A COMPARATIVE ANALYSIS OF TWO TEACHER PREPARATION PROGRAMS

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A mixed methods study design was employed to determine what differences in knowledge of reading instruction and perceived preparedness to teach reading exist between two groups of teacher candidates enrolled in different teacher preparation programs offered at the University of Pittsburgh. Additionally, this study investigated which components of such programs – coursework, field experience, reflection, or collaboration – teacher candidates perceived as preparing them to teach reading. Data regarding teacher candidates' perceived preparedness to teach reading were collected once upon completion of their preparation program and again after obtaining full-time teaching experience in order to record changes over time.

Data collection consisted of the *Knowledge Inventory*, *Survey of Perceptions*, *Follow-up Survey of Perceptions* and telephone interviews. Background information regarding teacher candidates was also collected. It was hypothesized that teacher candidates from the Masters of Arts in Teaching program would obtain higher scores on the *Knowledge Inventory* and perceive themselves as more prepared to teach reading than those enrolled in the Professional Year program, which would be attributable to their extended amount of time spent in the field.

An analysis of the data revealed that few significant differences existed between teacher candidates from the two programs. Based on *Knowledge Inventory* scores, teacher candidates had a rudimentary knowledge of reading instruction. Undergraduate GPA, PRAXIS scores, age and gender were not factors in knowledge of reading instruction. There were no differences in knowledge of reading between teacher candidates from the two programs based on amount of

time spent in the field or grade-level placement. Teacher candidates from both programs perceived themselves as being prepared to teach reading; however, their perceived level of preparedness was somewhat lower after gaining teaching experience than it was immediately upon completing their respective program. Teacher candidates from both programs perceived their coursework and field experience to be the most valuable components of their program. Despite this overall sense of readiness to teach reading, teacher candidates had specific areas of concern in which they would benefit from further instruction, including: spelling and writing instruction; differentiating instruction based on assessment results; and differentiating instruction to meet the needs of diverse learners.

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PREFACE

There are many people whom I would like to thank for supporting me during the course of my studies:

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1.0 INTRODUCTION

Research in the field of teacher education is an issue of current attention and interest. Within this research, a focus on literacy is particularly important. In 1996, the National Commission on Teaching & America's Future (NCTAF) published their report entitled What Matters Most: Teaching for America's Future. In it, they point out the fragmentation of teacher preparation programs, noting that the "key elements of teacher learning are disconnected from each other. Coursework is separate from practice teaching; professional skills are segmented into separate courses; faculties in the arts and sciences are insulated from education professors. Would-be teachers are left to their own devices to put it all together" (p. 32). Despite this fragmentation, they note that "research in education . . . sheds new light on ways to improve student learning and understanding" (p.32). The NCTAF writes that:

> For new teachers, [improvement] begins with teacher preparation. Prospective teachers learn just as other teachers do: by studying, practicing, and reflecting; by collaborating with others [and] sharing what they see . . . For prospective teachers, this kind of learning cannot occur in college classrooms divorced from schools or in schools divorced from current research.
>
> (1996, p. 31)

Further research into teacher preparation clearly matches the statement made by the National Commission on Teaching & America's Future by outlining the critical elements of teacher preparation programs as being coursework with an integrated field experience (Cox et al., 1998; Hedrick et al., 2000; Linek et al., 1999; Massey, 2003) and collaboration with others (Bean, 2001; Frazier et al., 1997; Harlin, 1999; Sturtevant & Spor, 1990; Wham, 1993). Also critical to teacher preparation is the process of personal reflection (Bean, 1994; Fazio, 2000; Mallette et al., 2000; Swafford et al., 1998).

In 1997, Congress charged the National Institute of Child Health & Human Development to "convene a national panel to assess the status of research-based knowledge, including the effectiveness of various approaches to teaching children to read"[1]. The National Reading Panel (NRP) was thus created to undertake this massive research effort. After reviewing over 100,000 research studies, the NRP published their findings in 2000's *Report of the National Reading Panel: Teaching Children to Read*. In it, the NRP identified five critical elements of literacy in which all teachers must be able to deliver instruction if they are to successfully teach children to read. These instructional areas include phonemic awareness, phonics, fluency, vocabulary and comprehension. The International Reading Association (IRA) developed *Standards for Reading Professionals* in 2003 that set forth standards for literacy education that all education professionals must meet; the National Council for Accreditation of Teacher Education (NCATE), which is responsible for certifying that universities' and colleges' schools of education are graduating proficient teachers, has adopted these standards.

[1] Retrieved from http://www.nichd.nih.gov/publications/nrp/smallbook.pdf on May 1, 2006

An integral part of the recent No Child Left Behind Act (2001) is the Reading First initiative, which provides funding for low-achieving schools across the country to focus on improving the literacy scores of students in kindergarten through third grade. To see an improvement in student achievement, teachers must have the necessary tools – instructional materials, training and support. Ultimately however, to see continued improvement in student achievement, institutions of higher learning must be properly equipped to instruct teacher candidates on how to teach literacy by providing them with quality classroom instruction and field work and supporting them through the collaboration of a triad network.

Anders, Hoffman and Duffy (2000), in their chapter in the *Handbook of Reading Research (Volume 3)* entitled "Teaching teachers to teach reading: Paradigm shifts, persistent problems, and challenges", review the recent research on teacher preparation programs with a focus on literacy. They noted that over the past 30 years, the number of studies focusing on pre-service reading education has greatly increased over each successive decade. However, the researchers noted that "we have continued to struggle with conceptions of teacher knowledge, beliefs, attitudes and habits -- how they are formed, how they are affected by programs, and how they impact development over time" and "can make few claims from our current research base on what is effective in reading teacher education at the pre-service level" (pp. 725-726). They state:

> The "what works" question plagues our profession. Little empirical evidence is available to inform teacher educators about how certain educative experiences affect teachers' long-term development. Typically, research has been designed to map short-term program components to the acquisition of attitudes, knowledge, and skills.
>
> p. 276

Anders et al. (2000) believe that more studies that address the literacy components of teacher education, as well as "more longitudinal studies of program effectiveness" (p. 278) are needed in order to better enable teacher educators to prepare pre-service teachers.

The purpose of this study was to continue what Anders, Hoffman and Duffy (2000) and the NRP identified during their research as an important reading research opportunity: teacher education. The NRP stated that:

> The primary purpose of teacher education research is to inform the effective practice of classroom teachers in order to improve student performance. Rigorous experimental and qualitative research that defines and characterizes effective teaching methodologies that demonstrate improved student performance is limited. This persistent and major gap in the extant knowledge base must be addressed. Efforts should be made to answer the important questions in this critical area.[2]

This research builds on the current research base by investigating and comparing the knowledge base and perceived level of preparedness of teacher candidates enrolled in two teacher preparatory programs.

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[2] Retrieved from http://www.nichd.nih.gov/publications/nrp/smallbook.pdf on May 1, 2006

1.1 FRAMEWORK OF THE STUDY

This study is framed according to what research has identified as the crucial components of a successful teacher preparation program: coursework (content knowledge); field experiences closely related to coursework/content knowledge; collaboration among members of the "triad" (Frazier et al., 1997) – teacher candidate, university supervisor or instructor, and mentor teacher; and teacher candidate reflection. The overall construct of teacher preparation and reading education frames this research study.

Additionally, Zeichner (2005) states that there are several aspects of research into teacher preparation programs that should receive priority attention; these include "the construction of an up-to-date database detailing information about who goes into various kinds of pre-service programs, and where graduates from various programs teach and how long they stay" (p. 756). Within this area, Zeichner indicates the importance of "intensive examination of databases constructed on representative samples of teacher education programs" (p. 756) to the advancement of the field. This research begins to contribute to work in this area by examining two such preparation programs – with a concentration on the reading component of the programs – looking specifically at topics of importance addressed by researchers in the field.

1.2 PURPOSE OF THE STUDY

The purpose of this study was to compare the differences in knowledge base and perceived readiness to teach literacy between teacher candidates in two different graduate education

programs at the University of Pittsburgh. Additionally, this study tracked change in perception over time by addressing this issue once upon completion of the students' respective degree program and again after full-time teaching experience has been gained. This study was guided by three research questions:

1. In which areas of literacy instruction and assessment (phonemic awareness, phonics, vocabulary, fluency, comprehension, assessment and instruction) are there differences in knowledge between University of Pittsburgh Masters of Arts in Teaching (MAT) and Professional Year (PY) teacher candidates?

2. What differences exist in the perceptions of teacher candidates in the MAT program as compared to those in the PY program as to how well they were prepared to teach literacy and as to which elements of their respective programs – coursework, field placement, reflection, and supportive interaction with others – they feel best prepared them to teach literacy immediately after completing their respective program?

3. What differences exist in the perceptions of teacher candidates in the MAT program as compared to those in the PY program as to how well they were prepared to teach literacy and as to which elements of their respective programs – coursework, field placement, reflection, and supportive interaction with others – they feel best prepared them to teach literacy after at least three months of teaching?

1.3 DELIMITATION OF THE STUDY

This study has several delimitations. First, a pre-test of knowledge was not administered to the teacher candidates prior to the start of their academic programs. Given this, there was no way of knowing what the teacher candidates knew about teaching literacy prior to the administration of the *Knowledge Inventory* upon completion of their coursework. However, criteria for selecting students for the two programs are the same; therefore, it was expected that these teacher education students would vary similarly in their experiences and backgrounds.

Another delimitation includes the voluntary nature of the second part of this study, the follow-up survey and phone interview. One question that arises is this: what type of teacher candidate volunteers? The type of person who volunteers for a follow-up study may be extremely satisfied or extremely *dissatisfied* with the program; in either case, extremes may be more likely to be represented than middle-of-the-road responses.

Perhaps the most important delimitation of the study is its focus on only two teacher preparation programs. Though important to the overall understanding of the reading component of teacher preparation programs, this study illustrates knowledge of reading instruction and assessment and perceived readiness to teach reading of only two relatively small groups of teacher candidates from one University.

1.4 DEFINTION OF TERMS

The following terms are used frequently throughout each section of this study, and therefore warrant a closer examination.

1.4.1 Master of Arts in Teaching (MAT)

There are two graduate education programs at the University of Pittsburgh, one of which is the Master of Arts in Teaching (MAT) program. The University's MAT program prepares its graduates for initial certification in elementary education and a masters' degree. The program begins in June of the admission year and is completed in twelve months. Students enrolled in this program complete graduate-level coursework combined with a field placement in an area school district during which they spend four or more days per week in the classroom during the entire academic year.

1.4.2 Professional Year (PY)

Students taking part in the University's other graduate education program – the Professional Year (PY) program – complete their studies in two academic terms, upon which time they receive their initial certification in elementary education. The PY program requires that students spend one day per week in a field placement during their first semester and return to that site the following semester for a full-time student teaching experience. Though graduates of this

program have not obtained their masters' degree, many of the credits obtained in this program can be applied toward a future master's in education degree.

1.4.3 Teacher Candidate

The participants of the MAT and PY programs are called teacher candidates rather than students because the programs in which they are enrolled are career-specific.

1.4.4 Mentor Teacher

An important part of the MAT and PY programs are the field placements. Each teacher candidate is placed in a classroom and is assigned a mentor teacher. The classroom teacher adopts the new role of mentor teacher; they work closely with the teacher candidate by doing such things as guiding the teacher candidate through lessons, modeling appropriate behavior and answering questions asked of them.

1.4.5 Supervisor

The supervisor is a member of the University of Pittsburgh staff who works with the teacher candidate out in the field. Traditionally, supervisors obtain that role because they have experience in the field and can help the teacher candidate by reinforcing lessons, offering advice and answering questions.

The supervisors from the University of Pittsburgh are assigned to schools based on their geographical preference. Many are former teachers or administrators; some are graduate student assistants (GSA) at the University. Overall, the group is eclectic in regards to work experience and career stage.

1.4.6 The Triad

Frazier, Mencer and Duchein's (1997) triad includes the teacher candidate, University instructor and/or supervisor and the mentor teacher. At the heart of Frazier et al.'s research is the idea of communication and collaboration among the members. The research indicates that, "when there is consistency between college instruction and the cooperating teacher's classroom, both philosophically and in practice, the pre-service teacher is more likely to observe, understand, and apply principles learned via college instruction" (pp. 240-241). Additional researchers concur: in order for pre-service teachers to practice what they have been taught, and in order for university instruction to be worthwhile, collaboration among the pre-service teacher, university instructor and cooperating teacher must take place (Harlin, 1999; Linek et al., 1999).

If collaboration is not immediately feasible between all members of Frazier et al.'s (1997) triad, collaboration among some members has been shown to be a key element within teacher preparation programs in helping to prepare pre-service teachers to teach reading. However, collaboration among all three members is what preparation programs should strive for because it creates an excellent environment for pre-service teachers to learn and work (Frazier et al., 1997; Harlin, 1999). University instructors need to strive for congruence between coursework and the

field placement, or in the very least, help pre-service teachers cope with a disparity (Dowhower, 1990). Collaboration between pre-service teachers and cooperating teachers needs to increase (Bean, 2001; Sturtevant & Spor, 1990; Wham, 1993) because there is much that can be learned by both partners in this relationship.

1.5 CONTRIBUTIONS

The research findings from all four data collection tools – the *Knowledge Inventory*, *Survey of Perceptions*, and follow-up survey and telephone interviews – will contribute to the overall growing body of knowledge in the field of teacher education research. The National Reading Panel (2000) called for further research in this area[3], and this study is intended to serve that call in any way possible. This study investigated what content teacher candidates learn from their literacy methods courses and whether or not the candidates perceive themselves as being prepared to teach that content. Also, it was the intent of this researcher to contribute to the knowledge base about the value of a field-focused program, such as the MAT program, in terms of helping teacher candidates internalize the knowledge they have gained in the University classroom and practice the strategies to which they have been introduced, better preparing them to be effective classroom teachers in the future. Through this research, it may be determined in which ways teacher candidates who complete such a program differ from those in a more traditional program that includes student teaching only. The teacher candidates' collaborative

[3] Retrieved on May 11, 2006 from http://www.nichd.nih.gov/publications/nrp/smallbook.pdf

efforts with others, as well as their personal reflective practices, were also studied with the intent of determining the perceived usefulness of each. The effort to do follow-up work with students is also an important aspect of this study. This activity enabled the Principal Investigator to obtain important information from graduates when they were in the field teaching. The distance from actual involvement in the teacher education program provided them with opportunities to think about what they do and do not know. Such knowledge should be helpful to teacher education institutions in planning and improving their programs. In addition, the overall findings of this study – the overarching conclusions that can be drawn from the assessments as a whole – will enhance understanding of teacher preparation programs as they presently exist. The findings can also be used to help give researchers insight as to what further information is still needed as well as provide teacher educators and program coordinators with a 'road map' for constructing effective teacher preparation programs.

In addition, the results of the *Knowledge Inventory*, *Survey of Perceptions*, follow-up survey and telephone interviews can be used to help University of Pittsburgh faculty improve the MAT and PY teacher education programs for future students. The strengths and weaknesses of the coursework and fieldwork components, as well as of the collaborative and reflective practices, will have been identified by actual students. Data was collected and used to draw conclusions regarding the level of preparation these teacher candidates received, specifically in the area of reading; these data can be used to validate the current programs as well as to enhance them in the future.

2.0 REVIEW OF THE LITERATURE

This review of literature focuses on four major areas related to the conceptual development of this research study. The first section addresses research regarding teacher knowledge. The next three sections focus on what recent research points out as being crucial elements of teacher preparation programs, focusing on the area of literacy: coursework with an integrated field experience; pre-service teacher reflection; and consistency, collaboration and communication among members of the education community. The fifth section addresses the limitations of the research along with one study that addresses one of these limitations and serves as a building block for this researcher's study. This chapter concludes with a summary of the research, as well as a summary of what we know and how this present study will contribute to the existing body of knowledge.

2.1 CONTENT KNOWLEDGE

Besides identifying and examining the most critical elements of teacher preparation programs, we must also identify and examine the critical elements of content knowledge. What must teacher candidates know to be effective literacy teachers? Schulman (1986) distinguishes

between three types of content knowledge necessary for all teachers: subject matter content knowledge; pedagogical content knowledge; and curricular knowledge. Briefly, the three types of content knowledge, as described by Schulman, can be defined as follows:

- *Content Knowledge* refers to the amount and organization of knowledge in the mind of the teacher
- *Pedagogical Content Knowledge* goes beyond knowledge of subject matter to the dimension of subject matter knowledge for teaching
- *Curricular Knowledge* refers to an awareness and understanding of the full range of programs designed for the teaching of particular subjects and topics at a given level, the variety of instructional materials available in relation to those programs, and the set of characteristics that serve as both the indications and contraindications for the use of particular curriculum or program materials in particular circumstances

(p. 9-10)

The pre-service teachers' pedagogical knowledge is of great interest. The following research proposes what teachers of literacy need to know to successfully instruct students in the field.

The *Standards for Reading Professionals – Revised 2003* include nineteen standards across five categories to which all literacy education professionals must adhere. The categories include: Foundational Knowledge; Instructional Strategies and Curriculum Materials; Assessment, Diagnosis and Evaluation; Creating a Literate Environment; and Professional Development. These standards are used by colleges and universities as well as state department staff in planning teacher preparation programs for literacy professional. The *Standards* are also used to evaluate both teacher candidates and the programs that prepare them; likewise, the

National Council for Accreditation of Teacher Education (NCATE) uses the *Standards* in accreditation decisions. Furthermore:

> *Standards 2003* has drawn from professional expertise and reading research to identify the performance criteria relevant to producing competent reading professionals. In planning preparation programs, the *Standards* provide a guide to program content and program contexts that will result in the production of candidates who know and are able to do the performances described in the standards tables. Because these standards are performance-based rather than "course-based," they allow preparation programs and states more flexibility to design programs. The *Standards* also can be used as a guide to develop candidate and program assessment systems[4].

Every literacy teacher must be able to demonstrate such competencies as: using various instructional grouping strategies; using a wide range of instructional practices, approaches and methods; and using a wide range of assessment tools and practices. They must also demonstrate the ability to place students along a developmental continuum and identify students' proficiencies and difficulties as well as use assessment information to plan, evaluate and revise effective instruction that meets the needs of all students[5].

In 1997, Congress asked the Director of the National Institute of Child Health and Human Development (NICHD) to:

> convene a national panel to assess the status of research-based knowledge, including the effectiveness of various approaches to teaching children to read. This panel was charged with providing a report that

[4] Retrieved on April 24, 2006 from http://www.reading.org/resources/issues/reports/professional_standards.html
[5] Retrieved on April 24, 2006 from http://www.reading.org/resources/issues/reports/professional_standards.html

> should present the panel's conclusions, an indication of the readiness for application in the classroom of the results of this research, and, if appropriate, a strategy for rapidly disseminating this information to facilitate effective reading instruction in the schools. If found warranted, the panel should also recommend a plan for additional research regarding early reading development and instruction.[6]

The National Reading Panel (NRP) was thus established; it was comprised of leading scientists in reading research, representatives of colleges of education, reading teachers and educational administrators. After holding regional meetings throughout the following year to gather information for the work ahead of them, the NRP settled on the following five topics for further study:

- Alphabetics, which consists of phonemic awareness and phonics instruction
- Fluency
- Comprehension, consisting of vocabulary instruction, text comprehension instruction and teacher preparation and comprehension strategies instruction
- Teacher education and reading instruction
- Computer technology and reading instruction

Rigorous research methodology standards were established prior to the initial review of over 100,000 studies. Through its work, the NRP identified a number of instructional approaches, methods, and strategies that hold substantial promise for application in the K-3 classroom. Based on their extensive research, the NRP identifies phonemic awareness, phonics,

[6] Retrieved on April 29, 2006 from http://www.nichd.nih.gov/publications/nrp/smallbook.pdf

fluency, vocabulary and comprehension as the five essential components of reading instruction. A NRP publication, the Report of the National Reading Panel: Reports of the Subgroups, includes specific findings that can be useful in helping teachers develop instructional applications with students. The NRP also identified areas where "significantly greater research effort is needed, and where the quality of the research efforts must improve in order to determine objectively the effectiveness of different types of reading instruction"[7], one of which is the area of teach education.

The National Institute for Literacy (NIFL) and the Center for the Improvement of Early Reading Achievement (CIERA) published *Put Reading First: The Research Building Blocks for Teaching Children to Read* (2001). This guide was developed in response to the findings of the NRP, and serves as an outline for reading educators regarding the five essential components of reading instruction. In order to teach reading successfully, educators must have a complete understanding of what these areas are, as well as how to deliver appropriate instruction in each. Definitions and activities in each area have been outlined in the NIFL (2001) guide.

2.1.1 Phonemic Awareness Instruction

Phonemic awareness is the ability to notice, think about and work with individual sounds in spoken words. In order to be able to read, children must first understand that words are comprised of phonemes (speech sounds). Phonemic awareness is not the same as phonics:

[7] Retrieved on April 29, 2006 from http://www.nichd.nih.gov/publications/nrp/smallbook.pdf

phonemic awareness deals with the sounds in spoken language; phonics deals with the relationship between phonemes and graphemes (written letters).

Phonemic awareness is a narrow subcategory of phonological awareness, dealing with identifying individual sounds in words. Phonemic awareness activities include phoneme manipulation, blending and segmenting. The focus of phonological awareness is much more broad. Activities include identifying and making or working with: oral rhymes; syllables in spoken words; onsets and rimes in spoken syllables; individual phonemes in words spoken.

