?

The teachers in the high knowledge case (5:5) approached this question more often from the perspective of the major outcomes they experienced from each of the two reading courses rather than specific activities or strategies presented in the course. Regarding the required reading course that focused on reading in the content course, teachers made the following comments:

- “Reading across the Curriculum [the name of one of the required reading courses] offered a lot of different kinds of strategies and activities that could be applicable in a variety of situations.”
- “They emphasized a lot of instructional strategies that are helpful particularly for special ed students. And he emphasized that reading instruction is not just something that is done in the reading class. It’s something that is stressed across all the content areas and gave instruction as to how that can be done.”
- “The hands on one [course] was probably Reading Across the Curriculum. I remember it was very hands on and I remember it had a big project that was broken down into pieces. It was actually one of the few classes I took that I felt I had something to take with me.”
- “Reading across the Curriculum was a good one. It taught you how to incorporate many different strategies within the classroom.”

The responses of individuals concerning the content reading course reflected an emphasis on learning how to teach comprehension skills and strategies related to content instruction. Responses related to the language acquisition course did not have the overall positive sentiment concerning the outcomes experienced by teachers in the high knowledge case. Most responses (4:5) reflected that teachers in this case perceived the language acquisition course to be a course that taught about phonics by mentioning it rather than offering opportunities to apply knowledge in practical and explicit situations. The following comments reflect their sentiments:

- “One of the courses [language acquisitions course] was very textbook based and the other class was more hands on.”
- “. . . the language acquisitions class talked about phonics, different sounds, and letter sounds, identification, and stuff.”
- “The acquisitions course was more based on the stages of development.”
- “Instead of focusing on: this is how to teach onset, decoding, and rime, they focused on what it was and what the importance was, but the actual teaching aspect of it was secondary to what it was.”
- “So what I ‘m saying is that when it came to specific topics, there was a focus on what the definition and the rules of language acquisition is, what the rime is, what the code is, what these different areas of language acquisition are but then little connection to how to actually teach it. . .”

Question 5: What topics, if any, could be added to the topics taught to improve reading instruction preparation?

The sentiment of the majority of responding teachers (3:5) was that the preparation was not focused or specific regarding the variety of students they find in their classrooms or to the instructional environment and conditions faced by special education teachers. This lack of differentiated reading preparation was expressed by an inclusion special education teacher in her statement that “the problem is that it is not one size fits all.” She continued by explaining the need for additional reading instructional preparation that focuses on the issues that relate to teaching in a

classroom situation where the general education teacher sets the pace for instruction. She stated: "Teaching in inclusion is a lot different than teaching in my own classroom. So a lot of these strategies are great to use if I was not tied into somebody else's class, the way they run their classroom, on the pacing that they run."

Other special education teachers also addressed this lack of match in the reading instruction for their students. One elementary teacher who teaches children with autism spectrum reflected on the relevance of her reading instructional preparation. She felt that even though she valued the reading in the content course she took, it had little relevance with the special education population she was teaching. She expressed:

"Now did I use it [the course strategies] with the current population that I am teaching? No, but I do remember that the teacher taught us different sorts of strategies to use with kids for reading and we made a portfolio. I think it may have been like the cloze strategy that she wanted you to do. Like a bunch of strategies that we tied to a subject area. So I do have that at home somewhere. If I ever work with that population it will come in handy. But that was what stuck out in my mind."

Another teacher commented regarding the alignment of her reading instructional preparation

"I think they need to address the different disabilities of students because I just don't feel like I felt like when I was sitting in the classroom and I was thinking oh, my ID [intellectual disabilities] students they cannot use this strategy. We need to discuss how to break this down further and do some things differently and some of that I don't think was presented."

A similar view was stated by another teacher in this case. She stated:

“The course work that’s provided and what is covered is it always seemed to be geared towards like LD or some kind of higher functioning special ed [education] student and my experience has only been with lower functioning and so there’s obviously a cap of what those kids are going to be doing. Teaching me to teach someone how to do a summary or you know write an essay, something like that is not really relevant to someone who is teaching a lower functioning kid. There is stuff I learned about picture based; it’s more about sight words. Now they did teach sight words but it just seemed like it was more geared towards higher functioning kids versus lower functioning kids.”

Question 6: Overall, how well did your university reading courses prepare you to teach reading?