2.1.2 Phonics Instruction

Phonics instruction teaches children the relationships between phonemes and graphemes and how to use these relationships to read and write. A systematic and explicit phonics program is highly effective in teaching children to read. A program is systematic if "the plan of instruction includes a carefully selected set of letter-sound relationships that are organized into a logical sequence" (p. 19); it is explicit if "the program provides teachers with precise directions for the teaching of these relationships" (p. 19). As identified by the NIFL (2000) guide, systematic and explicit phonics instruction:

- Systematically improves kindergarten and first-grade children's word recognition and spelling
- Significantly improves children's reading comprehension
- Is effective for children from various social and economic levels

- Is beneficial for children who have difficulty learning to read or are at risk for developing future reading problems
- Is most effective when introduced early

(pp. 14-15)

2.1.3 Fluency Instruction

Fluency is the ability to read material accurately and quickly. There are marked differences between fluent and non-fluent readers. Fluent readers are able to concentrate less on reading words and more on comprehension – making meaning of the text by connecting ideas presented in the writing with their own background knowledge. Readers that are not fluent must focus the majority of their efforts on decoding words. This leaves them with little attention to devote on comprehension, which translates to a loss of understanding and, sadly, oftentimes interest. Activities that promote fluent reading include modeling by the teacher and repeated oral reading (such as choral or partner reading, as well as Reader's Theater). In addition, it is important that teachers provide students with material that is at an appropriate level based on individual reading ability.

2.1.4 Vocabulary Instruction

The NIFL (2000) states that "research on vocabulary instruction reveals that (1) most vocabulary is learned indirectly, and (2) some vocabulary must be taught directly" (p. 35). Students learn vocabulary indirectly by engaging in conversation with others, listening to other read to them and reading on their own. However, they will not learn all the vocabulary they need to know this

way. When teachers deliver direct vocabulary instruction, students' reading comprehension abilities improve (p. 35). Some ways of doing this include teaching specific words before reading and extending instruction that promotes active engagement. Teachers can also instruct students to help themselves with new vocabulary by using dictionaries and other reference sources, as well as by using word parts and context clues to identify meaning.

2.1.5 Comprehension Instruction

The NIFL (2000) identifies good readers as both purposeful and active (p. 48). Good readers have a purpose for reading, whether it be to learn how to do something or purely for enjoyment. Good readers are also active while reading – they are constantly making meaning of the material by connecting it to what they already know (background knowledge). Comprehension does not always come easily, and teachers can do several things to help struggling readers. Teachers must instruct students on how to monitor their own understanding and use strategies to fix any problems that arise, such as looking back in the text. Teachers can also teach students how to use graphic organizers, generate and answer and questions, recognize story structure and summarize. Much like phonics instruction, comprehension instruction is most effective when it is explicitly taught (p. 53), which consists of: direct explanation of the strategy; modeling of its use; guided practice; and application of the strategy.

2.2 COURSEWORK WITH AN INTEGRATED FIELD EXPERIENCE

Pre-service teachers first learn about teaching through the courses they take in their preparatory programs. Field placements, whether they are observational in nature, one-on-one tutoring in a laboratory or school setting, or full-time student teaching, allow pre-service teachers to gain a sense of what it will be like for them once they leave the university and begin their work as teachers. Therefore, having strong coursework that incorporates a field placement opportunity is essential in helping pre-service teachers learn to teach literacy. Research has shown that integrating coursework and field placements help students more than having either occur independently (Cox et al., 1998; Hedrick et al., 2000; Linek et al., 1999; Massey, 2003). Therefore, it is impossible to separate any discussion of coursework and field experiences as they so often go hand in hand in teacher preparation programs.

Pre-service teachers undergo a variety of changes over the course of their work in the classroom and in the field. Through their work, pre-service teachers become more confident in their abilities to teach reading because they have the opportunity to put into practice what they have learned in theory. They become more confident in their abilities to instruct struggling readers and their attitudes toward teaching struggling readers improves. Additionally, their beliefs and attitudes about literacy instruction are changed due to this combination of coursework and field work.

Linek, Nelson, Sampson, Zeek, Mohr and Hughes (1999) and Cox, Fang, Carriveau, Dillon, Hopkins and Nierstheimer (1998) assert the importance of the integration of coursework and field work based on the findings of their research. In Linek et al.'s (1999) report on three

case studies involving pre-service teachers in methods courses at different universities, the benefits of incorporating field placements with coursework were identified. Researchers' interviews focusing on the beliefs of pre-service teachers indicated that, while all participants expanded their knowledge base, only those pre-service teachers enrolled in the course sections incorporating a field placement – not those without a field placement or without supervision during their placement – were able to apply their newfound knowledge. Pre-service teachers involved in the case study group without the field placement reported that "without a field experience they had no opportunity to apply, test, and confirm their developing ideas" (p. 380). Although much of the data collected in these case studies was obtained via pre-service teacher self-reporting and subjective artifacts, such as interviews and student journals, two valuable conclusions about field experiences can be made. Field experiences are necessary for pre-service teachers to try out strategies they have learned and to hone their teaching skills. A field component would also allow these pre-service teachers an opportunity to solidify their new beliefs and orientations toward teaching literacy that are being formed during coursework.

Likewise, Cox et al. (1998) tested the effects of having two sections of a literacy block occurring in different settings: one occurring off-campus at an elementary school; the other one occurring on-campus, with some time spent working at an elementary school field placement. The pre-service teachers received the same instruction, but the amount of time spent in the field was different: the on-campus group visited the school for only thirty hours while off-campus students spent one-hundred nineteen hours at the elementary school. Spending all of their time at the elementary school gave this group of pre-service teachers more time to interact with the students and their teachers.

Through the analysis of concept maps constructed by pre-service teachers to answer the question "At this point in time, how would you teach literacy/language arts in your own classroom?" (p. 511), Cox et al. found that there was a "statistically significant greater level of overall conceptual understanding of literacy instruction for the off-campus [elementary school-based] students than for the on-campus [university-based] students" (p. 512). Since the instructors of each section collaborated to ensure each group was receiving the same level of instruction concerning the same topics, it can be concluded that the elementary school-based students demonstrated a deeper understanding of the instructional strategies they were taught during the semester because of the setting in which they were placed. These students had more opportunity to interact with the students and teachers at the school due to their continual presence in the building. Referring back to Linek et al.'s (1999) work, though no conclusions were drawn implicating the third case study group's permanent placement in an elementary school setting, it is possible that the positive effects reported by these pre-service teachers are due in part to their placements, just as were the effects reported by Cox et al.'s (1998) students.

When a field experience is part of coursework, pre-service teachers are able to practice what they have learned about teaching literacy in a real-life situation. The integration of these two components allows for pre-service teachers to test, question and reshape their ideas while still being supported by their instructors at the university, without the pressures of having a full-time classroom placement. As pre-service teachers practice their new skills, they become more confident in their instructional abilities. This leads into the next finding regarding the benefits of integrating coursework and field experiences.

Duffy & Atkinson's (2001) and Fang & Ashley's (2004) findings support the assertion that pre-service teachers' confidence in teaching ability is linked to their experiences working in the field with struggling readers. Duffy & Atkinson studied the progress of pre-service teachers enrolled in two sequential literacy methods courses that incorporated classroom observation and tutoring. By using a qualitative content analysis method (p. 86), seven topics emerged from the pre-service teachers' initial essays, learning logs, emails and final essays. The researchers found that pre-service teachers:

- Improved in their abilities to integrate their personal, practical, and professional knowledge to inform their actual or intended literacy instruction
- Decreased in their misunderstandings surrounding literacy instruction principles
- Improved in their abilities to critically examine literacy instruction in relation to best practices, research and theory
- Felt better prepared to teach struggling readers
- Valued the use of diagnostic assessments to inform their instruction of struggling readers
- Requested assistance in the use of assessment and/or instructional strategies prior to and during their initial instruction of both struggling and non-struggling readers
- Valued their experiences tutoring struggling readers

(pp. 86-96)

These pre-service teachers benefited tremendously from their college coursework and field experience. They grew as teachers, becoming more confident in their abilities to teach struggling readers. Having had the opportunity to work with students as tutors, the pre-service

teachers could focus on developing their teaching skills rather than on issues such as standardized assessments and classroom management issues faced by classroom teachers.

Fang & Ashley (2004) investigated pre-service teachers' responses to an integrated field-based literacy block. As part of the block method, pre-service teachers were at the university partnership school three afternoons a week, with two of those days devoted primarily to tutoring struggling readers. Based on an analysis of interviews with the pre-service teachers, as well as journals and completed surveys, the researchers reported many of the same findings as Duffy & Atkinson (2001). Pre-service teachers involved in Fang & Ashley's research became more confident in their ability to teach struggling readers and became more aware of teaching and learning processes. The pre-service teachers also reported, like many others before them, that the tutoring experience was the most valuable component of the literacy block (p. 45).

Being confident in one's abilities to teach struggling readers may open the door to becoming more sympathetic to the needs to such students. When pre-service teachers have the chance to practice different strategies and become more confident educators, they will see that they can help students become better readers. Their attitudes toward struggling readers may change accordingly.

Research has shown that working in a field placement not only helps to build pre-service teachers' confidence in their abilities, it also helps to change pre-service teachers' attitudes toward teaching struggling readers (Hollingsworth & Burnett, 1993; Nierstheimer et al., 2000). Nierstheimer, Hopkins, Dillon and Schmitt (2000) studied sixty-seven pre-service teachers taking a literacy methods course with a tutoring component. This course infused elements of the Reading Recovery model into the instruction pre-service teachers received, thus giving them

specific strategies geared toward teaching struggling readers. Although they had taken literacy methods courses prior to this one, none of the pre-service teachers had any experience teaching literacy. After analyzing various data sources, Nierstheimer et al. concluded that the pre-service teachers in this investigation underwent a shift in their beliefs concerning struggling readers – from not feeling responsible for helping struggling readers (p. 3) prior to the start of the course, to acknowledging their responsibility to these students upon completion of the course (p. 8). Hollingsworth & Burnett's (1993) investigation into the usefulness of a campus-based literacy laboratory bore similar results. Survey results showed that working closely with struggling readers helped more than one-hundred pre-service teachers see the importance of their efforts and made them take seriously the success of their students. Forty-seven percent of the pre-service teachers reported that working one-on-one with struggling readers was the most valuable aspect of the reading laboratory; forty-two percent reported that learning diagnostic and prescriptive techniques to use with these students was the most valuable component (p. 115). In contrast, only seventeen percent of pre-service teachers noted the value of lectures – a more traditional teaching approach – to their learning in the lab environment. These data reinforce the importance of interaction with and instruction of struggling readers in a classroom environment prior to full-time teaching experience.

Frazier, Mencer and Duchein's (1997) research summarizes the importance of integrating a field experience into literacy coursework. Frazier et al. reported on the field experience triad consisting of the pre-service teacher, university instructor and the school-based cooperating teacher. Twenty-five elementary education pre-service teachers in a literacy methods course worked in the field for ten weeks while meeting at least twice per week as a class to discuss

instructional techniques and strategies. Materials such as portfolios, responses to final exam questions and observation notes were analyzed by a three-member team upon completion of the coursework. Several conclusions concerning pre-service teacher intentions were drawn based on these findings, such as the influence college instruction has on pre-service teachers' methods of instruction in the field. Overall, Frazier et al.'s message was clear: college methods courses involving a field experience play a critical role in influencing pre-service teachers' beliefs, practices, and intentions regarding literacy instruction (p. 242).

The importance of integrating field experience and coursework is clear as evidenced in recent research. Whether it is whole or small group instruction or tutoring, the experiences pre-service teachers have working with students is an invaluable component of their preparation programs (Cox et al., 1998; Hedrick et al., 2000; Linek et al., 1999; Massey, 2003). Not only do these pre-service teachers gain teaching experience by practicing what they have learned in the classroom, their confidence as literacy teachers grows (Commeyras et al., 1993; Duffy & Atkinson, 2001; Fang & Ashley, 2004) and their attitudes toward struggling readers moves in a more positive direction (Hollingsworth & Burnett, 1993; Nierstheimer et al., 2000).

2.3 PRE-SERVICE TEACHER REFLECTION

Several researchers have noted the importance of or encouraged the incorporation of pre-service teacher reflection into coursework and field placements. By requiring that pre-service teacher reflection be a component of teacher preparation programs, these future teachers can learn a great deal about themselves as learners and as teachers and also about the evolving nature of

their beliefs regarding the acquisition of literacy skills and about teaching literacy. Three specific types of reflection cited by research as being useful to pre-service teachers' development include videos presentations, revisiting questions over the course of their learning, and personal autobiographies.

One type of reflection that is recommended by researchers is having pre-service teachers videotape and review themselves teaching (Hedrick, McGee & Mittag, 2000; Weinstein, 1990). Hedrick et al. (2000), working with pre-service teachers in a tutoring experience, suggested that teachers videotape one of their lessons and review it with their peers. This would provide a time for personal reflection as well the opportunity to learn from others in similar situations. This type of model would allow for more peer interaction and, if designed into a course, could encourage collegiality among pre-service teachers (p. 61). Weinstein (1990) worked with thirty-eight pre-service teachers to determine what effects an introductory education course would have on their beliefs about good teaching. After administering pre- and post-course questionnaires to pre-service teachers enrolled in one section of an elementary education methods course, Weinstein found that the "unrealistic optimism characterizing students' expectations at the beginning of the semester was present at the end of the semester as well [indicating that] most students remained convinced that they would do better than their peers" (p. 285). Weinstein gave several recommendations to reduce these optimistic biases, one of which was to have pre-service teachers, working in groups, analyze videotaped teaching performances because:

> The use of videotapes would make [the] "invisible" aspects of teaching more accessible to students. Viewing and reviewing the performances of expert and novice teachers may help to elucidate the routines and activity segments that teachers use to simplify the task environment and may

> foster the realization that teaching is a highly complex cognitive activity. Similarly, reviewing video- or audiotapes of their own teaching and engaging in stimulated recall, discussion, and analysis may promote an awareness of the cognitive demands of teaching, as well as students' own implicit premises (p. 287).

By revisiting questions they have answered or goals they have set throughout their work (Fazio, 2000; Mallette et al., 2000), pre-service teachers grow as educators. Mallette, Kile, Smith, McKinney and Readence (2000) worked with pre-service teachers in a literacy methods course that incorporated a field experience. A major source of data in this study was the answers to three questions the pre-service teachers answered at the beginning and again mid-way through the semester: *How do children learn to read? What are reading difficulties? Why do students have reading difficulties?* Through this reflective work, the pre-service teachers acknowledged their limited views regarding reading difficulties and developed new meanings and understandings that were much more encompassing (p. 610).

Within the confines of a course designed to "promote reflective thinking about instructional practices" (Fazio, 2000, p. 177), Fazio studied the impact constructive comprehension and metacognitive strategy instruction had on pre-service teachers' beliefs about teaching literacy. Twenty-eight pre-service teachers demonstrated a shift in their beliefs about teaching literacy over the course of the semester, as evidenced through the analysis of their personal reflections as shown in dialogue journals, open-ended surveys and essays. Continuous reflection "encouraged pre-service teachers to consider *why* they would select particular teaching methods in their future classrooms . . . they considered the *why* behind the *what* [in instruction]" (p. 186).

Other researchers have found that when pre-service teachers take part in self-reflection by way of writing autobiographies (Bean, 1994; Swafford, Peters & Lee, 1998) they learn a great deal about themselves, allowing them to grow as educators. Bean (1994) analyzed autobiographical essays written by pre-service teachers enrolled in a content-area literacy course. These essays addressed questions concerning their memories of literacy as children and young adults and what, as future teachers, they would do to help foster in their students a love of literacy. Overall, the pre-service teachers' attitudes toward literacy as a personal activity were positive. They were able to list numerous people who read with them or encouraged them to read, and they reported enjoying literacy during their pre-college years, though the amount of reading-for-enjoyment they did waned over time due to an increased amount of reading assigned to them in school (p. 373). When answering what they would do as teachers to help their students learn to love reading, the pre-service teachers had incredible difficulty articulating their thoughts; many opted not to answer this question at all. The pre-service teachers reflected on what positive – and at times negative – experiences they had and used these memories to shape their view of literacy instruction. Because they were excited about reading or understood its importance, pre-service teachers believed their future students would feel the same (p. 374); unfortunately, their expression of these views was highly romanticized and showed a lack of understanding of how, through academic means, these pre-service teachers would get their future students engaged in literacy.

Swafford, Peters and Lee (1998) took Bean's (1994) research a step further by having over two-hundred pre-service teachers from five semesters of a content-area literacy course examine their prior literacy development in order to become more cognizant of what kinds of

literacy instruction are effective and ineffective in elementary school classrooms. Through the analysis of autobiographical essays, Swafford et al. found that pre-service teachers reflected on: their own educational experiences and how these experiences have influenced their beliefs about literacy; the affective characteristics of teachers they deemed to be effective; and classroom practices they would use as future teachers.

No matter what method of reflection is used, it is clear that this learning tool helps pre-service teachers identify areas of strength as well as those areas in need of improvement. Reflection also helps pre-service teachers grow as educators by influencing the way they approach literacy instruction. Another consequence of student reflection is felt at the program level: by incorporating reflection into courses taken by pre-service teachers, university instructors can identify areas of need and gear their instruction accordingly.

A limitation of this research is the loosely structured nature of the assignment – autobiographical essays – and the myriad of response types that could be expected. This somewhat unstructured format could lead to difficulties in interpreting the data. To alleviate this, Swafford et al. (1998) designed a questionnaire for their subjects to respond to regarding the accurateness of the researchers' interpretations (p. 519). Forty-eight pre-service teachers responded, and 97% of them stated that they "definitely agreed with the belief statements" (p. 519) formulated by the researchers during their analysis.

Despite any limitations that may exist, the research points to the importance of allowing pre-service teachers, preferably early in the program, to reflect on their personal beliefs so that a baseline for learning can be established (Bean, 1994; Swafford et al., 1998). Once pre-service teachers' beliefs have been identified, teacher educators can gear their instruction to build on and

extend what these students bring with them to the program. Since university instructors are not the only ones working with pre-service teachers in this capacity, cooperating teachers must also work closely with the pre-service teachers – as well as with each other – to encourage the formation of positive attitudes and build their knowledge base.

2.4 CONSISTENCY, COLLABORATION AND COMMUNICATION

Building from previous researchers' findings (Bean, 1994; Swafford et al., 1998) in which pre-service teachers' reflections indicated a need for collaboration among the teaching "triad" (Frazier et al., 1997, p. 230), discussion of collaborative efforts is warranted. Collaboration, including open communication among individuals, can also be taken a step further to encompass consistency of what is taught in one setting (i.e., the college classroom) and what is seen in another (i.e., the field placement).

By analyzing the portfolios, final exam questions and field notes of and conducting conferences with twenty-five elementary education majors – as well as working closely with two college instructors and fourteen cooperating teachers – Frazier et al. (1997) found that "when there is consistency between college instruction and the cooperating teacher's classroom, both philosophically and in practice, the pre-service teacher is more likely to observe, understand, and apply principles learned via college instruction" (pp. 240-241).

Data was collected over fifteen weeks and analyzed via constant comparative analysis (p. 233) for emerging patterns of beliefs and practices. Pre-service teachers were labeled, based on analysis, as holding either a holistic, skills-based or interactive literacy philosophy at both the

beginning and end of the semester. Cooperating teachers were labeled just once. Results are as follows:

At the beginning of the semester:

- 21 pre-service teachers had a holistic literacy philosophy
- 1 had an interactive philosophy
- 3 had a skills-based philosophy

At the end of the semester:

- 16 (of the original 21) pre-service teachers stated that their beliefs in holistic teaching strengthened
- Of the remaining 9 pre-service teachers:
  - 5 changed from skills-based to holistic (bringing the total number of pre-service teachers prescribing to a holistic literacy philosophy to 21)
  - 1 changed from skills-based to interactive
  - 3 changed from holistic to skills-based

(p. 234)

Cooperating Teachers:

- 7 practiced skills-based teaching
- 6 practiced holistic teaching
- 1 practiced an interactive teaching style

(p.239)

The findings show that pre-service teachers' beliefs and intentions were influenced most when their cooperating teachers demonstrated practices consistent with the college instructors' philosophy of literacy instruction (p. 234). Frazier et al. (1997) provide three possible explanations for these findings. First, the nature of the associated literacy methods course – which emphasized reflective practice, networking and collaboration – may have promoted

critical thinking and prevented the pre-service teachers from agreeing with their cooperating teachers' approach (p. 240). Second, pre-service teachers were placed in classrooms in collaborative pairs, which may have strengthened the influence of their college instruction (p. 240). Finally, pre-service teachers participated in weekly classroom discussions, which encouraged reflection upon the field experience and coursework, which may have further strengthened the influence of college instruction (p. 240).

Unless the pre-service teachers spend their field experience at a university partnership school, there is probably little pre-established collaboration among professionals between the two institutions. In order for pre-service teachers to practice what they have been taught, and in order for university instruction to be worthwhile, collaboration among the pre-service teacher, university instructor and cooperating teacher must take place (Harlin, 1999; Linek et al., 1999).

Consistency among what is encountered by pre-service teachers makes for more generally successful learning experiences. Harlin (1999) worked with pre-service teachers in a course that incorporated a field placement where pre-service teachers were greatly involved in collaborating with each other as well as with their cooperating teachers. Using a constant comparative method of analysis (p. 357), Harlin determined that, over time, the pre-service teachers' perceptions of teaching literacy changed. This change was due to their collaborative work in both the college and elementary classrooms with peers, university instructors and cooperating teachers in such areas as discussion, planning and readers' and writers' workshop.

The work described by Harlin involved a close collaboration between university and elementary school personnel. Harlin described this partnership school as "exemplary for pre-service teachers' development" (p. 356) due to several factors, some of which include: the

cooperating teachers' philosophy of literacy being congruent with those of the university professors'; the school principals' vested interest in staff development; and the school being well-equipped with children's literature and technology (p. 356). This field site was exemplary and, unfortunately, most likely not the norm. Many pre-service teachers may not have the opportunity to work in a school such as the one described in Harlin's study. Even if collaboration is not immediately feasible among all members of Frazier et al.'s (1997) triad, collaboration among some members has been shown to be a key element within teacher preparation programs in helping to prepare pre-service teachers to teach literacy.