The topic that special education teachers in the high knowledge case most often identified as the topic missing (3:5) from their reading instructional preparation was how to teach beginning developmental reading to struggling readers in a systematic and explicit manner. One teacher who felt her preparation in general was “pretty thorough” added that “if anything, I don’t recall any courses that helped us to teach struggling readers.”

Another teacher who reflected on her lack of preparation to teach reading explained it in the following manner:

“Well the thing I always think about is the fact that if I ever had a child that could learn how to read, I could not teach it. I’ve never had a student that couldn’t already read if they were higher functioning or were lower

functioning and maybe were just doing sight words. I guess I've almost been lucky that I haven't had a kid in the middle that had the skill level, developmental level (say I got him as a kindergartner) I really would not know how to teach him how to read."

She further explained where she identified her deficiency in reading instructional ability as follows:

"I can match sounds to letters and what not, but the actual logistics and hierarchy of teaching that, I didn't receive any instruction on how that works. Now I don't know if that's just classes you're going to take if you're going to be a reading specialist or a reading teacher. I don't know where those classes are, but I didn't get that out of either of those two classes."

The same sentiment was expressed by an additional teacher who stated that the topic missing from her preparation was "specific instruction on teaching onset, rime, reading diphthongs, identifying minimal pairs."

Question 7: Were both courses helpful with learning about how to effectively teach reading and to integrate reading into instruction?

Teachers felt that the two reading courses were beneficial. One teacher commented that the courses "incorporate different activities of how you would apply this. It's not just reading a definition of a strategy; it's actually giving examples and giving examples of how it could be used and how to use it effectively."

Question 8: Did your reading courses teach you to incorporate the concept of diagnostic teaching into your instruction?

Responses by teachers to this question were somewhat ambiguous and in some cases indicated inaccurate or "limited knowledge" of the concept. While each teacher

appeared to have some vague belief concerning her overall preparation in this area, responses were a little unclear. While one teacher stated, "I don't think either of the reading classes addressed that [diagnostic teaching] that much." But as she continued to explain, her response evidenced knowledge of some assessments that could be used to assess reading skills and achievement of students. This teacher added: "I'm thinking the Reading Across the Curriculum did a little bit more of that talking about the Fry Test or both of those classes talked about running records, how to do running records, and different kinds of assessments."

Another response that communicated some general disciplinary knowledge of the idea of diagnostic assessments, however demonstrated little specific reading applications for such knowledge. This teacher said:

"Yes, it definitely taught all the levels of teaching and with special ed, you do diagnostics and provide your interventions, and if they're not working [i.e. the interventions] there are a whole level of things that have to be done. And that's particularly important with special ed because those are the tools that you use to determine if a kid does need services."

Other comments include the following:

- "I can't recall. I guess there wasn't too much because it didn't leave much of an impression."
- "I believe in that acquisitions class we did learn about different assessments and what not."

The only suggestion for improvement of preparation in this area of reading instructional knowledge was to include more hands on activities. This teacher stated:

“If they had you actually do it with your own kid or with just someone you know. Do some diagnostic testing like I don’t recall if we did this specifically for reading but we did an assessment like the Brigance or something. We chose an assessment to do and we actually gave the assessment, did the results, the whole nine, but I don’t think we did that for reading instruction.”

Question 9: Did either of your reading courses teach you strategies or activities to use to develop phonological or phonemic awareness of students?

Most teachers (3:5) responded that they learned a great deal in their preparation related to strategies and skills used in instruction to develop phonological or phonemic awareness of students. One teacher stated:

“Yes, the language acquisition class I do remember we watched the videos of a couple activities and again a lot of it was identification of where the kid’s weakness was. Is it because he is not identifying the onset? Is it because he is not identifying this? What is the area of weakness?”

Question 10: Do you have any suggestions to improve special education teacher preparation in the area of instructional strategies related to phonological or phonemic awareness?

Overall, teachers had no specific suggestions to improve instruction in this area. As one teacher commented, “I think that phonemic awareness was one that I felt pretty comfortable on.”

Question 11: Did either of your reading courses teach strategies or activities to improve decoding skills of students?