Dowhower (1990) determined that pre-service teachers often have varying field experiences, with some considered to be positive, while others are negative, or both. One notable hypotheses emerging from Dowhower's data was that there was a "discrepancy between what is taught [in the college classroom] and what is experienced [in the field placement]" (p. 172). To alleviate this program-to-field inconsistency, Dowhower suggested that university professionals can:

- Explore cooperating teacher constraints
- Prepare pre-service teachers for the dilemmas they may encounter in the classroom
- Give pre-service teachers alternatives to inappropriate literacy practices
- Provide models within the methods course

(p.173-174)

The research performed by Frazier, Mencer and Duchein (1997) and Dowhower (1990) clearly indicate that, without consistent instruction and collaboration among individuals, the

knowledge pre-service teachers have gained in the college classroom will not be put to appropriate use with students in the elementary classroom. Just as tutoring "formed the bridge between "a good idea mentioned in methods class" and a strategy [pre-service teachers] practiced on a regular basis" (Massey, 2003, p. 269), communication and collaboration between the pre-service teacher, university instructor and cooperating teacher forms a bridge between what is learned in the program and what is used in the classroom.

Sturtevant & Spor's (1990) determined that pre-service teachers use very few of the content area literacy strategies they are been taught as part of their coursework. Pre-service teachers reported that their infrequent use of strategies was due to their cooperating teachers' unfamiliarity with them (pp. 27-28). The pre-service teachers, rather than collaborating with their cooperating teachers to discuss instructional strategies, modified or eliminated parts of their instruction to match the styles of their cooperating teachers even if it came at the expense of their students' educations.

Bean's (2001) research findings echo those of Sturtevant & Spor (1990), perhaps indicating that after eleven years, not much has changed where collaboration among pre-service teachers and cooperating teachers is concerned. Bean (2001) worked with twenty-seven pre-service teachers enrolled in a content-area literacy course that included a teaching practicum. During the first phase of the course, the pre-service teachers were introduced to several comprehension and vocabulary strategies for use with secondary students; they were to choose one for use in a teaching unit of their design. In the second phase of the study, ten of the pre-service teachers were interviewed in order to determine what strategies from the coursework, if any, they were using during their field experience. Bean found that, of the ten pre-service

teachers in the second phase of the study, only two of them were using the literacy strategy they selected during the first phase. The remaining eight pre-service teachers reported using strategies from the coursework, but ones other than those they initially selected. Bean concluded:

> The most dominant influence in strategy selection and use was the cooperating teacher. These pre-service teachers carefully checked the climate they felt the cooperating teacher wanted to maintain in the classroom and operated accordingly. Thus, strategy use was regulated and sometimes minimized by pre-service teachers' perceived understanding of their cooperating teachers' desires (pp. 161-162).

Collaboration between Frazier et al.'s (1997) triad is not the only type of collaboration that should be encouraged, however. Collaboration among pre-service teachers needs to be encouraged because these are people in similar situations that can learn from one another. Many times, collaboration among pre-service teachers occurs in the university classroom or at the field placement site. This type of collaboration is often begun by one pre-service teacher reflecting on something he or she has done and then 'opening it up to the group' to better understand what should be done (see Hedrick, McGee & Mittag, 1999).

Nierstheimer, Hopkins, Dillon and Schmitt (2000), working with pre-service teachers in a methods course infused with features of the Reading Recovery method, found that one of the most influential components of the course was the pre-service teachers' collaboration with each other. Once a week, a pre-service teacher would teach a lesson to an elementary student while their peers observed; later, they would meet to analyze and reflect on the lesson. Together, pre-service teachers could determine strengths and weaknesses of the lesson as well as what the pre-

service teacher could do with the student in the future. This type of collaboration is helpful for many reasons. For example, pre-service teachers may be more receptive to suggestions or comments made by their peers than by an instructor or cooperating teacher for the simple reason of not feeling as if they are being judged. Pre-service teachers have a wealth of information and have a great deal to offer one another. They have been in many similar situations but may have handled things differently. Sharing new strategies can help struggling pre-service teachers work through a difficult situation.

Pre-service teachers can also help each other in the university classroom. Wedman, Kuhlman and Guenther (1996) found that pre-service teachers, when working together to learn a literacy concept, became more involved with the material to develop a better understanding of the topic than those pre-service teachers that work independently. Like in Nierstheimer et al.'s (2000) study, these pre-service teachers took advantage of the situation and learned from each other through collaboration.

2.5 LIMITATIONS AND CONTINUING RESEARCH

The research is not without its limitations. Though the pre-service teachers in these studies clearly grew as teachers due to their work in the University classroom, in the field and with others, little growth is recorded concerning student benefits. Hollingsworth & Burnett (1993) are the exception; concerning a reading laboratory where pre-service teachers tutored struggling readers one-on-one, 73% of the students "expressed positive feelings . . . the children largely felt very positive about going to the lab" (p. 113). This report is the exception rather than the norm;

though it is possible that students of the pre-service teachers had positive experiences and made gains as readers because of such interactions, it is rarely reported in the research.

Also, the findings of many of these studies are at least partially based on pre-service teacher self-perceptions (Bean, 1994; Dowhower, 1990; Hedrick et al., 2000; Mallette et al., 2000; Nierstheimer et al., 2000; Swafford et al., 1998; Weinstein, 1990). Though a great deal of valuable information can and should be gathered from student self-report, quantitative data from non-subjective sources – such as knowledge tests – would serve to enhance such qualitative data.

Finally, none of the studies cited included a follow-up extension into the 'real world' of teaching. There exists a disconnect between research in teacher preparation between the preparation and the full-time act of teaching. For example, none of the studies that looked at comparison groups (Commeyras et al., 1993; Cox et al., 1998; Duffy & Atkinson, 2001; Linek et al., 1999; Wedman et al., 1996) conducted follow-up assessments to determine if any of the advantages found to be felt by one group still existed once these teachers entered into the 'real world' of teaching. In general, there has been little research involving such follow-up; Maloch et al.'s (2003) research is the exception.

Maloch, Flint, Eldridge, Harmon, Loven, Fine, Bryant-Shanklin and Martinez (2003) examined the understandings, beliefs, and decision-making processes of teachers through their first year of teaching. The researchers interviewed 101 beginning teachers who graduated from programs from eleven different universities: forty were reading specialization graduates; twenty-eight were graduates of general education programs; and thirty-three were graduates of reading-embedded programs. The first-year teachers were primarily all female and Caucasian. Roughly half of the participants taught in grades K-2.

Graduates of the reading specialization programs completed at least fifteen credit hours in reading and language arts as well took part in an average of 150 hours of field work prior to student teaching. Coursework and field work were "carefully aligned and structured to inform each other through the application of theory to practice and the extraction of theoretical principles through the observation of practice" (p. 437). Those students that graduated from the general education programs completed no more than six credit hours in reading instruction and worked in the field anywhere from fifty to one-hundred hours, depending on the university they attended. In general, these field experiences were not well integrated with coursework. Graduates of the reading-embedded programs completed at least six hours of literacy coursework, in addition to having supplemental literacy-related activities and assignments in other subject-area methods courses. The graduates of these programs share two commonalities with graduates of the reading specialization program: first, they also averaged 150 hours of fieldwork prior to student teaching; second, their coursework and field work "experiences were complementary. Didactic principles were incorporated into coursework and assignments" (p. 438).

The researchers conducted structured telephone interviews at the beginning, middle and end of the academic year. Most interviews were audio-taped and transcribed, with supplemental hand-written notes being provided by the interviewer when needed. Only 1% of the participants did not wish to be recorded; in these cases, extensive notes were taken by the interviewer. Data were analyzed qualitatively in four rounds using an inductive data-driven approach (p. 440).

Results showed that graduates of reading specialization programs and reading-embedded programs were very similar in their thought processes; in contrast were the responses of the graduates of general education programs. As it relates to reading instruction:

Program Theme	Teacher Education Program Graduates		
	% Reading Specialization	% Reading-Embedded	**% General Education**
Instructional decision making: Based instructional decisions on students' needs and growth	78	76	**21**
Negotiations: Worked within and around mandated curriculum and programs to best meet the needs of students	65	67	**21**
Community: Reached beyond existing school structures to build a support system for on-going learning	73	76	**37**
Valuing teacher preparation: Mentioned specific features from their teacher preparations programs they valued	88	94	**36**

(p. 442)

The majority of graduates of reading specialization programs (88%) and reading-embedded programs (94%) valued such features of their teacher preparation programs as "college classroom practices, field experiences, and the knowledge base gained from coursework" (p. 449). Only 36% of general education program graduates agreed.

Maloch et al. (2003) confirm what other recent research into teacher preparation programs state: the integration of coursework and field experiences is crucial in the success of pre-service teachers' ability to deliver effective reading instruction. They further the research base by proving that, when these elements occur at the University level, graduates appreciate their experiences and are able to better apply what they have learned to real life teaching.

However, the researchers also recognize that not all teacher preparation programs empower their graduates in this way, and findings from the general education graduates are evidence of this.

2.6 CONCLUSION

Research has demonstrated that the three most valuable elements of teacher preparation programs for helping pre-service teachers learn to teach literacy are: coursework – including the critical content knowledge – with an integrated field component; personal reflection by the pre-service teacher; and collaboration among pre-service teachers, university professors and cooperating teachers. Coursework requiring participation in a field experience, such as small- or whole-group instruction or tutoring is an effective learning tool that allows pre-service teachers to apply the knowledge they acquire in the college classroom to their work in the elementary or secondary classroom (Cox et al., 1998; Hedrick et al., 2000; Linek et al., 1999; Massey, 2003). Having the opportunity to practice these newly acquired skills helps boost pre-service teachers' confidence in themselves as teachers of literacy (Commeyras et al., 1993; Duffy & Atkinson, 2001; Fang & Ashley, 2004) and also helps to positively change preconceived attitudes toward struggling readers (Hollingsworth & Burnett, 1993; Nierstheimer et al., 2000).

Delving further into the coursework component, recent research clearly indicates what content knowledge pre-service teachers need to know in order to become effective literacy teachers. An IRA Panel (2004) developed standards that have been set forth requiring all pre-service teachers to know and be able to demonstrate their understanding of foundational knowledge, instructional strategies and curriculum materials, and assessment, among other areas.

The National Reading Panel (2000) identified, through extensive research, five critical areas of knowledge that pre-service teachers must be instructed on if they are to successfully teach students to read. These areas include phonemics awareness, phonics, fluency, vocabulary and comprehension.

Reflection helps pre-service teachers think about what life experiences they bring with them to the classroom and how they have shaped their beliefs about teaching literacy. When pre-service teachers reflect on themselves as teachers, they are able to identify their strengths and weaknesses. They can use this knowledge to focus on areas of instruction in which they wish to improve. Teacher educators can use these reflections to inform their instruction and measure growth over time. No matter the method, be it video (Hedrick et al., 2000; Weinstein, 1990) or written response (Bean, 1994; Fazio, 2000; Mallette et al., 2000; Swafford et al., 1998), reflection is crucial for helping pre-service teachers learn to teach literacy.

The final necessary component of a teacher preparation program that hopes to send competent teachers of literacy into the field is the relationship between pre-service teachers, university instructors and cooperating teachers – all members of the field experience triad (Frazier et al., 1997). Collaboration among all three members is what preparation programs should strive for because it creates an excellent environment for pre-service teachers to learn and work (Frazier et al., 1997; Harlin, 1999). University instructors need to strive for congruence between coursework and the field placement, or in the very least, help pre-service teachers cope with a disparity (Dowhower, 1990). Collaboration between pre-service teachers and cooperating teachers needs to increase (Bean, 2001; Sturtevant & Spor, 1990; Wham, 1993) because there is much that can be learned by both partners in this relationship. Another type of collaboration

must also be encouraged, and that is the collaboration among pre-service teachers (Nierstheimer et al., 2000; Wedman et al., 1996). Pre-service teachers are a wealth of knowledge, and that knowledge needs to be shared so that everyone can succeed.

Based on current research, we know that if teacher preparation programs incorporate literacy courses revolving around the five critical elements of literacy with field experiences that offer consistent and collaborative instruction and require pre-service teachers to reflect on their work, future literacy teachers will be better prepared to teach literacy. Given the limitations of this research, there is still a great deal that can be done in this field. Keeping that in mind, it is this researcher's goal to further the work of Maloch et al. (2003) and contribute in such a way that the disconnect between teacher preparation programs and 'real world' teaching is lessened and any dependence on qualitative data alone is eliminated. This will be achieved by the collection of both qualitative and quantitative data through the administration of the *Survey of Perceptions* and *Knowledge Inventory*, as well as through the administration of follow-up surveys and interviews of MAT and PY teacher candidates once they have begun working full-time in the classroom.

The present study investigates what differences exist in knowledge of reading instruction and assessment MAT and PY teacher candidates have after completing their respective teacher preparation program. It also investigates the differences in MAT and PY teacher candidates' perceived readiness to teach reading once upon completing their program and again after gaining full-time teaching experience; additionally, this study investigates which aspects of their preparation program teacher candidates perceived as being most useful in preparing them to teach reading. Research in this area indicates the importance of extensive work in the field in

order for teacher candidates to practice what they have learned in the classroom (Cox et al., 1998; Linek et al., 1999). Therefore, this researcher's hypothesis is that teacher candidates in the MAT program will possess more knowledge of reading – in each of the critical areas – than their PY peers, and that they will also perceive themselves as being better prepared to teach reading than PY teacher candidates because teacher candidates in the MAT program spend more time working in the field than do teacher candidates in the PY program. Additionally, it is this researcher's hypothesis that MAT teacher candidates will perceive their work in the field to be the most valuable aspect of their program as it relates to teaching reading.

3.0 RESEARCH METHODOLOGY

The purpose of this study was to determine what differences exist in the knowledge base, experiences and perceived readiness to teach literacy between teacher candidates in two different graduate education programs at the University of Pittsburgh. Additionally, this study tracked change in perception over time by addressing this issue once upon completion of the teacher candidates' respective degree program and again after some professional teaching experience has been gained. The research on teacher preparation, with a focus on literacy, indicates that teachers must have an understanding of the five critical elements of reading instruction – phonemic awareness, phonics, fluency, vocabulary and comprehension. In order to best learn about these topics, coursework with a closely integrated field experience must be a component of the preparation program. Teacher candidates need to participate in reflective practices; they also must collaborate with their university supervisor (or instructor) and mentor teacher in order to further develop their understanding of and ability to teach reading.

Given the nature of the research, a mixed-methods design was chosen. The use of four assessment tools provides the richest results and clearest picture on what knowledge of reading instruction teacher candidates possess and how prepared the teacher candidates perceive themselves as being regarding teaching reading. The first assessment measure – the *Knowledge Inventory*, a quantitative tool – assessed what knowledge of reading instruction and assessment

teacher candidates possess. The remaining three assessment measures – the *Survey of Perceptions*, follow-up survey and telephone interviews, which are primarily qualitative – assessed both how prepared teacher candidates perceived themselves as being to teach reading and which component(s) of their respective program was responsible for leading them to feel this way. Neuman and McCormick (1995) believe that "practical wisdom and logic should guide the development of coherent research approaches" (p. 113). In this study, the data was best gathered by asking both closed- and open-ended questions. Neither method used independently would paint as vivid a picture of teacher preparation as they do in combination.

This research can also be categorized as quasi-experimental because it involved comparing two pre-established groups of teacher-candidates. Whereas in an experimental design the researcher has control over the selection of participants and their assignment to treatment and control groups, the researcher in a quasi-experimental research study does not. The research participants have already been selected and assigned to groups. However, comparison groups do exist – in this case, the classes of MAT and PY teacher candidates. It is important in this type of study, since there is no control over participant selection and group assignment, that steps are taken to ensure validity. The major difference between the MAT and PY programs, from the standpoint of this study, is the amount of time teacher candidates from each program spend in an elementary classroom. Since this serves as the variable, all other elements of the study were controlled: the literacy course requirements for MAT and PY teacher candidates were the same; the *Knowledge Inventory* asked the same questions of both groups; and the *Survey of Perceptions* given to each group of teacher candidates was identical. However, a possible difference existed concerning the teacher candidates themselves. The experiences teacher candidates in the MAT

and PY programs brought to the University may have been different; PY students, on average, tended to be older and were pursuing teaching as a second career as opposed to MAT students that, on the whole, were younger and may have been entering the workforce for the first time.

The remainder of this chapter discusses the programs of study that are compared within this research as well as the participants in each group. Additionally, data collection sources and data analysis methods are discussed.

3.1 PROGRAMS OF STUDY

There are two different graduate education program options at the University of Pittsburgh: Master of Arts in Teaching (MAT) and Professional Year (PY). Students enrolled in these programs are liberal arts and science graduates from several different institutions including the University of Pittsburgh. They did not hold teaching certificates prior to entering their respective programs.

The University's MAT program prepares its graduates for initial certification in elementary education and a Masters' Degree. The program begins in June of the admission year and is completed in twelve months. Students enrolled in this program complete graduate-level coursework combined with a field placement in an area school district during which they spend four or more days per week in the classroom during the entire academic year.

Students taking part in the University's PY program complete their studies in two traditional academic terms, August through April, plus a shorter, more intense "J-Term", upon which time they receive their initial certification in elementary education. This "J-Term" –

labeled such because it takes place during the month of January – consists of intense work in two courses: Art and Music Methods and Students with Disabilities. Teacher candidates attend these two courses daily for three weeks.

The PY program requires that students spend one day per week in a field placement during their first semester and return to that site the following semester for a full-time student teaching experience. Though graduates of this program have not obtained their Masters' Degree, many of the credits obtained in this program can be applied toward a future Master's in Education Degree.

3.1.1 Coursework

Teacher candidates in both programs take the same literacy courses: *Reading and Language Arts in the Primary Grades*, which focuses on teaching literacy to students in kindergarten through second grade, and *Reading and Language Arts in the Intermediate Grades*, focusing on teaching literacy to students in third through sixth grade. Multiple instructors lead sections of these courses throughout the year. Though content delivery differs, the University of Pittsburgh faculty agrees that the sections of the courses are similar in objectives and expectations. The same objectives are outlined for each section, though delivery of instruction is flexible.

The objectives for the *Primary Grades* literacy course are as follows:

Teacher candidates will[8]:

- Work as members of a community of learners who care about and enjoy our collaboration
- Begin building an understanding of literacy as a cognitive and social process
- Begin learning about the English language as a linguistic and alphabetic system
- Begin learning about instructional strategies for teaching children about language and print
- Begin learning about ways to assess students' understanding and use of literacy and to provide instruction related to what they need to learn
- Begin developing teaching, assessment and organization plans for literacy instruction
- Begin learning about ways to select and teach vocabulary
- Become aware of professional resources and organizations that support and inspire literacy and language arts teachers

Objectives for the *Intermediate Grades* literacy course include the following:

Teacher candidates will[9]:

- Develop an understanding of the theoretical foundation and knowledge base required for gaining insights into the complexities of the literacy and language arts processes as they relate to the intermediate grades
- Learn some of the common literacy difficulties associated with students in the intermediate grades as well as learn a few instructional strategies for preventing and repairing those difficulties. In order to do this, teacher candidates will administer informal assessments that help guide instructional decision making

[8] Taken from Dr. Linda Kucan's course syllabus for I&L 2206, *Literacy and Language Arts in the Primary Grades*
[9] Taken from Dr. Rebecca Hamilton's course syllabus for I&L 2231, *Reading and Language Arts in the Intermediate Grades*

- Observe an intermediate classroom, using the instructor's model/framework to guide the observation
- Plan, teach and evaluate two mini-lessons; teacher candidates will incorporate appropriate strategies and be prepared to teach the lesson to intermediate children and present the lesson to the class
- Develop an understanding of the wide-spread use of the basal literacy program and its influence in classroom in the United States

3.1.2 Field Placement

Prior to the start of the field experience, MAT interns are invited by the field placement coordinator to a two-day interview session with school districts in order to find a field placement match. Interested school districts will then offer internship placements. MAT interns receive a small stipend for their work in the field. School districts pay between three- and six-thousand dollars per year per intern for a four and one-half day per week commitment. MAT interns that work at the Falk School – a University of Pittsburgh laboratory school – are paid eight-thousand dollars in tuition remission.

Field placement selection is quite different for the Professional Year teacher candidates. PY interns are asked to designate a general location and grade level in which they are interested in working. From there, school districts choose the PY students that will be working in their schools, and they remain in that location throughout their time studying at the University. PY interns do not receive a stipend for their work. Table 1 illustrates the placement of MAT and PY students in various school districts:

Table 1: MAT and PY Teacher Candidate Field Placement Breakdown by School District

District	# of MAT Teacher Candidates	% of MAT Teacher Candidates (n=53)	# of PY Teacher Candidates	% of PY Teacher Candidates (n=50)	Total # of Teacher Candidates	Total % (N=103)
Bethel Park	0	0.0	2	4.0	2	1.9
Brentwood Borough	2	3.8	0	0.0	2	1.9
Chartiers Valley	1	1.9	0	0.0	1	0.9
Fox Chapel Area	3	5.7	3	6.0	6	5.8
Franklin Regional	2	1.9	2	4.0	3	2.9
Gateway	0	0.0	3	6.0	3	2.9
Moon Area	1	1.9	2	4.0	3	2.9
Mt. Lebanon	1	1.9	3	6.0	4	3.9
North Allegheny	4	7.5	4	8.0	8	7.8
Northgate	2	3.8	0	0.0	2	1.9
Penn Trafford	2	3.8	2	4.0	4	3.9
Peters Township	2	3.8	0	0.0	2	1.9
Pine-Richland	3	5.7	0	0.0	3	2.9
Pittsburgh Public	**14**	**26.4**	**18**	**36.0**	**32**	**31.1**
Quaker Valley	3	5.7	1	2.0	4	3.9
St. Edmunds Academy	0	0.0	3	6.0	3	2.9
Shaler Area	1	1.9	0	0.0	1	0.9
Falk School	7	13.2	0	0.0	7	6.8
Upper St. Clair	3	5.7	4	8.0	7	6.8
West Mifflin	1	1.9	0	0.0	1	0.9
Wilkinsburg	2	3.8	0	0.0	2	1.9
Woodland Hills	0	0.0	3	6.0	3	2.9

Roughly 26% (14 out of 53) of MAT interns and 36% (18 out of 50) of PY interns spent their field placement in Pittsburgh Public Schools; this is the highest concentration of pre-service teachers in any one school district. However, arrays of school settings are represented, as can be seen in Table 2:

Table 2: MAT and PY Teacher Candidate Field Placement Breakdown by Setting

School Setting	# of MAT Teacher Candidates	% of MAT Teacher Candidates (n=53)	# of PY Teacher Candidates	% of PY Teacher Candidates (n=50)	Total # of Teacher Candidates	Total % (N=103)
Urban	16	30.2	18	36.0	34	33.0
Suburban	30	56.6	29	58.0	59	57.3
Lab (Falk School)	7	13.2	0	0.0	7	6.8
Private (St. Edmunds)	0	0.0	3	6.0	3	2.9

Despite schools in the Pittsburgh Public School district having had the highest number of interns within their system, the majority of teacher candidates spent their field placements in non-urban settings; roughly 60% (32 out of 53) of MAT interns and 58% (29 out of 50) of PY interns were placed in suburban school districts, while roughly 13% (7 out of 53) of MAT interns and 6% (3 out of 50) of PY interns were placed in private schools. The remaining 33% of teacher candidates worked in an urban[10] setting in either Pittsburgh Public or Wilkinsburg schools.