Most of teachers (4:5) indicated that their reading courses did teach strategies or activities to improve decoding skills of students. Some comments included:

- “Yes, I remember learning a lot of games that you can play with the students. And I remember one course we all had to come up with a strategy and demonstrate in front on the class. There were all kinds of demonstrations and strategies
- “I know the courses assisted with that.”
- A lot of it was having a word and changing a piece of it to identify the onset; changing it from bake to shake to bake to take; flash cards,

The teacher who did not indicate an overall adequate preparation in the area of decoding stated:

“I don’t think I learned a lot of strategies about that. I learned strategies mostly about comprehension and maybe a little about fluency. We touched on things, but of what I really remember was things that really dealt with comprehension than anything else.”

Question 12: Do you have any suggestions to improve special education teacher preparation in the area of phonics instruction?

Two teachers offered suggestions regarding their opinions to improve instruction in the area of phonics instructions: The first teacher commented on what she perceived to be a lack of preparation for working with older non-readers. She stated:

“Well I think that something that’s kind of missing is the kids, the older kids. My license covers a variety of grades. I felt like a lot of what was focused on was elementary, particularly primary grades. I really didn’t feel like I was adequately prepared for an older student who doesn’t know how to read and how to reach him. And I was in middle school. I was in sixth grade last year.

And I had very low readers. And I guess how to reach, how to teach reading when you are in an inclusion setting. But particularly older kids, I just think I didn't feel like that I got strategies that were necessarily appropriate to that age group in particular."

The second teacher had two suggestions. She first thought that she was not given much content. She stated, "They are not giving me as many ideas of how to teach it as they could. So I'd say teaching more activities. Teachers should come away with that bank of activities not just one portfolio of what they actually are." This special education teacher further explained that too often professors taught by mentioning a strategy rather than modeling or allowing time for practice in class. She expounded:

"I remember I had one professor that was really good about giving us all these different strategies and she used these in class. That was the big thing. She modeled every single class. She was a special education teacher full time and an adjunct and so you know she was very much for modeling for us. And the classroom participated in it. Where a lot of my teachers it was 'okay here's an idea; here you could do this.' Where I never got the chance to practice it, apply it. Even if I was practicing it with someone who's thirty years old, I'm still getting to practice it instead of . . . So it was a lot of lack of practice. There was a lot of spending in class time of hearing about strategies."

Question 13: Did either of your reading courses teach you strategies or activities to improve reading fluency of students?

All five teachers answered that they were taught about fluency in their reading preparation classes. Examples of these comments include:

- “I think somewhat. I think we touched more on this than decoding, but I think there could probably be given more ideas.”
- “I think fluency was one of them that was covered a lot, but I also think it’s one of the easier ones. Maybe the reasons I am able to grasp it is because it’s one of the easier ones to apply. Fluency is just a matter of practicing it every day reading, reading out loud, silently reading, reading to a partner, reading as a group, reading through a little telephone, hearing yourself. I think that one is one of the easiest practiced at the class. It’s the easiest to remember and easiest to apply. So I think I was very well prepared in that.”

Question 14: Do you have any suggestions to improve teacher preparation in the area of strategies or activities to improve reading fluency of students?

The one individual who made suggestions for improvement again focused on addressing more comprehensively the different ages and populations served by special education. This teacher suggested addressing this circumstance by, “Just more exposure to different ideas.” She continued with the following recommendations: First she stated: “Just like with the decoding: more ideas, more ideas that would reach kids of different age groups because we’re teaching for special education K-12. That’s a big span.” Secondly, she identified a range of abilities and abilities that do not match the grade level of the student. For example, she observed:

“There are twelfth graders reading at the same level as our first and second graders. We just need to approach it in a different way. I think that I always thought that I really didn’t touch on that enough. And it’s a difficult. It’s always a work in progress. I just guess I felt like both of those areas. I felt like

I got a good overview but I didn't feel in both fluency and decoding. I got a good overview of what to do and what might be out there, but I didn't feel confident enough to really implement all that stuff on my own."

Question 15: Did either of your reading courses teach you strategies or activities to improve vocabulary development of students?

Teachers responded positively concerning their preparation in the area of vocabulary development and felt adequately prepared in this area. One teacher commented that she learned about "word walls, dialog, you know, drawing a picture and writing a story and the setting. This is what goes with it."

Question 16: Do you have any suggestions to improve teacher preparation in the area of strategies or activities to improve vocabulary development of students?

Teachers felt that they were well prepared in this instructional area. Again there was the suggestion to offer time in class to "apply and practice the strategies not just telling us 'this is what you could do.'"

Question 17: Did either of your reading courses teach you strategies or activities to improve students' reading comprehension?

Teachers in the high knowledge of reading instruction group (5:5) responded that their reading courses prepared them with strategies to improve students' reading comprehension. The comments of these teachers were:

- "I learned a lot of strategies about that. I learned strategies mostly about comprehension and maybe a little about fluency. We touched on things, but of what I really remember was things that really dealt more with comprehension than anything else."

- “Yeh, I feel like I got a lot of things and kinds of activities of different: different graphic organizers, different things to touch on reading comprehension. I think the Reading across the Curriculum gave you a lot of ideas of stuff.”
- “They actually offered a lot of strategies to improve reading comprehension.”
- “Think alouds, graphic organizers, modeling, semantic maps which is a graphic organizer, role plays, dramas.”

Question 18: Do you have any suggestions to improve teacher preparation in the area of strategies or activities to improve reading comprehension of students?

The teachers overwhelmingly believed their preparation was appropriate and complete in the instructional area of reading comprehension. A comment by one of the teachers in this case sums up the perspective on this issue:

“I believe that comprehension is addressed in all of the classes. I mean it’s in your learning disability class; it’s in every class. So, to the extent that it was specific in my reading class, I think reading comprehension is probably one of the more addressed topics in your reading classes because it is so important and it can still be built on for years to come.”

Question 19: Did either of your reading courses teach you strategies or activities that could incorporate spelling and writing into your reading instruction?

Views were mixed regarding teacher preparation in the area of spelling and writing. One teacher indicated that she was prepared; two indicated they were not, and one stated, “I think so.” Other comments included the following:

- “If they did, I don’t remember. I’m sure they must have touched on it, but . . .”

- “I don’t remember having a specific lesson that taught us how to teach spelling.”
- “I remember there was a chapter on spelling but I don’t recall specific strategies.”

One teacher did mention activities such as rainbow and pyramid writing as activities they were taught about during preparation in this area.

Question 20: Do you have any suggestions to improve teacher preparation in the area of strategies or activities to improve spelling and writing of students? Only one teacher had a suggestion for improvement in the area of spelling and writing instructional preparation. This teacher began by examining her preparation in the context of what she felt she has learned in this area since beginning her teaching career. She stated: “Since I can’t remember specifically anything we touched on [in our preparation to teach writing or spelling], probably not. I’m following what the gen [general] ed teacher does. We do word sorts and use that. I don’t ever remember discussing that in the class in my courses.” She went on to suggest that preparation for special education teachers should include the use of word sorts. She explained her reasoning thusly:

“Because I also think that’s [word sorts are] a good strategy for a special education student, the idea of categorizing, and sorting, and. You know that could be applicable to a variety of other areas other than just spelling but that is how she uses it specifically, and I do it every day in my.”

Question 21: What was the greatest value to you with the reading courses taken during your teacher preparation?

Teachers appeared to enjoy and benefit from both classes. The following represent their comments concerning the value of their reading courses.

1. "I enjoyed both classes. There was a lot I got out of both classes. I think the Language Acquisitions class gave me a real good over view of a lot of different things like an understanding of how to do running records, exposure to basic principles. That class prepared me for the VRA more than the other class. The other class gave me exposure to a lot of ideas of things I could implement."
2. "I think one thing I remember was that we put together a portfolio of all the different strategies that dealt with all the areas of reading and people would get up and present their strategy. Everyone was able to put their strategies into a portfolio and everyone would get one."
3. "I would say having instructors who were experienced in teaching reading instruction in special ed."
4. "Any time a teacher taught a strategy and modeled it in class and even if it was a televised class, some of my teachers were able to do that. So any time it was modeled in class."

Question 22: What was the greatest weakness in the reading courses taken during your teacher preparation?

Responses regarding the greatest weaknesses of the reading preparation included the following comments:

- "I think they need to address what to do with a student who is on this pacing guide but is this far behind: How do you remedy that?"

- “How to teach reading in an inclusive setting where you don’t have the latitude to do to spend the time that your kids need. And I also think that we’re not addressing how to teach reading to secondary students because the approach has got to be slightly different. The need is going to be very much the same.”
- “I think when I started I was unable to determine where to start children out where to begin reading with various students. For example, I have nine different students all on different levels. Some were on pre-primer. I had never given a Pals test. Then I got up to October and had to give a Pals test.”
- “Like I kind of said before it seems like it prepares you for a higher level of kid and I don’t know if that means spending more time on the very basics, the very beginnings of reading. Because that’s kind of where we are with these lower functioning kids.”