Seven of the MAT interns worked at Falk, a kindergarten through eighth grade University of Pittsburgh lab school. This is a unique opportunity for these interns, as lab schools in general are closely associated with a university and thus receive extensive support from within that community. Falk was established in 1931 by the combined efforts of Leon and Marjorie Falk, citing a wish to "establish a school that promoted progressive methods of teaching children that could be observed and studied by those who wished to pursue teaching as a vocation" and the

[10] Pittsburgh Public and Wilkinsburg are considered to be urban school districts based on the information provided by the Pennsylvania Department of Education at http://www.pde.state.pa.us/k12statistics/lib/k12statistics/Urban-centric&Metro-centricSchoolLocaleCodes2003-04a.xls

University of Pittsburgh, which hoped to "establish and maintain an elementary demonstration school that was progressive and experimental, and that would become an integral part of its educational mission"[11]. Key features of this school include: inquiry-based instruction with an emphasis on inquiry, character development, critical thinking and creativity; the creation, writing and delivery of its own curriculum; flexible programs that accommodate multiple learning levels; faculty with advanced degrees who are sensitive to individual student's needs and monitor student's problems and progress; and looping, cooperative teaching and personalized attention that allow each child to progress at his or her own rate. The Director of the Falk School is a University of Pittsburgh Department Chair; the Chair of the Falk School Board is the University of Pittsburgh's Vice Provost. Falk faculty members hold dual appointments with Falk School and the University of Pittsburgh's School of Education. A condition of admission is that all students' parents must be willing "to have [their] child participate in the Falk School programs which include teacher education; in-service education; educational research; and curricular innovation in the ongoing effect to apply the most current and best informal education for each child"[12]. Class size is typically held to no more than twenty-four students, with children of University faculty comprising no more than one-third the total school population. The cost of attendance at Falk can reach nearly ten-thousand dollars per student per year.

Three PY teacher candidates performed their student teaching at St. Edmunds Academy, a private pre-kindergarten through eighth grade school located in Pittsburgh. The academy was founded in 1947 by a group associated with the Episcopalian Church. St. Edmunds' academic

[11] Retrieved from the Falk School website, http://www.falk-school.org/default.cfm, on April 29, 2006
[12] Retrieved from http://www.falk-school.org/Admin/admissions.cfm# on April 29, 2006

programs revolve closely around the idea of social interaction and learning among students of all ages. The academy operates on six core values: understanding and appreciating the differences among people; the worthiness of service to others; respect for the needs and feelings of others; the importance of taking responsibility for one's own conduct; the value of setting high standards in all endeavors; and the central role of honesty in relationships[13]. Class size is limited to approximately sixteen students. No information regarding the cost of attendance was available at the time of this writing.

All MAT and PY teacher candidates were asked to participate in the first round of data collection, which included the administration of the *Knowledge Inventory* and *Survey of Perceptions*, since the information from those assessments was be used for program evaluation and improvement. There were 53 MAT students and 50 PY students, for a total of 103 participants in the initial round of data collection. Though not all of the teacher candidates obtained field placements in a K-5 setting – three were placed in the 6^{th}-8^{th} grade – all of the students specialized in the area of elementary education. The following table shows the placements, by grade, of teacher candidates in the MAT and PY programs:

[13] Retrieved from the St. Edmunds Academy website, http://www.stedmunds.net/why_00.asp, on April 29, 2006

Table 3: MAT and PY Teacher Candidate Field Placement Breakdown by Grade Level

Grade Level	# of MAT Teacher Candidates	% of MAT Teacher Candidates (n=53)	# of PY Teacher Candidates	% of PY Teacher Candidates (n=50)	Total # of Teacher Candidates	Total % (N=103)
K	7	13.2	1	2.0	8	7.8
1	7	13.2	9	18.0	16	15.5
2	6	11.3	10	20.0	16	15.5
3	9	16.9	14	28.0	23	22.3
4	6	11.3	11	22.0	17	16.5
5	11	20.8	4	8.0	15	14.6
6	0	0.0	1	2.0	1	0.9
7	0	0.0	0	0.0	0	0.0
8	1	1.9	0	0.0	1	0.9
Combinations:						
1-2	2	3.8	0	0.0	2	1.9
3-4	2	3.8	0	0.0	2	1.9
4-5	1	1.9	0	0.0	1	0.9
6-8	1	1.9	0	0.0	1	0.9
	n=53		N=50		N=103	

The majority of teacher candidates (89%, or 47 out of 53 MAT interns and 84%, or 42 out of 50 PY interns) were placed in grades K-8. Six MAT interns worked in combination classrooms or settings while no PY interns were in such a setting. Most teacher candidates were placed in a K-5 classroom, with third grade being the most heavily represented (23 total interns), followed by fourth grade (17 interns), first and second grades (each with 16 interns), fifth grade (15 interns) and finally kindergarten (8 interns).

3.2 PARTICIPANTS

This study involved graduate students from the 2005-2006 academic year. Teacher candidates enrolled in the MAT program began their coursework in June 2005 and worked through June 2006. Teacher candidates in the PY program began their studies in August 2005 and completed their program in April 2006. With assistance from the University of Pittsburgh School of Education Student Service Center staff, admission files from MAT and PY classes of 2006 were collected. Demographic information was obtained for all 50 MAT teacher candidates; information on 42 of the 46 PY teacher candidates was obtained. Despite multiple searches, four files were unable to be located by the Principal Investigator and University staff members.

3.2.1 General Background Information

Women outnumbered men in both programs. 40 (80.0%) of the MAT teacher candidates and 35 (76.1%) of the PY teacher candidates were women. Based on available information, the vast majority of teacher candidates in both the MAT and PY programs[14] were Caucasian (90.0% and 92.9%, respectively). There were four (8.0%) African American and one (2.0%) Hispanic teacher candidates in the MAT program and one (2.4%) Hispanic and two (4.8%) Asian American teacher candidates in the PY program. The average age for MAT teacher candidates[15]

[14] Percentage based on information obtained concerning 42 (of 46) PY teacher candidates
[15] June 1, 2005 was chosen as the start day for MAT teacher candidates to determine age upon enrollment in the program.

was 23.4 years, with a range from 21 to 39 years of age. The average age for PY teacher candidates[16] was 27.4 years, with a range from 20 to 49 years of age.

3.2.2 Education

The majority (86.0%) of MAT teacher candidates graduated with their undergraduate degree from the University of Pittsburgh. The following institutions were also represented in the MAT program, each with one student: Allegheny College, Hampton University (Virginia), Indiana University of Pennsylvania, Pennsylvania State University, Robert Morris University and Virginia Tech. Eight (16%) teacher candidates transferred from one university to another during their undergraduate career.

The most popular undergraduate major was Psychology, with 18 (36.0%) choosing that major. Other majors included Business Administration, Communications and Human Development. Seven of the University of Pittsburgh graduates also hold a Certificate in Children's Literature.

Like the MAT teacher candidates, the majority of PY teacher candidates received their undergraduate degree from the University of Pittsburgh[17] (69.0%). Other institutions represented, each by one student, include: Art Institute of Pittsburgh, Carnegie Mellon University, Clarion University, Earlham College (Indiana), Hunter College (New York), LaRoche College, Middlebury College (Vermont), Pontifical University (Spain), Shippensburg

[16] September 1, 2005 was chosen as the start day for PY teacher candidates to determine age upon enrollment in the program.
[17] One PY student holds a Bachelor's degree from both the University of Pittsburgh and Vanderbilt University

University, Southern New Hampshire University, University of North Carolina, Vanderbilt University (Tennessee), Washington & Jefferson College, Wesley College (Delaware) and Wheaton College (Massachusetts). Twelve (28.6%) of the PY teacher candidates transferred from one university to another during their undergraduate career.

Also like the MAT teacher candidates, the most popular undergraduate major was Psychology, with 14 (33.0%) choosing that major. Other majors included Communications, History and Administration of Justice. Five of the University of Pittsburgh graduates also hold a Certificate in Children's Literature.

In addition to this undergraduate work, some of the PY teacher candidates attended graduate school. Three teacher candidates hold Master's degrees and one holds a Juris Doctorate degree. In addition, one student was enrolled in law school, while another was enrolled in a neuroscience doctoral program; neither of these teacher candidates completed these degree programs. The institutions attended for this post-graduate work include Georgetown University (Washington D.C.), Massachusetts Institute of Technology, Pontifical University (Spain), the University of Alabama – Birmingham, the University of Georgia and Washington & Lee University. A breakdown of further information is included in Table 4:

Table 4: Comparison of MAT and PY Teacher Candidates' Education Entry Requirements

Education Requirement	MAT Teacher Candidates		PY Teacher Candidates	
	Mean	Range	Mean	Range
Undergraduate GPA	3.34[18]	2.49-3.88	3.21[19]	2.39-3.89
Graduate GPA	X	X	3.40[20]	2.40-3.93
PRAXIS Reading Score	180.92	171-186	181.83	173-186
PRAXIS Writing Score	177.32	171-186	180.21	172-185

MAT teacher candidates had a slightly higher undergraduate GPA than the PY teacher candidates, with the MAT teacher candidates having an average GPA of 3.34 and the PY teacher candidates having an average of 3.21. The range of averages was similar for each group (2.49-3.88 for MAT teacher candidates; 2.39-3.89 for PY teacher candidates). On the PRAXIS, PY teacher candidates had a higher average score than MAT teacher candidates on both the reading (181.83 and 180.92, respectively) and writing (180.21 and 177.32, respectively) exams.

Given the data, academically speaking, the MAT and PY teacher candidates were similar. Even though the MAT group had a higher average undergraduate GPA and the PY group had higher average PRAXIS scores, they are very similar academically.

3.3 DATA COLLECTION SOURCES

Various data collection tools were used in this study: a *Knowledge Inventory*; a *Survey of Perceptions*; a *Follow-up Survey of Perceptions*; telephone interviews; and faculty and staff

[18] MAT Undergraduate GPA average was based on 49 teacher candidates
[19] PY Undergraduate GPA average was based on 41 obtained degrees; one student holds two B.A. degrees; GPA's were unable to be collected from two teacher candidates
[20] Graduate GPA was based on 4 teacher candidates

interviews. The *Knowledge Inventory* and *Survey of Perceptions* were given to each MAT and PY teacher candidate in the spring. In the fall, teacher candidates were asked to volunteer to participate in the second round of data collection to occur in the winter. These volunteers took part in the follow-up surveys and telephone interviews. Additionally, interviews with various University of Pittsburgh faculty and staff members were conducted on an on-going basis in order to obtain necessary information regarding the MAT and PY programs.

3.3.1 Description of Data Sources

Data collection sources included the *Knowledge Inventory*, *Survey of Perceptions*, *Follow-up Survey of Perceptions*, telephone interviews and faculty and staff interviews.

3.3.1.1 Knowledge Inventory

The first data collection tool used in this study was the *Knowledge Inventory* (see Appendix A). Permission was obtained to use an assessment developed by researchers at the Florida Center for Reading Research. It was used in this research study to test what teacher candidates know about teaching literacy upon completion of their respective programs. The assessment was originally used for kindergarten, first, second and third grade teachers attending the Just Read, Florida! Reading First Teacher Academies in 2005. The questions on this assessment were written "to assess both the specific and general knowledge and skills about early reading instruction that

were taught during the [Just Read, Florida!] academies"[21]. The questions on this *Knowledge Inventory* relate to knowledge of teaching phonemic awareness, phonics, fluency, vocabulary and comprehension, as well as to appropriate assessment and instructional practices for teaching literacy.

3.3.1.2 Survey of Perceptions

The second data collection tool was the *Survey of Perceptions* (see Appendix B), which was designed and developed collaboratively by three experts in the field of reading at the University, one of whom is the Coordinator of the Elementary Education program. This tool was developed and implemented in order to collect information on how well prepared the MAT and PY teacher candidates perceived themselves as being to teach literacy. The survey was designed around two important concepts: the recent body of research regarding the three critical elements in teacher education and Frasier et al.'s (1997) notion of an education triad.

Research indicates three critical components of teacher education programs. These include coursework with an integrated field experience, reflection and consistency, collaboration and communication among all members of the teacher education program. The members of the teacher education program are addressed by Frazier et al. (1997) and include the teacher candidate, University instructor/supervisor and mentor teacher. As such, the survey was divided into three sections entitled *Coursework*, *Field Placement* and *Supportive Interaction with Others*.

[21] Obtained with permission from Meghann Montgomery at the Florida Center for Reading Research

Questions in the *Coursework* section addressed what the teacher candidates learned during their time at the University in class. The information included in this section was based on research conducted by the National Reading Panel (2000) and put forth by the National Institute for Literacy (2001) in *Put Reading First: the Research Building Blocks for Teaching Children to Read*. Teacher candidates were asked to identify how prepared they were to deliver or develop instruction in the five essential areas of reading and use assessment data to differentiate instruction, among other areas. Questions in the *Field Placement* section addressed the relationships between experiences in the field and those in the University classroom and overall perceived usefulness of the field experience. The *Supportive Interaction with Others* section included questions addressing collaboration between the teacher candidates and their supervisors, mentor teachers and course instructors. Questions regarding reflection were asked in all three sections, as reflection could occur at various times and in various settings during the teacher candidates' time in their program. Questions in this area focused on the amount, type and perceived usefulness of the reflection.

3.3.1.3 Follow-up Survey of Perceptions and Telephone Interviews

Follow-up surveys (see Appendix C) were conducted in the winter with those MAT and PY volunteers that obtained full-time teaching positions. These surveys were modeled after the *Survey of Perceptions* that was administered in the spring. The survey was guided by the overarching questions:

- What knowledge or tools did the MAT or PY coursework give you to enable you to be an effective teacher of reading? What have you found you are lacking?

- What knowledge or tools did the MAT or PY field work give you to enable you to be an effective teacher of reading? What have you found you are lacking?

Telephone interviews (see Appendix D) were also conducted in the winter, with those respondents of the follow-up survey that volunteer to participate. The main purpose of these interviews was to clarify statements made on the follow-up survey and to engage in conversation with recent graduates that elaborates on their prior statements and current role in their school.

3.3.1.4 Faculty and Staff Interviews

Informational interviews were held with University of Pittsburgh faculty and staff to gain a better understanding of the MAT and PY programs. They were informal in nature and occurred on an as-needed basis with various personnel associated with the programs. Additionally, research had to go into discerning the different components of the MAT and PY programs. Therefore, program materials were collected throughout the duration of this research study. The collection of such materials as course maps and syllabi went hand-in-hand with interviews of pertinent University personnel.

3.4 PROCEDURE AND DATA COLLECTION TIME FRAME

For the first stage of data collection, once the *Knowledge Inventory* was selected and *Survey of Perceptions* was designed, it became evident that the teacher candidates would need more information regarding the purpose of the study if they were to be successful participants.

Therefore, an introductory letter (see Appendix E) was designed to address the assessments that would be administered as well as answer any initial questions the teacher candidates may have had. It was also designed to allay their potential concerns regarding confidentiality. As the assessments were administered during class time, it was necessary to reassure them that their identities would for no reason be divulged to faculty; though their responses will be used at a later date to address program proficiency, they will be pooled together and/or reported anonymously.

After the assessment packet including the three above-mentioned articles was developed, testing began. Two doctoral students served as proctors, administering the assessments during four separate class times. MAT teacher candidates were present during two of the classes; PY teacher candidates were present during the remaining two. During each session, the doctoral student would distribute and read the introductory letter aloud to the teacher candidates. She would then distribute pencils and the *Survey of Perceptions* and allow the teacher candidates thirty minutes to complete the assessment. After that was collected, the *Knowledge Inventory* was distributed and the teacher candidates were again given thirty minutes to work. Teacher candidates were asked to include their names on each document for tracking purposes. Once the thirty minutes had passed, the doctoral student collected all remaining materials and class resumed. The order in which the assessments were administered was chosen purposefully. The *Survey of Perceptions* was given first because it was viewed by its authors as easier to complete and potentially less threatening that the *Knowledge Inventory*, the latter being much more of a traditional test than the former. As the *Survey* was designed to be opinion-based and therefore

no response could be deemed incorrect, it was felt that it would be easier for the teacher candidates to complete.

During the administration of the assessments, the course instructor was asked to leave the room so as not to influence the teacher candidates' responses in any way. Also, they were not to be perceived as having any connection with the assessments in general or the study as a whole.

For the second stage of data collection, a computer-based format of administration was chosen. This was done for two reasons: first, it was believed that more recent graduates could be reached via email than postal mail, as mailing addresses may have changed when teacher candidates obtained permanent teaching positions; second, it was the hopes of this researcher that by making the *Survey* accessible online, more people would be willing and able to respond because there were less 'steps' involved in participating (no paperwork, no mail, etc.). In the fall/winter, emails (see Appendix F) were sent to every 2006 MAT and PY graduate asking for their participation in this stage of the study. Instructions for accessing the *Follow-up Survey* on-line were included in this email. Once a respondent had completed the survey online, they were sent an additional email thanking her or him for their participation and asking for their further participation in a telephone interview (see Appendix G). Table 5 indicates the time frame in which all data for the study were collected:

Table 5: Data Collection Time Frame

<table>
<tr><th>Assessment Measure</th><th>February - March 2006</th><th>April</th><th>May - November</th><th>December - January</th><th>February - March 2007</th></tr>
<tr><td>Knowledge Inventory</td><td>(assessment obtained)</td><td>X</td><td colspan="2" rowspan="2">(analyze data)</td><td rowspan="3">X</td></tr>
<tr><td>Survey of Perceptions</td><td>(assessment development)</td><td>X</td></tr>
<tr><td>Follow-up Survey/ Telephone Interview</td><td></td><td></td><td>(assessment development)</td><td>X</td></tr>
<tr><td>Faculty/Staff Interviews</td><td colspan="5">On-going as needed</td></tr>
</table>

3.5 DATA ANALYSIS

The data collected for this study required both quantitative and qualitative analysis. Each *Knowledge Inventory* assessment was scored by the University of Pittsburgh' Office of Measurement and Evaluation, as teacher candidates recorded their responses on Scantron© answer sheets. Descriptive data such as question means and ranges, as well as frequency distributions, were included in the analysis. Statistical comparisons were made between the MAT and PY teacher candidate groups as a whole.

Portions of the *Survey of Perceptions* were analyzed quantitatively as well. On various items within the survey, teacher candidates were asked to respond by circling the most appropriate answer, such as *yes/no* or *always*, *sometimes*, *never*. In these instances, the answers were recorded quantitatively and analyzed as such; descriptive data and statistical comparisons were made in a similar manner as those described above for the *Knowledge Inventory* assessment.

The rest of the perceptions survey was analyzed qualitatively. Categories of responses have been previously established upon construction of the survey; teacher candidate responses were analyzed and sorted into themes. Analyses of the emerging themes within each category were conducted and reported. Miles and Huberman (1984) simplify data analysis into three categories: data reduction, which refers to the "process of selecting, focusing, simplifying, abstracting and transforming the 'raw' data"; data display, which is "an organized assembly of information that permits conclusion drawing and action taking"; and conclusion drawing or verification (p. 22).

3.5.1 Role of the Researcher

My role in this research study was to develop and administer assessment materials and collect, analyze and describe the findings in order to answer the four guiding research questions. As a doctoral student in the Department of Instruction and Learning, I had access to many of the faculty members that worked with the MAT and PY teacher candidates; however, I was in no way directly affiliated with either program. Therefore, I was a 'neutral' researcher and posed no threat to the teacher candidates.

Interaction with the subjects was limited. Due to geographic constraints, I was not available to administer the Stage I assessments personally. Two doctoral students served as proctors after being trained in the administration of both assessment measures. However, there was little personal interaction with either group of teacher candidates during the administration of the *Knowledge Inventory*, *Survey of Perceptions* and follow-up survey; the phone interviews

and on-going interviews with faculty and staff will require the most interaction between myself and others.

3.5.2 Validity and Reliability

Huck (2004) asserts that "a researcher's data are valid to the extent that the results of the measurement process are accurate" (p. 88). In other words, an assessment is valid if it measures what it purports to measure. In this study, the *Knowledge Inventory* was originally designed by researchers at the Florida Center for Reading Research to assess specific and general knowledge and skills about early reading instruction that were taught to K-3 Reading First teachers during 4-day Just Read, Florida! Teacher Academies. The *Knowledge Inventory* is a valid assessment because it measures what it set out to measure: knowledge and skills about early reading instruction. In the same regard as the *Knowledge Inventory*, the *Survey of Perceptions* was designed to draw responses from the teacher candidates that indicated, based on their experiences at the University, their perceived readiness to teach reading. There were no truly correct or incorrect answers, as this assessment was meant to be reflective. However, overall it is a valid assessment measure because, by its very design, it measures what it set out to measure.

Reliability can be paired with the term *consistency*. If an assessment measure is reliable, it can be used repeatedly and the results will be consistent across administrations. Huck (p. 76, 2004) points out two variations on questions of reliability that researchers often use:

- To what extent do the individual items that go together to make up a test or inventory consistently measure the same underlying characteristic?
- How much consistency exists among the ratings provided by a group of raters?

The *Knowledge Inventory* and *Survey of Perceptions* are reliable in the extent to which the individual items on each measure the same underlying characteristic. The *Knowledge Inventory* was developed to assess the knowledge base of kindergarten through third grade Reading First teachers. The questions were derived from research into the crucial elements of literacy instruction; questions spanning the areas of phonemic awareness, phonics, fluency vocabulary, comprehension, assessment and instructional strategies emerged. The *Survey of Perceptions* was designed by this researcher and a panel of three reading experts around research on the critical elements of teacher preparation programs. Three areas were identified – coursework, field work and supportive interaction with others – and closed- and open-ended questions were developed to elicit information from teacher candidates regarding their perceptions of each.

Huck's second statement can fit within this study if it is rephrased as *"How much consistency exists among the responses provided by a group of test takers?"* Technical information regarding the *Knowledge Inventory* collected by researchers at the Florida Center for Reading Research indicates that this assessment measure has a high degree of reliability. 105 pre-tests and 119 post-tests were administered to K-3 teachers at the Just Read, Florida! Teacher Academies; researchers were able to successfully match pre- and post-tests for 70 of these teachers (67%). The alpha reliability of the Knowledge Inventory was .80 for teachers taking it before the academy and .79 after the academy. A paired sample *t*-test was conducted to compare pre- and post-tests for the 70 matched exams. Results of the t-test showed a "significant increase

ins cores after the Academy, $t(69) = 15.02$, $p < .001$"[22]. Teachers increased their scores from the pre-test by nearly eight points (30% of their pre-test score). The range of scores on the pre-test was 10-40, while the range on the post-test was 20-25.

3.6 SUMMARY

This study was designed to answer three specific questions comparing MAT and PY teacher candidates' knowledge of literacy instruction, perceived readiness to teach literacy, and overall program components. The mixed-methods, quasi-experimental design of this study vividly illustrates the wealth of information available concerning the perceived readiness to teach reading and the knowledge base of both MAT and PY teacher candidates. Using both qualitative and quantitative methods to extract data from the subjects is much more powerful than either would be alone.

The data for this research study comes from those who have experienced it: the teacher candidates. Specific data collection instruments included 1) the *Knowledge Inventory*, 2) the *Survey of Perceptions*, 3) the follow-up survey, and 4) telephone interviews. In addition, interviews with those University of Pittsburgh faculty and staff that work closely with the MAT and PY teacher candidates or play an integral role in the behind-the-scenes development of the programs were conducted.

[22] Obtained with permission from Meghann Montgomery at the Florida Center for Reading Research

4.0 RESULTS

Data pertaining to pre-service teachers' knowledge of literacy and perceptions regarding preparedness to teach reading were collected from the administration of four assessment measures: a *Knowledge Inventory*; *Survey of Perceptions*; *Follow-Up Survey of Perceptions*; and phone interviews. In addition, data regarding basic demographics and prior academic information were also obtained. The data collection and analysis time frame spanned roughly ten months. In the sections that follow, the demographic information and findings from each assessment tool are presented.

4.1 STAGE 1 FINDINGS

Stage 1 consists of data collected at the end of the spring term. Data were collected on 103 University of Pittsburgh teacher candidates; 53 from the MAT program and 50 from the PY program. The *Knowledge Inventory* and *Survey of Perceptions* was administered during four class sessions – two in each program – and all teacher candidates were strongly encouraged to participate; however, not all teacher candidates completed the assessment measures. The Knowledge Inventory was completed by 50 MAT teacher candidates and 43 PY teacher

candidates; the Survey of Perceptions was completed by 50 MAT teacher candidates and 45 PY teacher candidates. On both assessment measurements, not every teacher candidate answered every question.

4.1.1 Knowledge Inventory

The research question that guides this section is: *In which areas of literacy instruction and assessment (phonemic awareness, phonics, vocabulary, fluency, comprehension, assessment and instruction) are there differences in knowledge between University of Pittsburgh Master of Arts in Teaching (MAT) and Professional Year (PY) teacher candidates?* Keeping this question in mind, a discussion of the data gathered from the administration of the *Knowledge Inventory* follows.

When comparing the MAT and PY teacher candidates as a whole, the difference in scores on the *Knowledge Inventory* is unremarkable. With possible scores ranging from 0 to 50 points, the mean score for the MAT teacher candidates was 30.24 ($\sigma = 5.29$), while the mean score for PY teacher candidates was 29.05 ($\sigma = 6.78$). There was a wide range of scores obtained by teacher candidates in both groups. MAT teacher candidates answered between 17 and 40 questions correctly; PY teacher candidates answered between 14 and 47 questions correctly. Figure 1 illustrates the frequency of scores obtained by teacher candidates in each group:

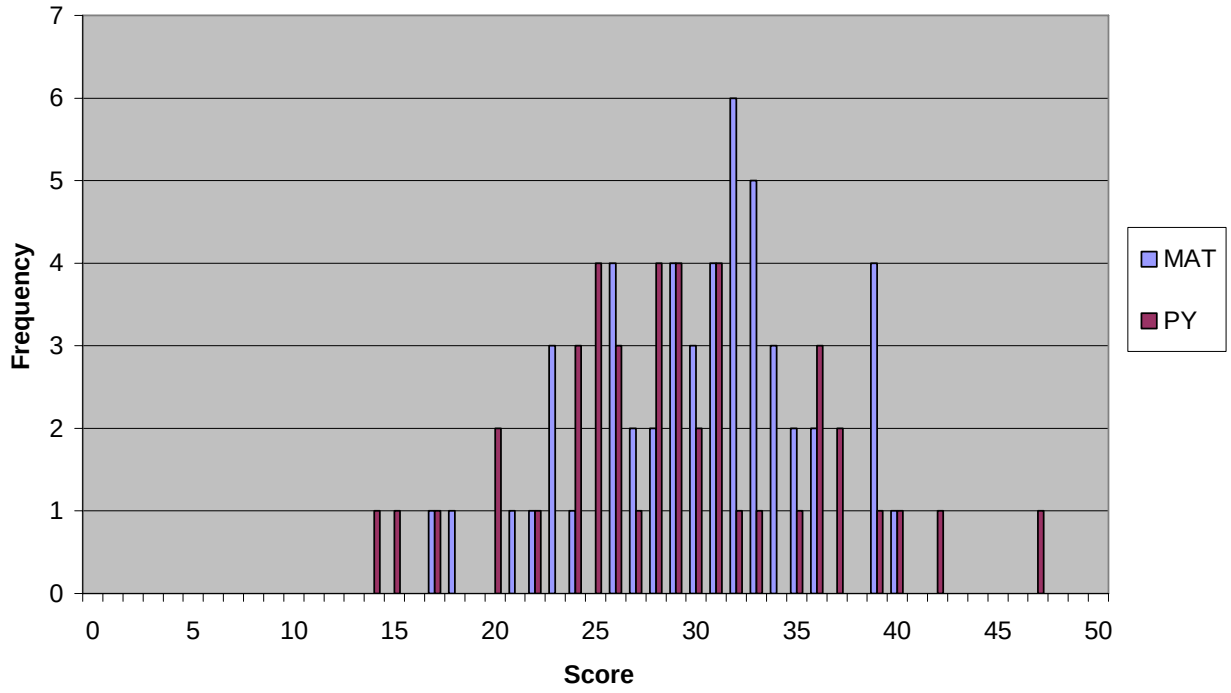

Figure 1: Frequency of *Knowledge Inventory* Scores

The following table shows the statistical comparison of MAT and PY students on the Knowledge Inventory:

Table 6: Means, Standard Deviations and t Tests Comparing PY and MAT Students on the Knowledge Inventory

		PY (N=43)		MAT (N=51)			
Subtest	**N of Item**	**Mean**	**SD**	**Mean**	**SD**	**t**	**P**
Phonics	14	7.21	2.76	7.20	2.02	0.027	0.979
Phonemic Awareness	13	7.62	2.28	8.37	2.04	-1.672	0.098
Comprehension	10	5.91	1.97	6.08	1.65	-0.459	0.647
Vocabulary	6	3.93	1.37	4.20	1.13	-1.031	0.305
Fluency	4	2.93	0.94	2.84	0.95	0.447	0.656
Instruction	2	0.84	0.84	1.06	0.76	-1.340	0.183
Assessment	1	0.56	0.50	0.51	0.51	0.463	0.644
Total	50	29.00	6.93	30.25	5.29	-0.994	0.323

As can be seen from Table 6, none of the t tests are significant at the $\alpha = .05$ level. Thus there were no significant differences between the two groups on any of the subtests or on the total score.

4.1.1.1 Subcategory Analysis

These results led to a more in-depth analysis of the data. One question raised was whether there were differences in the types of questions the MAT and PY teacher candidates answered correctly. For example, did more MAT teacher candidates answer questions concerning fluency correctly than did PY teacher candidates?

To answer this question, questions on the Knowledge Inventory were designated as belonging to one of seven categories: Phonemic Awareness; Phonics; Vocabulary; Fluency; Comprehension; Assessment; and Instruction. The breakdown of questions was determined by the Inventory's authors at the Florida Center for Reading Research and is illustrated in Table 7:

Table 7: Breakdown of *Knowledge Inventory* Questions by Category

Category	Number of Questions
Phonics	14
Phonemic Awareness	13
Comprehension	10
Vocabulary	6
Fluency	4
Instruction	2
Assessment	1

The following seven sections illustrate the findings. Included in each section is a table that illustrates the percentage of teacher candidates in each program that correctly answered each

question in that specific subcategory. Statistical significance is calculated at the $\alpha = .05$ level throughout. Refer to Appendix A for a copy of the *Knowledge Inventory*.

Phonics

Table 8: Phonics

Category	Question	% of Teacher Candidates Responding Correctly	
		MAT (n=50)	PY (n=43)
Phonics	2	50	58
	4	74	63
	7	56	40
	8	74	67
	13	42	53
	15	18	30
	17	58	49
	24	68	72
	30	72	72
	32	64	49
	33	14	**14**
	34	38	47
	42	30	47
	43	64	60

MAT and PY teacher candidates scored equally as well on two of the questions; the MAT teacher candidates outscored their PY peers on six, while the PY teacher candidates outscored the MATs on six. Question 33 (The understanding that the sequence of letters in written words represents the sequence of phonemes in spoken words refers to the alphabetic principle) was the lowest scoring question for PY teacher candidates, with only 14% of respondents answering correctly (14% of MATs answered it correctly as well, though this was their lowest scoring question). The percentage of correct responses to questions in this category ranged from 14-74% for MATs and 14-72% for PYs. Overall, the differences in scores on phonics questions obtained by teacher candidates in the MAT and PY programs were neither statistically significant in this

subcategory in general, nor were they statistically significant when comparing scores obtained on individual questions within the subcategory.

Phonemic Awareness

Table 9: Phonemic Awareness

Category	Question	% of Teacher Candidates Responding Correctly	
		MAT (n=50)	PY (n=43)
Phonemic Awareness	6	94	91
	9	48	26
	12	**12**	28
	14	80	72
	16	64	67
	25	70	77
	26	78	58
	27	74	65
	28	96	**93**
	29	40	40
	39	38	26
	40	70	47
	41	70	74

Of the 13 questions that comprise the Phonemic Awareness category, MAT teacher candidates outscored their PY peers on eight of the questions; scored lower than them on four; and scored equally with the PY teacher candidates on one.

For the PY teacher candidates, their highest scoring question fell into this category. 93% of PY teacher candidates answered question 28 correctly (96% of MATs answered it correctly). This question called for teacher candidates to identify an activity as segmentation. For the MAT teacher candidates, their lowest scoring question was in this category: only 12% of MAT teacher candidates answered question 12 correctly (28% of PYs answered it correctly). The question was "Phonological awareness refers to the more general understanding of the sound structure of words and sentences**".**

This category had the widest range of correct response percentages, from 12-96% for MATs and 26-93% for PYs. Questions in this category had by far the most variable correct response rates, with one question garnering correct responses from a low of 12% of respondents in one group to another question garnering correct responses from a high of 93% of respondents in the other group.

When looking at the Phonemic Awareness subcategory as a whole, the difference between the two groups of teacher candidates is not statistically significant. However, when looking within the subcategory at individual questions, there are some significant differences. Question 26, which asked teacher candidates to identify a phonemic awareness teaching activity, was answered correctly by 78% of MATs and 58% of PYs; question 40, asking teacher candidates to define the term "phonemic awareness", was answered correctly by 70% of MATs and 47% of PYs. Question nine asked teacher candidates to identify how many phonemes there were in a particular word; it was one of the questions within this category that was answered correctly by the lowest percentage of candidates from either group (48% of MATs and 26% of PYs).

Comprehension

Table 10: Comprehension

Category	Question	% of Teacher Candidates Responding Correctly	
		MAT (n=50)	PY (n=43)
Comprehension	1	40	42
	5	72	65
	11	92	79
	18	86	**93**
	20	66	63
	21	42	47
	37	62	49
	46	56	63
	47	48	33
	48	44	60

High scores were evenly split between the MAT and PY teacher candidates. For the PY teacher candidates, their other highest scoring question fell into this category. 93% of PY teacher candidates answered question 18 correctly (86% of MATs answered it correctly), which asked respondents to identify the item that does not belong to the Reciprocal Teaching comprehension activity. The percentage of correct responses to questions in this category ranged from 40-92% for MATs and 33-93% for PYs. The differences in scores obtained by teacher candidates in the MAT and PY programs were neither statistically significant in this subcategory in general, nor were they statistically significant when comparing scores obtained on individual questions within the subcategory.

Vocabulary

Table 11: Vocabulary

Category	Question	% of Teacher Candidates Responding Correctly	
		MAT (n=50)	PY (n=43)
Vocabulary	3	58	63
	10	78	72
	22	68	53
	31	74	72
	35	70	63
	36	68	70

MAT teacher candidates fared slightly better in the Vocabulary category, outscoring their peers in the PY program on four of the six questions. The percentage of correct responses to questions in this category ranged from 58-78% for MATs and 53-72% for PYs. As with the Phonics and Comprehension categories, the differences in scores obtained by teacher candidates in the MAT and PY programs were neither statistically significant in this subcategory in general, nor were they statistically significant when comparing scores obtained on individual questions within the subcategory.

Fluency

Table 12: Fluency

Category	Question	% of Teacher Candidates Responding Correctly	
		MAT (n=50)	PY (n=43)
Fluency	19	76	63
	23	56	63
	44	**98**	81
	49	73	86

Like the Comprehension questions, the high scores for the four questions in the Fluency category were evenly split between MAT and PY teacher candidates. MAT teacher candidates

had their highest scoring question in this category (question 44), with 98% of respondents correctly (81% of PYs answered it correctly) identifying a scenario that would help students build reading fluency. In general, though the difference between the two groups of teacher candidates in fluency knowledge was not statistically significant, when looking within the Fluency subcategory to the individual questions, this question stands out for another reason. The difference in percentage of correct responses to this question between teacher candidates in each group is statistically significant. 98% of MATs, the highest percentage of correct responses for this group on any question on the *Knowledge Inventory*, and 81% of PYs answered this question correctly. The percentage of correct responses to questions in this category ranged from 56-98% for MATs and 63-86% for PYs.

Instruction

Table 13: Instruction

Category	Question	% of Teacher Candidates Responding Correctly	
		MAT (n=50)	PY (n=43)
Instruction	38	50	40
	50	56	44

More MAT teacher candidates answered the two questions in the Instruction category correctly than did PY teacher candidates. However, both of these questions were answered correctly by only half of all MAT teacher candidates (50% and 56%, respectively), and less than half of PY teacher candidates (40% and 44%, respectively). Overall, the differences in scores obtained by teacher candidates in the MAT and PY programs were neither statistically significant in this subcategory in general, nor were they statistically significant when comparing scores obtained on individual questions within the subcategory.

Assessment

Table 14: Assessment

Category	Question	% of Teacher Candidates Responding Correctly	
		MAT (n=50)	PY (n=43)
Assessment	45	50	56

There was one Assessment question on the *Knowledge Inventory*, and slightly more PY teacher candidates answered it correctly than did MAT teacher candidates. Overall, the differences in percentages of teacher candidates responding correctly in either program were not statistically significant in this subcategory.

In general, comparing the two groups using the above information, MAT teacher candidates did better, though not with statistical significance, in three categories: Phonemic Awareness; Vocabulary; and Instruction. A higher percentage of MAT teacher candidates answered the questions within each category correctly than did PY teacher candidates. PY teacher candidates did better, on average, in one category – Assessment; it must be noted, however, that there was only one question in this category and the difference between the percentages of correct respondents in each group is not statistically significant. An equal number of questions within the remaining three categories – Phonics, Vocabulary and Fluency – were answered correctly by teacher candidates in each group.

It is important to note that there were, at times, extreme variations in scores within question categories for both MAT and PY teacher candidates. This means that, even though, on average, one group may have done better than the other group in a category as a whole, when broken down by question, correct response rates were extremely varied. Table 15 illustrates this:

Table 15: Variance in Response Rates by Question Category

Question Category	Range of % of Correct Responses	
	MAT	PY
Phonics	14-74	14-72
Phonemic Awareness	12-96	26-93
Comprehension	40-92	33-93
Vocabulary	58-78	53-72
Fluency	56-98	63-86
Instruction	50-56	40-44
Assessment	n/a	n/a

Although there were no statistically significant differences between teacher candidates on the *Knowledge Inventory* subcategories, and very few such differences on questions within the subcategories, what is critical is that the mean scores obtained by MAT and PY teacher candidates were not that high when compared to the total number of points (50) possible on the *Knowledge Inventory* (30.24, MAT and 29.05, PY respectively). To put it in perspective, if this assessment were administered at the end of the respective programs for a letter grade, with a basic grading scale in place (90-100% = A; 80-89% = B; etc.), only four teacher candidates (1 MAT and 3 PY) would have passed based on University standards. However, though scores obtained by teacher candidates were low, they were consistent with the results obtained by the researchers that developed this assessment. Researchers at the Florida Center for Reading Research used this as a pre- and post-assessment for teachers attending a four-day teaching academy. Their results show that, prior to the academy, teachers scored an average of 27.21 points; after completing the academy, the average score was 35.03. These results are consistent with the scores obtained by teacher candidates in the two programs at the university.

4.1.1.2 Grade Level Breakdown and Comparisons: Primary Grades

Another question addressed in this study was whether there were differences in scores depending on which grade level(s) the MAT and PY teacher candidates taught during their field experience. In other words, did experience – measured here as time spent in the field – play a part in the scores on this test? For example, did MAT teacher candidates working in first grade classrooms answer more phonemic awareness questions correctly than PY teacher candidates working in first grade classrooms?

To answer this questions, teacher candidates in both the MAT and PY programs were assigned to one of three categories based on the grade level at which they had their field experience. This was especially useful as some teacher candidates were working in combination classrooms (i.e. – K-1, 6-8). The categories included: Primary (K-2), Mid/Upper Elementary (3-5) and Middle School (6-8). Though a category encompassing kindergarten through third grade may be more the norm, there were some teacher candidates teaching in a 3-4 combination class. Additionally, elements of third grade reading instruction look very similar to upper elementary (4^{th}-5^{th} grades) reading instruction, so it was believed to be a good fit. However, once the data were closely examined, it became apparent that having three categories was unnecessary, given that the third category (Middle School) consisted of only three teacher candidates (2 MAT and 1 PY). Therefore, data from this third category were combined with the Mid/Upper Elementary category to create a new category: Upper Elementary/Middle School (3-8). Data from the original Mid/Upper Elementary (3-5) and new Upper Elementary/Middle School (3-8) categories were compared to determine if this collapsing of categories would make a significant difference

in the comparison of knowledge; no significant differences were found at $\alpha = .05$[23]. Table 16 illustrates the breakdown by grade level category for teacher candidates:

Table 16: Breakdown of Teacher Candidates by Grade Level Category

Grade Level Category	# of MAT Teacher Candidates	# of PY Teacher Candidates	Combined Total
Primary (K-2)	22	17	39
Upper Elementary/ Middle School (3-8)	28	28	56
	n=50	n=45	N=95

An analysis of the different areas – phonics, phonemic awareness, comprehension, vocabulary, fluency, instruction and assessment – using the primary grade level breakdown is presented in the following sections.

K-2 Phonics

Eight of the 14 questions in the Phonics category were answered correctly by at least 50% of teacher candidates working in K-2 classrooms from both the MAT and PY group. However, when taking into consideration that phonics instruction is critical in classrooms at this level, it is unfortunate that so few teacher candidates answered these questions correctly. For all questions in this category, the range of correct response percentages for MAT teacher candidates was 5-86%; for PY teacher candidates, the range was 0-87%. Question 33 (The understanding that the sequence of letters in written words represents the sequence of phonemes in spoken words refers to the alphabetic principle) was answered correctly by the fewest teacher candidates in both groups (5% of MATs; 0% of PYs). That so few teacher candidates placed in the primary grades for their field experience can define the alphabetic principle leads one to question their

[23] All statistical significance is calculated at the $\alpha = .05$ level

ability to make the concept clear to students and thus teach them the beginning stages of reading. However, it is possible that an issue for teacher candidates when answering this question – as well as others that involved defining terms or concepts – is that they did not understand the wording. Just because they do not know the formal definition of the alphabetic principle does not necessarily mean they do not know how to teach this concept.