One teacher felt the method of instructional delivery was the preparation’s greatest weakness. She explained:

“I think the lack of explicit strategy instruction because of a focus on just giving me the facts and the topics was the weakness. For example, we would have twenty to thirty minutes of power point addressing topics of decoding, phonemic awareness, and things like that and then what it is, and why it is important, why a student needs to develop it, which of course is extremely important. The balance between that and actual ways of teaching it; it wasn’t very balanced. I just mean teaching specific tasks and the activities that build up to the tasks was often minimal. I found myself having to research on line,

reading other chapters in the book. There were other chapters in the book, I'm not complaining about that at all, but trying to dive deeper trying to find more substance to be able to teach something."

Question 23: How did your courses prepare you to teach diverse learners?

Only one of the teachers did not fully respond that she was prepared to teach diverse learners as this relates to reading instruction. She stated: "Reading courses specifically, I don't know that they did." She added, however, that the preparation had a broad focus. She continued:

"They teach you different strategies and that's primarily because an intervention that works with one kid may not work with another. So the fact that they taught a diverse number of strategies would be really helpful in aiding a diverse group of students. And also there's also a focus on differentiating instruction because you're not always going to have five kids at the same level. You could have five kids at five different levels."

Other comments shared the view of receiving reading preparation to teach diverse learners:

- "I think I've been fairly prepared but like I said I think that really most of my course work really was focused on students with learning disabilities."
- "I could remember there being some chapters. What I remember them telling us that when we're teaching you have to remember their experiences. And you have to remember that they have diverse abilities. too."

Question 24: Did courses adequately prepare you to pass licensure exams such as the VRA?

These special education teachers were chosen to represent the high knowledge of reading instruction group based on their excellent performance on the VRA. As would be anticipated, the overall sentiment expressed a belief that their university courses prepared them for this VRA. One teacher however gave considerable credit to the knowledge she obtained on the job as she worked as a provisionally licensed special education teacher. She stated:

“I think that they [university required reading courses] did, but maybe not to the extent necessary. Obviously, it had to have been a combination of my own experience and what I learned at [name of university deleted] that allowed me to pass that test. But in remembering specific questions, it seemed to be in a lot more in depth and a lot higher difficulty than what was taught. Like I said, it seemed to be more. The VRA seemed to be focused. Now if I had been getting a degree to become a reading specialist, I probably would have learned all of that stuff in that course work, but I mean two reading classes and the difficulty of that test. Like I said, I passed it first time around so it must of helped in some way but it just seemed like there was a lot more detail on that test than what I felt like I learned through my reading courses.”

Another teacher who felt that her reading instructional preparation through her reading courses did not address all reading content stated:

“I really had to go back and review specific topics and strategies. That being said, I really think Reading Across the Curriculum was a great class for that and language acquisitions, I think in general I still have the book from Language Acquisitions because I thought it was such a great book. It was a great tool. I don't know if my teacher adequately prepared me and

realistically that's probably the only class that I did not feel that I really gained something. I didn't gain something from it where most of my other classes I felt that I gained so much."

Question 25: What if any additional course do special education teachers need to teach reading effectively?

Most special education teachers from the high knowledge case did not believe additional courses necessarily but that current courses should be focused. The areas of additional instruction that continued to be voiced were the need for differentiation of preparation based on student learning characteristics and additional preparation to work more effectively in an inclusion setting.

One teacher expressed the belief that assessment is where additional focus should occur. She stated:

"Assessment is key. And the professor I had focused a lot on in class assessments. I think if anything I would have liked another [course] in strategy application where you learned about all the different facets of language acquisition, reading acquisition and this class specifically [would] focus on simply applying it in the classroom and the practice of it, when to use it, and where to use it, who to use them with, kind of like an everyday lesson planning thing. "

One teacher nevertheless expressed the concern that the content in courses designed for preparation did not match the objectives of the credentialing exam. She stated:

"I think it is adequate. If you're teaching to the test, you need more; if you're teaching to the VRA, it needs to be a little more in depth, but that could be a

problem with the test. And not necessarily I mean I think the reading
instruction prepared me to teach which is the whole point.”

VITA

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