Taking a closer look at some of the questions within this subcategory:

- Roughly two-third of teacher candidates from each group were able to identify a word containing a digraph (question two)
- Only about 40% from each group could define *morpheme* (question 13)
- Roughly two-thirds of MATs and one-half of PYs could identify a consonant blend (question 17) and phonetically regular word groupings (question 32)
- 73% of teacher candidates from both programs knew that teaching students letter-sound correspondences prepares them for decoding words (question 30)
- Half of MATs and 60% of PYs were able to recognize high frequency, irregular words (question 34)
- Roughly 70% of teacher candidates from both groups could identify a word containing an open syllable (question 43)

Switching from questions concerning basic phonics skills and/or definitions to questions regarding phonics-based teaching strategies:

- 55% of MATs and 40% of PYs were able to identify a list of given instructional skills as being part of phonics and word study instruction (question seven)
- Around two-thirds of teacher candidates in both programs were able to identify types of phonics instruction beneficial to struggling readers (question eight)

- Only 27% of MAT and PY teacher candidates were able to identify a student's reading level and what level of text is most appropriate for instruction (question 15); 27% of MATs and 47% of PYs were able to identify a student reading at an instructional level when presented with a reading accuracy percentage (question 42)
- 64% of MATs and 87% of PYs were able to identify the connection to phonics and importance of writing during reading instruction (question 24)

86% of MAT teacher candidates answered question four (Which sentence describes helpful classroom strategies for struggling readers? During small group instruction, provide instructional level decodable texts so that students have the chance to apply alphabetic the principle) correctly compared to only 47% of PY teacher candidates; this difference is statistically significant.

K-2 Phonemic Awareness

Differences between answers on two questions in this section proved to be statistically significant, with both of them being answered correctly by a higher percentage of MAT teacher candidates than PY. First, question 26 (Teacher: "Listen as I say some words. Tell me which words begin with the same sound: big, boy house." This is an example of teaching phonemic awareness) was answered correctly by 86% of MAT teacher candidates, compared to 53% of PYs. Question 40 (Phonemic awareness is the knowledge that the words we speak are composed of individual sounds) was answered correctly by 77% of MATs compared to 33% of PYs. This last question is of special interest because it also appears as question 16. The question and correct answer are phrased in exactly the same way in both questions; the other answer choices are somewhat different. When looking at scores obtained on the first version of this question

(question 16), the percentage of correct responses is much closer. 68% of K-2 MATs and 73% of K-2 PYs answered it correctly.

The questions within this category can be further separated into instructional categories. Looking at the data in this light, there are differences in teacher candidates' knowledge in the following areas:

General Phonemic Awareness Knowledge:

- Only 9% of MAT and 33% of PY teacher candidates correctly identified phonological awareness as referring to the more general understanding of the sound structure of words and sentences (question 12)

Knowledge of Phonemes:

- 95% of MATs and 93% of PYs were able to identify the onset of a word (question 6)
- Only 50% of MATs and 40% of PYs were able to identify the number of phonemes in the word "straight" (question 9), but when asked how many phonemes were in the word "three", 86% of MATs and 67% of PYs answered correctly (question 27)
- When asked to identify the same phoneme in different positions within two words, 36% of MAT and 53% of PY teacher candidates were able to correctly do so (question 29)
- 41% of MATs and 27% of PYs correctly identified a set of four-phoneme words (question 39)
- When asked to identify a specific phoneme within a word, 59% of MAT and 80% of PY teacher candidates could do so correctly (question 41)

Knowledge of Blending and Segmenting:

- Roughly three-quarters of teacher candidates in both programs were able to identify specific actions as being part of the instructional strategy known as blending (question 14)
- 95% of MAT and 100% of PY teacher candidates were able to identify specific actions as being part of the instructional strategy known as segmenting (question 28); a smaller percentage in each program (73% of MATs; 80% of PYs) were able to actually segment individual sounds in a word (question 25)

K-2 Comprehension

While there were no statistically significant differences in these data, a comparison of findings can be made. In the area of basic comprehension knowledge and understanding:

- 41% of MAT and 53% of PY teacher candidates correctly identified the use of Bloom's Taxonomy within a classroom (question one)
- 95% of MATs and 80% of PYs could identify the meaning of the term *metacognition* (question 11)
- 64% of MATs and 53% of PYs could identify narratives as being stories that include elements of story grammar (question 37)
- Half of MAT teacher candidates and 73% of PY teacher candidates knew that listening comprehension is better than reading comprehension for K-3 students that have not yet learned to read well (question 48)

When taking a closer look at questions within this category that dealt with comprehension strategies or activities:

- Roughly three-quarters of teacher candidates in both groups correctly identified the purpose of graphic organizers (question five)
- 86% of MATs and all of the PYs correctly identified items belonging to the comprehension activity known as Reciprocal Teaching (question 18); however, only 59% of MATs and 67% of PYs correctly identified the components of Reciprocal Teaching (question 46)
- 55% of MAT and 60% of PY teacher candidates were able to correctly identify Reciprocal Teaching as an example of research-based multiple strategy comprehension instruction (question 21)
- 64% of MAT and 73% of PY teacher candidates were able to correctly identify elements of effective 3rd grade comprehension strategy instruction (question 20)
- 64% of MATs and 40% of PYs knew that the K-W-L comprehension strategy is designed to be used primarily with expository text (question 47)

K-2 Vocabulary

Like the Comprehension subcategory, there were no statistically significant differences in these data. The questions within this category can be divided into two groups for further analysis: *basic knowledge of vocabulary instruction* and *knowledge of morphemes and morphemic analysis*.

In the area of basic knowledge of vocabulary instruction:

- 55% of MAT and 80% of PY teacher candidates correctly identified students' vocabulary knowledge as being a significant predictor of their reading success (question 3)
- 68% of MATs and 60% of PYs correctly identified ways in which students learn meanings of words indirectly (question 22)

- 68% of MATs and 60% of PYs understood the link that exists in the reading process between vocabulary and comprehension (question 35)
- 64% of MATs and 60% of PYs knew that important, useful, and difficult words should be chosen from a story to use for vocabulary instruction (question 36)
-

Switching to knowledge of morphemes and morphemic analysis:

- When presented with a list of morphemes, 73% of teacher candidates in the MAT program and 60% of those in the PY program could identify them as such (question 10)
- 82% of MAT and 67% of PY teacher candidates knew that morphemic analysis could be helping when determining the meaning of a specific word (question 31)

K-2 Fluency

A quick look at the data gathered from these questions shows that:

- 68% of teacher candidates in the MAT program and 73% of those in the PY program can correctly define the term *prosody* (question 19)
- Just over half of teacher candidates in both groups know that repeated reading is an effective approach to increasing students' reading speed (question 23)
- 82% of MATs and 87% of PYs correctly identified a teaching strategy that would best help students with reading fluency (question 44)

The final question in this category, question 49 (Fluency can best be defined as speed, accuracy, and expression) elicited correct responses from all of the PY teacher candidates, but only 64% of MAT teacher candidates were able to supply the correct answer; this difference is statistically significant.

K-2 Instruction & Assessment

About 50% of the teacher candidates from the MAT and PY working in K-2 field sites knew that the majority of children who struggle when learning to read require systematic instruction in both word reading skills and in vocabulary and comprehension strategies in order to become good readers by 3rd grade (question 38). 68% of MATs and 47% of PYs were able to correctly identify the components of scaffolding (question 50).

The differences in the percentage of correct answers given by teacher candidates in the two groups were not statistically significant on the Instruction questions, but the difference on the Assessment question was. A higher percentage of teacher candidates in the PY program answered question 45 (A test that is reliable is one that gives consistent results) correctly than did teacher candidates in the MAT program (60% and 27%, respectively).

In general, there does not appear to be a notable difference between teacher candidates working in K-2 field placements from the MAT and PY programs. Though oftentimes more MAT teacher candidates responded correctly to a question than did PY teacher candidates, the differences in percentage of correct respondents was rarely significant. Therefore, it is reasonable to conclude that the differences in amount of time teacher candidates spent in the field based on program requirements was not a factor in their score on the *Knowledge Inventory*.

4.1.1.3 Grade Level Breakdown and Comparisons: Upper Grades

Much like the analysis using the primary grade breakdown, the following sections look at differences between MAT and PY teacher candidates working in 3rd-8th grade field placements.

3-8 Phonics

The difference in percentage of correct responses from teacher candidates in both groups is statistically significant for question 15 (If a 3rd grade student is reading test with 93% accuracy level, he is reading at his instructional level and you should use this level of text for reading instruction). 33% of PYs and 11% of MATs working at the 3rd-8th grade level answered this question correctly.

Looking at the rest of the questions regarding phonics-based teaching strategies:

- 64% of MAT and 74% of PY teacher candidates working in a 3-8 setting were able to select a helpful classroom strategy for use with struggling readers when presented with a list of options (question 4)
- 62% of MATs and 41% of PYs were able to identify a list of given instructional skills as being part of phonics and word study instruction (question seven)
- 79% of MATs and 70% PYs were able to identify types of phonics instruction beneficial to struggling readers (question eight)
- 71% of MATs and 67% of PYs were able to identify the connection to phonics and importance of writing during reading instruction (question 24)
- 32% of MATs and 46% of PYs were able to identify a student reading at an instructional level when presented with a reading accuracy percentage (question 42)

Switching to questions concerning basic phonics skills and/or definitions:

- 43% of MATs and 56% of PYs were able to identify a word containing a digraph (question two)
- 46% of MAT teacher candidates and 63% of PY teacher candidates could define *morpheme* (question 13)
- Just around half of all MATs and PYs could identify a consonant blend (question 17)
- Just over 70% of teacher candidates from both programs knew that teaching students letter-sound correspondences prepares them for decoding words (question 30)
- 64% of MATs and 48% of PYs could correctly identify phonetically regular word groupings (question 32)
- Just over 20% of teacher candidates in either program could correctly state the meaning of the term *alphabetic principle* (question 33)
- 29% of MATs and 41% of PYs were able to recognize high frequency, irregular words (question 34)
- 61% of teacher candidates in the MAT program and 56% of those in the PY program could identify a word containing an open syllable (question 43)

3-8 Phonemic Awareness

Concerning a general understanding of phonemic awareness:

- Only 14% of MAT and 26% of PY teacher candidates correctly identified phonological awareness as referring to the more general understanding of the sound structure of words and sentences (question 12)
- 61% of MATs and 67% of PYs correctly identified phonemic awareness as the knowledge that the words we speak are composed of individual sounds (question 16); when asked that exact question again, but with slightly different answer

choices (the correct answer being phrased in exactly the same way), 64% of K-2 teacher candidates and 54% of 3-8 teacher candidates answered it correctly (question 40)

- When presented with an example of a phonemic awareness activity, 71% of MAT and 63% of PY teacher candidates were able to correctly identify it as such (question 26)
- 64% of MATs and 54% of PYs correctly defined phonemic awareness as the knowledge that the words we speak are composed of individual sounds (question 16)

Looking at questions concerning knowledge of phonemes:

- 93% of MATs and 89% of PYs were able to identify the onset of a word (question 6)
- When asked to identify the same phoneme in different positions within two words, 43% of MAT and 33% of PY teacher candidates were able to correctly do so (question 29)
- 36% of MATs and 26% of PYs correctly identified a set of four-phoneme words (question 39)
- When asked to identify a specific phoneme within a word, 79% of MAT and 71% of PY teacher candidates could do so correctly (question 41)

46% of teacher candidates in the MAT program, compared to 19% of those in the PY program, were able to correctly identify the word "straight" as having five phonemes (question nine), a difference that is statistically significant. However, when asked how many phonemes are in the word "three", 64% of teacher candidates in both groups answered correctly (question 27).

Moving from questions concerning of phonemes to those concerning knowledge of blending and segmenting:

- 82% of MATs and 74% of PYs correctly identified specific actions as being part of the instructional strategy known as blending (question 14)
- 96% of MAT and 93% of PY teacher candidates were able to identify specific actions as being part of the instructional strategy known as segmenting (question 28); a smaller percentage in each program (69% of MATs; 48% of PYs) were able to actually segment individual sounds in a word (question 25)

3-8 Comprehension

Though there were no statistically significant differences in these data, a closer look at the data yields interesting results. In the area of basic comprehension knowledge and understanding:

- Just under 40% of teacher candidates from each group correctly identified the use of Bloom's Taxonomy within a classroom (question one)
- 89% of MATs and 79% of PYs could identify the meaning of the term *metacognition* (question 11)
- 61% of MATs and 57% of PYs could identify narratives as being stories that include elements of story grammar (question 37)
- 39% of MAT teacher candidates and 54% of PY teacher candidates knew that listening comprehension is better than reading comprehension for K-3 students that have not yet learned to read well (question 48)

When taking a closer look at questions within this category that dealt with comprehension strategies or activities:

- 68% of MAT and 61% of PY teacher candidates correctly identified the purpose of graphic organizers (question five)
- 86% of MATs and 93% of the PYs correctly identified items belonging to the comprehension activity known as Reciprocal Teaching (question 18); however, only 58% of MATs and 61% of PYs correctly identified the components of Reciprocal Teaching (question 46)
- 32% of MAT and 41% of PY teacher candidates were able to correctly identify Reciprocal Teaching as an example of research-based multiple strategy comprehension instruction (question 21)
- 68% of MAT and 59% of PY teacher candidates were able to correctly identify elements of effective 3rd grade comprehension strategy instruction (question 20)
- Around two-thirds of teacher candidates from both groups knew that the K-W-L comprehension strategy is designed to be used primarily with expository text (question 47)

3-8 Vocabulary

Questions within the Vocabulary category can be divided into two groups for further analysis: *basic knowledge of vocabulary instruction* and *knowledge of morphemes and morphemic analysis*. There were no statistically significant differences in these data.

In the area of basic knowledge of vocabulary instruction:

- 65% of MAT and 56% of PY teacher candidates correctly identified students' vocabulary knowledge as being a significant predictor of their reading success (question 3)
- 68% of MATs and 52% of PYs correctly identified ways in which students learn meanings of words indirectly (question 22)

- 77% of MATs and 64% of PYs understood the link that exists in the reading process between vocabulary and comprehension (question 35)
- 71% of MATs and 75% of PYs knew that important, useful, and difficult words should be chosen from a story to use for vocabulary instruction (question 36)

Switching to knowledge of morphemes and morphemic analysis:

- When presented with a list of morphemes, just over 80% of teacher candidates from both programs could identify them as such (question 10)
- 68% of MAT and 78% of PY teacher candidates knew that morphemic analysis could be helping when determining the meaning of a specific word (question 31)

3-8 Fluency

A statistically significant difference in correct response rate within the Fluency category occurred with question 19 (*Prosody is the ability to: read with proper expression*). More MATs answered it correctly than did PYs (82% and 57%, respectively). A look at the rest of the questions within this category shows that:

- 54% of MATs and 70% of PYs know that repeated reading is an effective approach to increasing students' reading speed (question 23)
- 75% of MATs and 81% of PYs correctly identified a teaching strategy that would best help students with reading fluency (question 44)
- Nearly 80% of teacher candidates from both programs correctly defined fluency as speed, accuracy, and expression (question 49)

3-8 Instruction & Assessment

There were no statistically significant differences in the data regarding Instruction or Assessment. A closer look at each question shows that:

- Half of MATs and 36% of PYs are aware that the majority of children who struggle when learning to read need systematic instruction in both word reading skills and in vocabulary and comprehension strategies in order to become good readers by 3rd grade (question 38)
- 46% of teacher candidates in the MAT program and 44% of those in the PY program can identify, when given descriptors, what scaffolding instruction is (question 50)
- 68% of MATs and 56% of PYs correctly identified a test that is reliable as being one that gives consistent results (question 45)

Similar to the teacher candidates working in K-2 placements, in general, there does not appear to be a notable difference between teacher candidates working in 3-8 field placements from the MAT and PY programs. The percentage of correct respondents from the two programs was oftentimes close; any differences were rarely significant. It is reasonable to conclude that the differences in amount of time teacher candidates spent in the field based on program requirements was not a factor in their score on the *Knowledge Inventory*.

Additionally, there do not appear to be any significant differences between teacher candidates working in K-2 placements and those working in 3-8 placements, regardless of program, based on the information provided by the *Knowledge Inventory*. That is, for example, teacher candidates working in K-2 field placements did not perform significantly better on questions in the phonemic awareness or phonics sections than did teacher candidates working in

3-8 field placements, even though their work in the field would warrant more experience with those specific teaching topics and activities.

An area to note in which teacher candidates in both programs and in all grade level field placements struggled is on questions that asked the respondents to identify or provide a definition for a specific term. As noted earlier, teacher candidates struggled to define the term alphabetic principle; results show they also had difficulty defining such terms or concepts as morpheme, phonemic awareness, and phonological awareness. However, when asked to identify specific activities that related to these terms, a higher percentage of teacher candidates were able to do this correctly. This indicates that teacher candidates, though not always familiar with the language, are in general able to perform the task.

4.1.1.4 Relationships between Entering Qualifications & *Knowledge Inventory* Score

In this section, relationships between entering qualifications of the candidates and their scores are addressed. First, a statistical analysis was performed to determine correlations between *Knowledge Inventory* scores and background variables such as undergraduate grade point average (GPA), reading and writing PRAXIS scores, age and gender. Table 17 illustrates the findings:

Table 17: Correlations of *Knowledge Inventory* Scores with Various Background Variables

Variable	MAT (n=50)	PY (n=43)	TOTAL (N=93)
Age	-0.20	0.22	0.05
Gender	0.33*	0.31*	0.32**
Undergraduate GPA	0.11	0.37*	0.27*
PRAXIS – Reading	0.17	0.30	0.22*
PRAXIS – Writing	0.18	0.48**	0.32**

*p < .05
**p < .01

As the above table shows, there are some statistically significant correlations between background variables and scores obtained by teacher candidates on the *Knowledge Inventory*. Looking first at each group of teacher candidates separately, the relationship between MAT *Knowledge Inventory* scores and gender is significant. However, there were so few male teacher candidates in this group – and in general – that any correlations between gender and score on the *Knowledge Inventory* should be interpreted with caution.

There are significant relationships between PY teacher candidates' *Knowledge Inventory* scores and gender, undergraduate GPA and scores on the PRAXIS writing exam. Again however, any relationship concerning gender should be interpreted with caution. Additionally, though this table shows that there is a correlation between score and GPA and score and PRAXIS writing results, these correlations are actually quite low (p=0.021 and 0.002, respectively).

When looking at the whole group of teacher candidates, significant correlations exist between *Knowledge Inventory* score and gender, undergraduate GPA, and both PRAXIS reading and writing exam scores. Gender will again not be considered as there were so few males

included in this research. Like the PY group, the correlations between undergraduate GPA and inventory scores and PRAXIS scores and inventory scores are again very low.

While Table 17 indicates that there is some significance in the correlations that exist between *Knowledge Inventory* scores and various background variables, it is imperative that what is looked at is the actual importance of these background variables. As there is a very low correlation – or often none at all – between background variables and score on the *Knowledge Inventory*, is it important for admissions counselors to rely heavily on this data to guide their selection process?

To further investigate this idea and determine relationships between entering qualifications of the candidates and their scores, the highest and lowest scoring teacher candidates from each program were compared using the same background variables. The top five and bottom five scores, which roughly translates to the top 10% and bottom 10%, from each group of teacher candidates were pulled and paired with the corresponding teacher candidate information. In all four scoring categories, there were ties – for example, four teacher candidates in the MAT program obtained scores of 39. The top five *scores* in each category are represented, oftentimes by more than one individual; because of this, there are more than five teacher candidates in each category. This look at the top and bottom 10% of scorers in each program was done in the hopes of answering several questions. For example, did teacher candidates who entered the program with higher GPAs score better on the *Knowledge Inventory* than did teacher candidates entering the program with lower GPAs? GPA is one way of predicting academic and professional success (Bretz, 1989); though this is not the only way – nor is it the best way – to predict future success, it was used here to see if there was any relationship between how teacher

candidates performed in their undergraduate careers and how well they scored on the *Knowledge Inventory*. Did the highest scores obtained on the *Knowledge Inventory* belong to teacher candidates with the highest undergraduate GPAs? Conversely, did the lowest scores belong to teacher candidates with the lowest undergraduate GPAs? In addition to GPA, are high and low scores on the PRAXIS exams (reading and writing) associated with high and low scores, respectively, on the *Knowledge Inventory*? Also, does gender or age play a factor?

Tables 18 and 19 illustrate the findings for the MAT and PY groups, respectively. A discussion of the findings follows each table.

Table 18: MAT High and Low Scores on the *Knowledge Inventory*

Grouping	K.I. Score	Teacher Candidate	GPA	PRAXIS Reading	PRAXIS Writing	Gender	Age
MAT High Scores (Top 10%)	40	A	3.20	185	177	F	22
	39	B	3.59	182	175	F	24
	39	C	3.00	173	175	F	22
	39	D	3.77	185	174	F	21
	39	E	3.09	183	178	F	22
	36	F	3.74	186	179	F	25
	36	G	3.48	178	177	F	22
	35	H	3.90	183	183	F	22
	35	I	3.41	183	180	F	22
	34	J	3.67	186	178	F	22
	34	K	3.27	180	176	F	21
	34	L	3.64	183	179	F	23
Average			3.48	182.25	177.58		22.33
Range			3.00-3.90	173-186	174-183		21-25
MAT Low Scores (Bottom 10%)	23	M	*unknown*	176	173	F	27
	23	N	3.52	178	173	M	22
	23	O	3.02	186	175	F	22
	22	P	3.66	184	179	F	21
	21	Q	3.53	180	179	F	21
	18	R	2.68	181	171	M	39
	17	S	3.41	177	175	M	22
Average			3.30***	180.29	175.00		24.86
Range			2.68-3.66***	176-186	171-179		21-39

*** Averages and ranges were obtained using the information provided; "unknowns" were not factored in

As Table 18 shows, there was a broad range of undergraduate GPAs and PRAXIS scores obtained by teacher candidates in both the high and low scoring groups. The average GPA for the top scoring MAT teacher candidates was 3.48, 0.18 points higher than the average GPA for low scoring teacher candidates. The average undergraduate GPA for teacher candidates in the MAT program was 3.34.

Average scores on the PRAXIS reading and writing exams were slightly higher for teacher candidates in the high scoring group (182.25 for reading; 177.58 for writing) than those in the low scoring group (180.29 for reading; 175.00 for writing), though there were a wide range of scores obtained by teacher candidates within each group. Teacher candidates in the high scoring group were closer to the whole group average of 182.92 for reading and 177.32 for writing, though teacher candidates in the low scoring group were not far off.

In analyzing the relationships between gender and scores, all of the high scoring and just over half of the low scoring MAT teacher candidates were female. This is not completely surprising since the majority of all MAT teacher candidates were female. However, none of the ten male MAT teacher candidates fell into the high scoring group; three of them fell into the low scoring group.

The average age of MAT teacher candidates overall was 23.38 years; the average age of high scoring teacher candidates was slightly below this, at 22.33, while the average age for low scoring teacher candidates was slightly higher, at 24.86. The range of ages for higher scoring candidates was much smaller than for lower scoring candidates (21-25 v. 21-39, respectively).

Table19: PY High and Low Scores on the *Knowledge Inventory*

Grouping	K.I. Score	Teacher Candidate	GPA	PRAXIS Reading	PRAXIS Writing	Gender	Age
PY High Scores (Top 10%)	47	A*	3.85**	186	185	F	41
	42	B	3.97	188	185	F	34
	40	C	*unknown*	183	178	F	23
	39	D*	3.39**	185	178	M	42
	37	E*	3.46**	186	181	F	41
	37	F	3.38	173	175	F	23
Average			3.58***	183.50	180.33		34.00
Range			2.94-3.98***	173-188	175-185		23-41
PY Low Scores (Bottom 10%)	22	G	2.93	183	175	M	25
	20	H	3.2	181	178	F	26
	20	I	*unknown*	*unknown*	*unknown*	F	*unknown*
	17	J	3.08	182	175	M	25
	15	K	3.89	186	176	M	49
	14	L	3.13	182	172	M	22
Average			3.25***	182.80***	175.20***		29.40***
Range			2.93-3.89***	181-186***	172-178***		22-49***

* Teacher candidate also has a post-baccalaureate degree
** This is the teacher candidates' undergraduate GPA
*** Averages and ranges were obtained using the information provided; "unknowns" were not factored in

Table 19 illustrates the differences between high scoring and low scoring teacher candidates from the PY program. Like the MAT teacher candidates, high scoring PY teacher candidates had a higher average GPA (3.58) than did low scoring PY teacher candidates (3.25). However, the ranges of scores were similar: 2.94-3.98 for the high scoring group and 2.93-3.89 for the low scoring group.

Average scores on the PRAXIS reading exam were slightly higher for teacher candidates in the high scoring group (183.50) than those in the low scoring group (182.80), though the range of scores obtained by teacher candidates in the low scoring group was much smaller than that of the high scoring group (181-186 v. 173-188, respectively). Similarly, the range of scores on the PRAXIS writing exam was smaller for the low scoring group (172-178) than for the high scoring group (175-185), but the average scores were further apart: 175.20 for the low scoring group and

180.33 for the high scoring group. The average for the PY group as a whole is 181.33 for reading and 177.83 for writing; the high scoring teacher candidates' average was higher on both exams, while the low scoring teacher candidates' average was higher for reading but lower for writing.

Unlike the MAT findings, there are male teacher candidates in both the high and low scoring groups. Five of the six top scorers were female, while one was male. The low scoring group was dominated by male teacher candidates, with four of the six lowest scores belonging to male teacher candidates. This means that just over one-third of *all* male PY teacher candidates obtained scores on the *Knowledge Inventory* that fell into the low scoring group. The average age of teacher candidates in the PY group was 27.40 years, with a range of 20-49. The average age of high scoring teacher candidates was 34.00 (range: 23-42) while the average age for low scoring teacher candidates was 29.40 (range: 22-49).

Using the information obtained from these two charts, a comparison can be made between high and low scoring MAT teacher candidates and high and low scoring PY teacher candidates.

When looking at each group as a whole, the average MAT undergraduate GPA is higher than the PY average (3.34 v. 3.21, respectively). However, the average undergraduate GPA of high scoring MATs was 3.48, 0.10 points lower than the average GPA of high scoring PYs (3.58). The trend though reemerges when comparing the low scoring groups: the average undergraduate GPA of low scoring MATs was higher than that of low scoring PYs (3.41 v. 3.25, respectively). The average PRAXIS scores for MAT teacher candidates were slightly lower than those of the PY teacher candidates (180.92 v. 181.83 for reading; 177.32 v. 177.83 for writing),

so it is not surprising that trend continued when looking at high and low scoring teacher candidates. The average PRAXIS scores for high scoring MATs were slightly lower than those of high scoring PYs; likewise, the average PRAXIS scores for low scoring MATs were slightly lower than those of high scoring PYs. All of this means that, looking at the scores obtained by the top 10% and bottom 10% of teacher candidates within each program, it appears that all teacher candidates, regardless of grade point average and scores on the PRAXIS exam, have a chance at obtaining a high (or low) score on the *Knowledge Inventory*.

Roughly 20% of teacher candidates from each group were male; there were 20 men in all, ten enrolled in each program. Three male MAT and five male PY teacher candidates obtained scores that placed them in either the high or low groups for their respective programs. Of these eight male teacher candidates, seven of them had scores placing them in the low scoring categories. This means that 35% of *all* male teacher candidates fell within the lowest 10% of scorers on the *Knowledge Inventory*. Only 5% of male teacher candidates fell within the highest 10% of scorers. Looking at age, the high scoring MAT group had a lower average age than their lower scoring peers; the exact opposite is true for the PY groups. Overall, the average age for both PY groups is higher than the average age for both MAT groups; this is consistent with the average ages from each group as a whole.

4.1.2 Survey of Perceptions

The research question guiding the analysis of data collected from the *Survey of Perceptions* is: *What differences exist in the perceptions of teacher candidates in the MAT program as compared*

to those in the PY program as to how well they were prepared to teach literacy and as to which elements of their respective programs – coursework, field placement and supportive interaction with others – they feel best prepared them to teach literacy immediately after completing their respective program?

The *Survey of Perceptions* was divided into four sections: General Information; Coursework; Field Placement; and Collaboration with Others. An analysis of the latter three sections is included here. It was administered to 50 MAT and 46 PY teacher candidates. Not all questions were answered by every teacher candidate.

4.1.2.1 Coursework

The first question in this category asked respondents to rate their level of preparedness to deliver 15 specified forms of instruction and assessment on a 0-3 scale, with 0 representing no level of preparedness and 3 representing definitely prepared.

Across all forms of instruction, both MAT and PY teacher candidates rated themselves as being somewhat to definitely prepared (2.52 and 2.35, respectively), as evidenced in Table 20:

Table 20: Teacher Candidate Self-Score Regarding Preparedness to Teach Reading

Area of Instruction	Teacher Candidate Average Score	
	MAT	PY
Phonemic Awareness	2.32	2.13
Phonics	2.27	2.16
Comprehension	2.66	2.50
Vocabulary	2.48	2.56
Fluency	2.43	2.36
Spelling	2.57	2.29
Writing	2.35	2.16
Sequence of lessons from basal reader	2.47	2.50
Discussion about a story from a basal reader	2.65	2.51
Discussions related to a trade book, chapter book or novel	2.63	2.48
Activities related to a trade book, chapter book or novel	2.53	2.48
Formal assessments	2.59	2.13
Informal assessments	2.69	2.33
Students' interest in reading/motivation to read	2.57	2.51
Differentiating instruction based on assessment data	2.57	2.17
Average across all areas:	***2.52***	***2.35***

The average across all areas for MAT teacher candidates (2.52) was significantly different than the average across all areas for PY teacher candidates (2.35) at the $\alpha = .05$ level. While on average, teacher candidates from both programs perceived themselves as being prepared to teach reading, MAT teacher candidates perceived themselves as being slightly more prepared. Looking within the question itself, there were few stand-outs. The 15 sub-questions can be placed in the following categories to allow for closer comparison: 5+2 Areas of Reading Instruction; Instruction with Text; and Assessments.

Statistical significance was determined in the following sections using the Pearson NCS On-line Survey Toolkit[24]. To determine significance, answers had to be placed into one of two

[24] This site can be accessed online at http://survey.pearsonncs.com/significant-calc.htm

categories: prepared or unprepared. Since respondents had four possible answers to choose from on the *Survey of Perceptions*, the four major categories were combined into two based on underlying meaning. Scores of 0 ("I am definitely not prepared") and 1 ("Although I am familiar with this term or idea, I am hesitant about teaching this") were placed in the *unprepared* category because teacher candidates would either have no ability or extremely limited ability to teach this concept. Scores of 2 ("I am somewhat prepared; I could handle this with support from a manual or a mentor") and 3 ("I am definitely prepared") were placed in the *prepared* category because teacher candidates would be able to teach this concept, even if they required assistance. Therefore, the statistical significance data reported in this section does not take into account any slight variance between scores in the later-formed unprepared (rating of 0 or 1) or prepared (rating of 2 or 3) categories.

Figure 2 looks at the average scores obtained by the two groups of teacher candidates in the three larger categories. To determine possible statistical significance for these larger areas, the same method indicated above of organizing the original scores was used here. Additionally, the number of respondents of each question within a category was added together to determine the *total* number of respondents for the category.

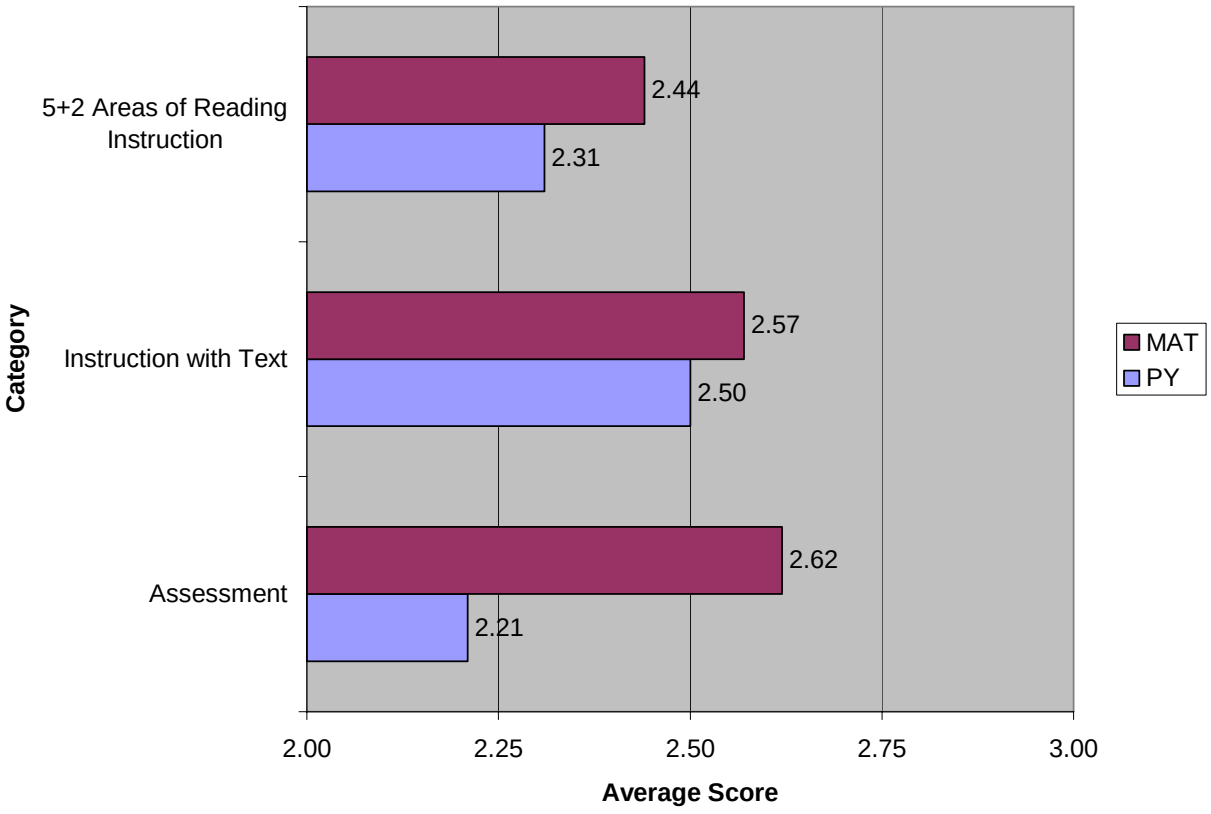

Figure 2: Perception of Coursework: Average Scores in Three Broad Areas

"5+2 Areas of Reading Instruction" refers to the five critical components of reading instruction (phonemic awareness, phonics, comprehension, vocabulary and fluency) plus spelling and writing instruction. The differences in average scores obtained by teacher candidates in the MAT and PY program were found to be statistically significant in the "Assessment" (2.62 and 2.21, respectively) and "5+2 Areas of Reading Instruction" (2.44 and 2.31, respectively) categories at $\alpha = .05$. The difference between average MAT and PY scores (2.57 and 2.50, respectively) in the category "Instruction with Text" were not statistically significant at $\alpha = .05$. This means that, based on coursework alone, teacher candidates enrolled in the MAT program

perceived themselves as being more prepared than PY teacher candidates to teach students the critical components of reading instruction and assess students in the area of reading. Even though the required reading courses for both groups of candidates were the same, two differences existed: course instructor and the semester in which the courses were taken. Several different instructors taught the various sections of the courses, and the different teaching styles employed by the instructors could have affected the degree to which teacher candidates learned the material. Also, PY teacher candidates took both reading courses during the same semester, versus the MATs taking the courses in two separate yet consecutive semesters. This could have played a role in their understanding of the material as well; with one group potentially being 'overloaded' with information while the other group had more time to absorb and apply the instruction. Though these are possible reasons for the differences in perceived readiness to teach reading, this is speculation.

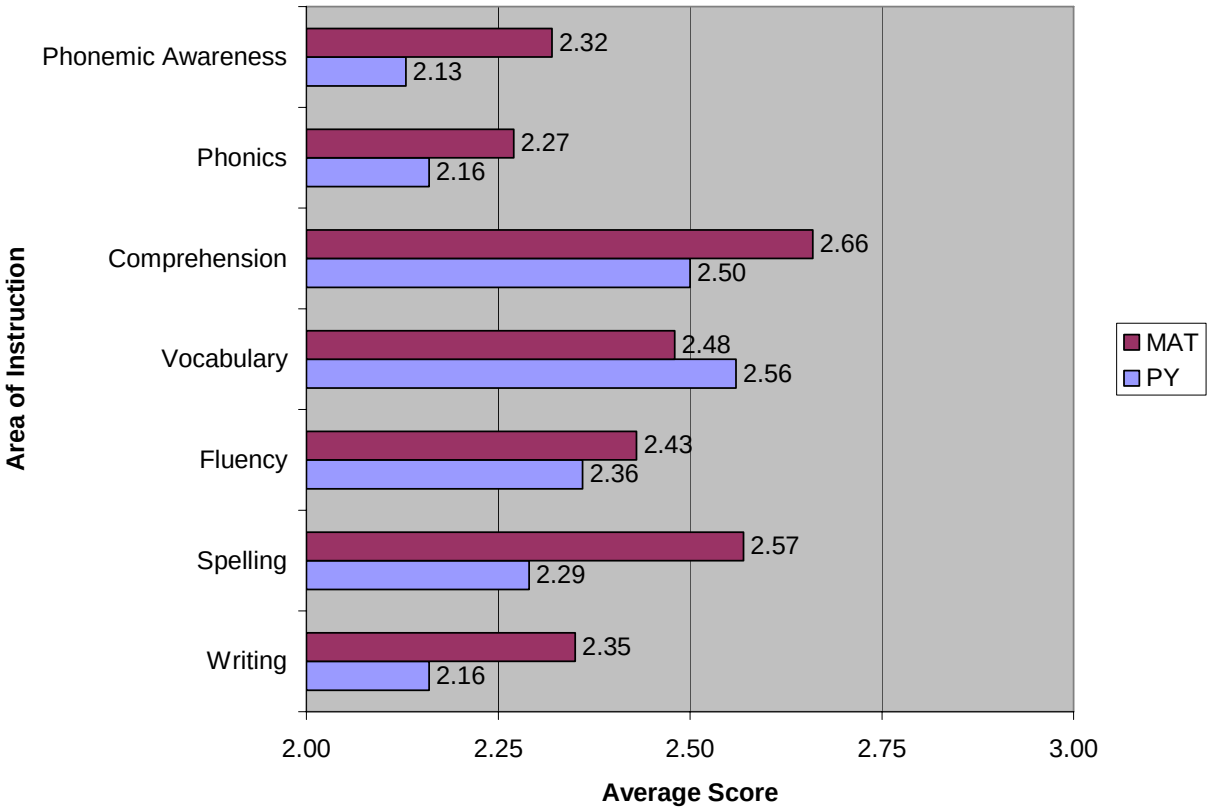

Figure 3: 5+2 Areas of Reading Instruction

As shown in Figure 3, MAT teacher candidates had a higher average score in all areas except vocabulary instruction; however the only scores that were significantly different were those in the area of spelling instruction (2.57 (MAT) v. 2.29 (PY); $\alpha = .05$). The lowest scores for teacher candidates in this area, regardless of program, were in writing, spelling, phonics and phonemic awareness instruction. Two possible reasons teacher candidates may not perceive themselves as being as prepared to deliver instruction in these areas as compared to other areas are that there was not enough intense instruction in these areas, and teacher candidates may not

have had enough of an opportunity to apply what they had learned about these areas of instruction to their work in the field.

Instruction with Text consists of five subcategories: sequence of lessons from a basal reading program; discussions about a story from a basal reader; discussions related to a trade book, chapter book or novel; activities related to a trade book, chapter book or novel; and students' interest in reading/motivation to read. The last subcategory was placed in this section because, on the *Survey*, the question is specifically focused on the teacher candidates' ability to use appropriate texts to motivate students to read, as well as their ability to select materials that reflect student interest.

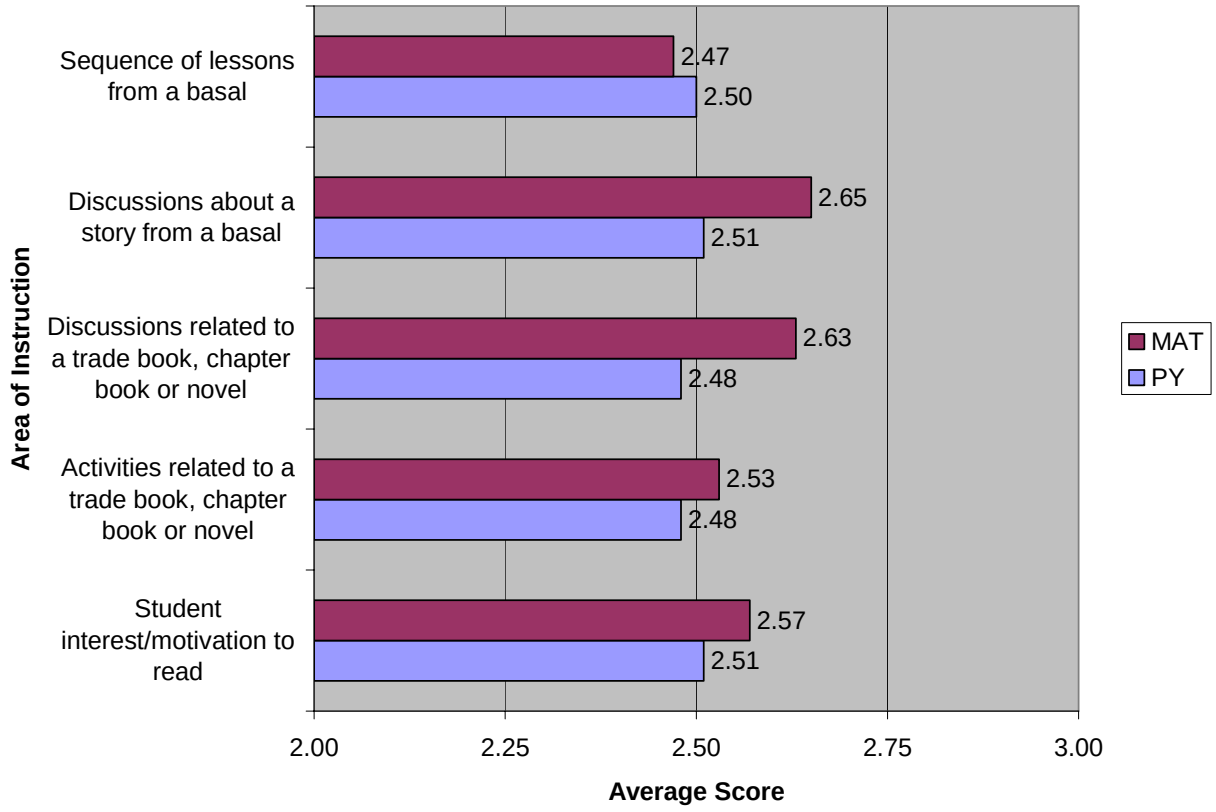

Figure 4: Instruction with Texts

As Figure 4 illustrates, MAT teacher candidates had a higher average score than PY teacher candidates in all areas except the ability to deliver or develop instruction from a sequence of lessons from a basal reading program. Only one set of scores is statistically significant ($\alpha = .05$): discussions related to a trade book, chapter book or novel, with an average MAT score of 2.63 and PY score of 2.48.

The final category is Assessment, which is comprised of informal and formal assessments and differentiating instruction based on assessment data. Figure 5 illustrates the findings:

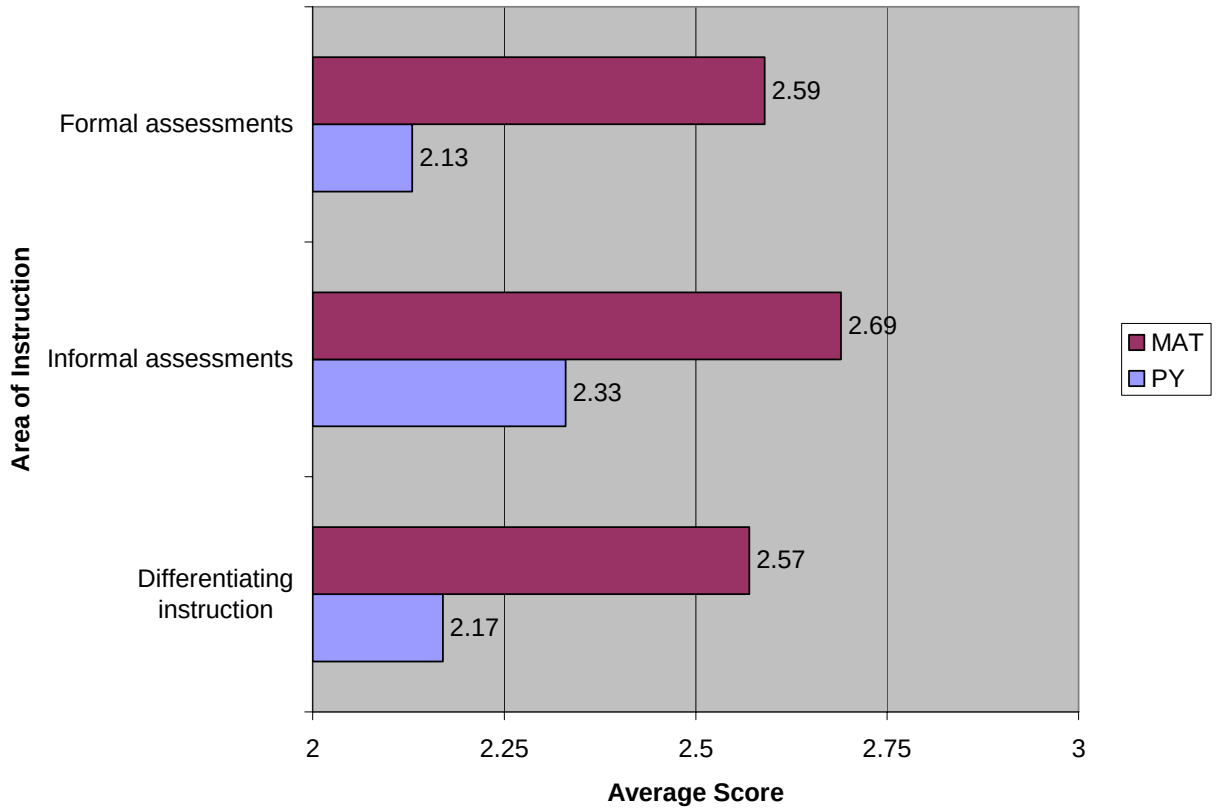

Figure 5: Assessment

Despite the seemingly large gaps in average scores in all subcategories between MAT and PY teacher candidates, there are no statistically significant differences at $\alpha = .05$. Looking at these scores, PY teacher candidates do not perceive themselves as being as well-prepared to differentiate instruction or administer formal assessment as their peers in the MAT program. Similar reasons as those given regarding the critical components of reading instruction may apply here as well; teacher candidates in the PY program may not have received enough intense instruction in these areas, and may also not have had enough of an opportunity to apply their skills in the field.

The remaining questions in the coursework section of the *Survey of Perceptions* were qualitative in nature; the results of these questions will be discussed in the following sections.

What was the most important assignment or activity in either of your reading courses?

Teacher candidates were asked to give an example of an assignment or activity they had in either of their reading courses that they felt was the most important to their learning to teach reading. The activity most mentioned by MAT teacher candidates – 20 in all – was their experience tutoring struggling readers in the Wilkinsburg School District over the summer. Some examples of what they had to say about it include:

> It made me feel the work I was doing really meant something . . .
>
> I had the chance to interact one-on-one with struggling readers and had a chance to practice writing formal lesson plans and assessment measures.

> We got the opportunity to perform authentic assessments with read students who needed one-to-one work. It was important because we got to plan activities based on the results of the assessments.
>
> It was a chance to try out what we had learned in class on real students.

Other activities mentioned by MAT students, followed by the number of times mentioned, included[25]:

- learning about and performing various assessments, such as DIBELS and Running Records (10)
- an essay in the Primary reading course explaining how children learn to read, which required teacher candidates to apply their knowledge of all five components of reading instruction; students stated it was "a way of putting an order to material that was previously not connected" and that it was an important assignment because "[the process] is something that every teacher needs to understand to effectively teach reading" (5)
- evaluation of Basal readers, because it explained how reading instruction is broken down and how it may be elaborated upon or extended (4)
- instruction on creating lesson plans (2)
- the general requirement of applying in the field what was learned at the University (2)
- group presentations, again in the Primary reading course, concerning such topics as comprehension and fluency (2)

[25] Two MAT teacher candidates did not respond to this question

- the modeling by one professor of learning centers; specifically, how to rotate and group students; this was noted as a useful activity because the professor "explained problems and how to appropriately differentiate activities" (1)
- writing and comprehension assignments in the Primary course (1)

The experiences listed as most important to PY teacher candidates' learning are somewhat different in topic and frequency than the list provided by MAT teacher candidates. Thirteen PY teacher candidates, as compared to four of the MATs, listed Dr. Hamilton's Basal reader assignment as being important, because, as one respondent wrote, "it really enabled me to see what [Basal readers] have to offer and what they can help add to instruction". Thirteen others listed learning about and administering assessments, such as Running Records. This activity seemed to be similarly important to many of the MATs, as ten noted it in their response.

Additional activities mentioned by PY teacher candidates included:

- the "jigsaw" teaching of various chapters from their Primary course textbook (6)
- vocabulary instruction in the Primary course (5)
- preparation and reflection on mini-lessons (2)
- applying in the field what was taught at the University (1)
- developing guided questions to aid students' comprehension of reading materials (1)
- a timed reading activity in the Intermediate course that, as one teacher candidate wrote, provided "a glimpse of how varied students' reading is" (1)
- utilizing round-robin discussions (1)
- the Primary reading course in general (1)

What was the most important resource (text, handout, etc.) you obtained in either of your reading courses?

Teacher candidates were then asked which resource – text, handout, etc. – they obtained for either of the reading courses was the most important to their learning. 46 of the 50 MAT and 41 of the 46 PY teacher candidates provided responses to this question; candidates at times provided more than one answer. The list of resources mentioned by teacher candidates in both groups can be organized into the following five basic categories: Handouts – general; Handouts – specific; Textbooks; Articles; and Other. The breakdown is as follows:

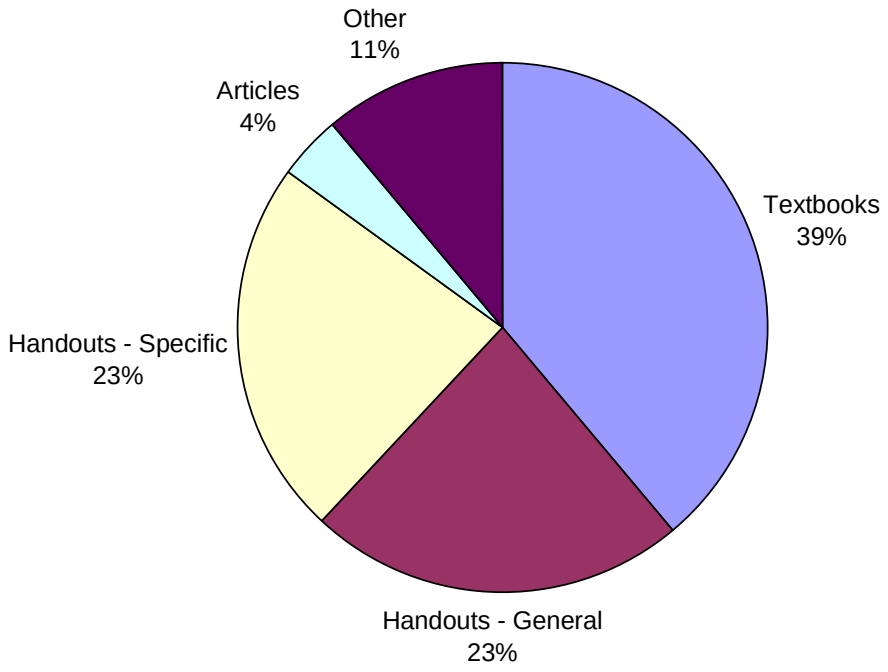

Figure 6: Important Resources Noted by Teacher Candidates

Each basic category contains the following resources as listed by teacher candidates:

Textbooks – *Teaching phonics, phonemic awareness, and word recognition*[26]; *Striking a balance: Best practices for early literacy*[27]; *Literacy in the intermediate grades: Best practices for a comprehensive program*[28]

Handouts (General) – teacher candidates referred to items such as Primary and Intermediate course handouts and Primary activity packets

Handouts (Specific) – Beck's Tier II vocabulary; Reader's Theater; Kucan's description of words/parts of speech; five components of reading; Beck's vocabulary strategies; lesson starters; Word Building; standardized assessment information; Bloom's Taxonomy; language games; linking themes in fiction; robust vocabulary development; samples of student work; Literature Circles; graphic organizers; lesson plan template and how to; recommended reading for students

Articles – Marzano's classroom strategies; Matthew Effect; "Put Reading First"

Other – using Basal Readers in the Reading Clinic; Pennsylvania Reading Standards; creation of a personal portfolio; copies of Basal Readers; the instructors/professors; time spent in class discussing concepts/approaches with peers

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[26] Bishop, A. & Bishop, S. (1996). *Teaching phonics, phonemic awareness, and word recognition*. Westminster, CA: Teacher Created Materials.

[27] Cecil, N.L. (2003). *Striking a balance: Best practices for early literacy* (2nd ed.). Scottsdale, AZ: Holcomb Hathaway.

[28] Cecil, N.L. & Gipe, J.P. (2003). *Literacy in the intermediate grades: Best practices for a comprehensive program*. Scottsdale, AZ: Holcomb Hathaway.

In your reading courses, were you required to reflect on any of the work you had done? How useful did you find the reflection process to be?

The final question in this section asked about reflection as part of coursework. 77.55% of MAT and 86.95% of PY teacher candidates responded that personal reflection was a required component of coursework; when asked to rate its usefulness, every teacher candidate that stated it was a requirement rated it as either extremely or somewhat useful. Some of the anecdotal remarks made by these candidates include:

> PY teacher candidates:
>
> > [Reflection] makes you analyze things you might just accept and never ask "why".
> >
> > I was able to . . . learn from my mistakes with the guidance of a professor.
>
> MAT teacher candidates:
>
> > It helped me to organize my thoughts and use that for future instructional purposes.
> >
> > Reflection allows one to see where they made mistakes and where they may be able to improve.

Only three of the 83 total respondents (3.61%) thought this reflection was not useful[29]. A sampling of statements includes:

> PY teacher candidates:
>
> > I was reflecting on materials that were not useful or relevant to my student teaching placement.

[29] Five additional teacher candidates rated reflection as not being useful, but they also stated they were not asked to take part in reflection, so they were not included in this statistic.

> The reflection we were required to do encompassed answering whether we were satisfied with our work product and why or why not . . . there was no further guided application of the reflection.

4.1.2.2 Field Placement

Research points to the importance of a strong relationship between the University (coursework, professors, and supervisor) and the field placement (Frazier, Mencer & Duchein, 1997). When there are strong connections between what occurs at the University and what the teacher candidate experiences in the field, the candidate's skills as a teacher grow. Several questions were developed around this concept; Table 21 illustrates responses regarding three of these questions[30]:

[30] Not all teacher candidates responded to each question (please see remarks in the footnotes below)

Table 21: Teacher Candidate Responses to Questions Concerning Field Placement

Question	MAT			PY		
	Extremely	*Somewhat*	*Not at All*	*Extremely*	*Somewhat*	*Not at All*
9. Looking specifically at instruction in reading, how closely related were your experiences in the field to what you were learning in class?[31]	34.14%	**56.09%**	10.20%	21.73%	**67.39%**	10.86%
12. Were your mentor teachers' beliefs about reading instruction closely related to those of your University reading instructors?[32]	34.04%	**55.31%**	10.63%	**36.58%**	**36.58%**	26.84%
13. Overall, how useful was your field experience as related to teaching reading?[33]	**85.71%**	12.24%	2.04%	**69.05%**	23.81%	7.14%

Looking specifically at instruction in reading and the other language arts, how closely related were your experiences in the field to what you were learning in class?

The majority of teacher candidates in each group felt the experiences they had in the field were at least somewhat related to what they were learning in the university reading classroom.

MAT teacher candidates:

> Everything I learned about phonics instruction were lessons that we're teaching in kindergarten (ex: phoneme writing, phoneme isolation, onset-rime, blending, segmenting, etc.).
>
> I teach first grade where reading and language arts fulfills the majority of the day.
>
> I have implemented almost everything I have learned during the reading classes [at] school.

[31] MAT, n=49; PY, n=46
[32] MAT, n=47; PY, n=41
[33] MAT, n=49; PY, n=42

> We used Writer's Workshop, word walls, literature circles – the examples in class applied in our site schools. I felt prepared.

PY teacher candidates:

> We work with the basal [at my site], which these classes [at Pitt] prepared me to do, but then we also work with chapter books, which were a little more challenging.
>
> A lot of the basic reading skills are already acquired by 3rd grade so I couldn't use a lot of the information. However, comprehension and fluency were a big concern in my class and I was prepared for those.
>
> My cooperating teacher would discuss things with me that we were talking about in my classes like DIBLES, discipline, etc.
>
> My [cooperating] teacher loved my use of good questioning, Tier II words and Reader's Theater.

Were your mentor teachers' beliefs about reading instruction and approaches to teaching reading and the other language arts closely related to those of your University reading instructors?

More than half of MAT teacher candidates responded that their mentor teacher's beliefs about reading instruction were somewhat related to those of their University reading instructors. One-third responded that the beliefs were extremely related. On the PY side, the responses were tied between respondents believing the beliefs were extremely or somewhat related (36.58% in each category). The roughly 11% of MAT and 27% of PY teacher candidates that stated that their mentor teacher's beliefs were <u>not at all</u> closely related to those of the University reading instructors gave the following explanations:

MAT teacher candidates:

> I feel that she taught reading in the manner that was most beneficial to her, but not necessarily to the students. For example, not much creativity, no differentiation.
>
> Basal = time saving goodness, not dimwitted instruction.
>
> He believed kids will find their way and not to worry about it.
>
> Not much I've learned [at Pitt] is used by my mentor [teacher].

PY teacher candidates:

> I am not sure how much we really talked about [the beliefs about reading instruction] since the basal was followed so tightly, and there was not much leeway.
>
> All curriculum-based and hardly any expansion.
>
> My [mentor] teacher taught from the basal and I never observed a phonics lesson.
>
> Pitt follows a constructivist approach to learning. My mentor teacher is very set on direct instruction, guided practice, and independent practice. There is a clear distinction between the two styles.
>
> My co-op's methods were strictly basal. The ones we learned in class [at Pitt] were better and more effective.
>
> My mentor teacher required me to teach according to her set format and formula, which did not allow me adequate opportunity to interact with students over the books they were reading.

Approximately 10% of MAT and 27% of PY teacher candidates felt their mentor teachers' beliefs about reading instruction were not closely aligned with those of their university

instructors. This lack of alignment may create difficulties for these teacher candidates who are getting an inconsistent message as to what constitutes quality reading instruction.

Overall, how useful was your field experience as related to teaching reading and the other language arts?

The vast majority of teacher candidates in both groups felt their field experience was extremely useful as it related to teaching reading. Supporting comments include the following:

MAT teacher candidates:

> I learned more about what the classroom is really like and what works.
>
> [The field experience was extremely useful] because I got to see [instruction] in action and watched as children started reading.
>
> Experience and teaching firsthand is the best way to learn in any profession.
>
> [The field experience] was useful because you got practical experience and not theoretical experience.
>
> I became familiar with the components that exist in reading.

PY teacher candidates:

> My cooperating teacher modeled practical and feasible methods to get the most out of the time for reading/language arts.
>
> I was able to put methods into action and learn firsthand the benefits that come from various types of instruction.
>
> [What is learned in class] is theory until you put it into practice. Real students are different experiences.

> Every day I learned a new way to teach reading to the class. The classroom gave me new ideas from resources, students, or other teachers.
>
> Being in the classroom and actually teaching is the best way to learn!

It is important to take a closer look at those teacher candidates – 2% of MATs and 7% of PYs – that did not think their field placement was useful as it related to teaching reading. When asked why they chose "not useful at all" to describe their field experience, a MAT teacher candidate stated that he was just not given enough practice. PY teacher candidates expressed their concern over some issues by responding with the following:

- I felt as if I was being "fed to the wolves" when it came to reading. I had all these theories thrown at me but nothing that actually used the curriculum.
- There was little room to work with diverse needs.
- I was never guided on how to teach or received any advice on my teaching ability.

When you learned something in one of your reading courses, were you able to directly apply it to your field experience?

When asked if teacher candidates were able to directly apply what they learned in their reading courses to their work in the field, over 80% of both MAT and PY teacher candidates answered either "more often than not" or "sometimes". Some of the ways in which they were able to incorporate what they learned into their teaching experiences are evidenced in the following comments:

MAT teacher candidates:

> I was able to denote what phonemes a student was having trouble with and practiced them with activities I learned about [in class].
>
> [I used] Writer's Workshop, Word Wall, and Word Building.

PY teacher candidates:

> I've incorporated Beck's vocabulary ideas [and] Hamilton's questioning ideas into my daily work. I've used IL 2206's center ideas extensively.
>
> I used a couple of the lesson plans I generated. The assessment helped to get students on track.

Few teacher candidates (5 MAT teacher candidates; 1 PY) responded that they were never able to apply what they learned in the University classroom to their field experience; their responses indicate that this was due to such factors as the grade level they were placed in or their classroom and/or school's focus. The following comments illustrate this finding:

MAT teacher candidates:

> We learned about literature circles – great idea. I presented it to faculty [at my field school], but reality is that it could never happen. There are too many other things that need to be done.
>
> The things that we learned [at the University] mainly focused on beginning readers. Since my students were able to read [in grades 6-8], these techniques did not directly apply.
>
> Our classes talked a lot about fluency, learning to read, etc. My placement was in 8th grade, where we "read to learn." Our classes [at the University] didn't talk about comprehension, writing, etc.

In what ways did your thinking about the teaching of reading and the other language arts change over time (from the beginning of your placement to the present)?

When asked in what ways did their thinking about the teaching of reading change over time, responses were all positive. A sample of responses from MAT and PY teacher candidates include:

MAT teacher candidates:

> Engaging the students can be achieved by my interest in material, and does not require fancy "tricks".
>
> Now I see the bigger picture of integrating content in other subjects with reading.
>
> I learned that there are many different strategies teachers use – and it's harder than it looks!
>
> I enjoy teaching reading a lot more now than when I started. I now love engaging kids in meaningful discussions!
>
> I now feel more confident in it. I was unsure of my ability [to teach reading] at the beginning, since I struggled with it [as a student].

PY teacher candidates:

> I realized that you need to teach kids how to think about reading through questioning; it doesn't just happen.
>
> It is much more scientific and research based than I originally thought.
>
> I simply realized how much [language arts] plays a big part throughout the school day. I never realized how much each grade needed to cover.

> I have realized there are many skills a child needs in order to get the most out of reading.
>
> I wasn't aware at the beginning how many students struggled in language arts. It's the hardest to teach!

In general, what would you change about your field placement, especially as it relates to teaching reading and the other language arts?

When asked what they would have changed about their field placement as it related to teaching reading, teacher candidates from both programs provided several responses. While many of the teacher candidates wrote that they would change nothing about their placement, others offered suggestions related to collaboration and content knowledge (specifically, being able to apply what was learned in the courses to the field). Some teacher candidates would have wanted a different mentor teacher, one that was "better aligned" with their views or one that was "more creative and open-minded". Some noted that they would have liked to observe more teachers in their school to see how they teach, while others mentioned an unmet desire to work with support staff, such as Reading Specialists. Several PY teacher candidates wrote that they wished they had more time in the classroom; one wrote that she thought the field placement should be longer because she "learned so much and has really benefited from watching the [students] grow in their abilities", and would like to continue seeing this growth in reading ability.

Others noted that they would have liked to spend more time in various classrooms in order to, as one teacher candidate wrote, "use strategies that can only be used in certain grade levels [such as] phonics and beginning reading skills". The chance to work with students in the

primary grades was mentioned several times by teacher candidates working in the upper elementary grade levels. Some teacher candidates noted the dependency of their field classroom on basal readers, and would have liked the opportunity to incorporate trade books, chapter books and novels into their literacy instruction. Writing was another area of weakness in many of the teacher candidate's field classrooms. One teacher candidate noted that writing activities took a great deal of time in her classroom and, because of that, she did not have the opportunity to participate in many such lessons.

Finally, some teacher candidates noted that they would have liked to teach more reading. These teacher candidates found themselves primarily focused on other subject areas, such as math. The alignment between coursework and field placement was noted by one teacher candidate, who wrote that he would have liked to have taught language arts while enrolled in the reading/language arts courses at the University.

In general, what did you find most rewarding about your field placement as it related to teaching reading and the other language arts?

Teacher candidates were asked what they found most rewarding about their field placement as it related to teaching reading; several responses were given. Some teacher candidates listed specific activities, such as using Reader's Theater, or teaching specific components of reading, such as phonics; others simply listed being able to apply what they learned in their coursework as being rewarding. Several wrote that the interaction they had with their university mentor or cooperating teacher was the most rewarding aspect of their field placement. However, the majority of respondents wrote that it was seeing their students meet with success that was the most rewarding:

MAT teacher candidates:

> Watching struggling readers learn to read, and their smiles.
>
> It is amazing to see how much the reading abilities of my first graders has changed over the course of one year.
>
> Watching kids want to discuss reading made it really great for me to sit back and reflect on my personal lesson planning for reading.
>
> Watching my kindergarteners learn to read!

PY teacher candidates:

> My experience is that children love and are eager to read! This makes teaching reading very fun and meaningful.
>
> Being able to see the progress the students made over time in reading was rewarding.
>
> My students were learning from me and understanding concepts I taught them. I did impact their learning!
>
> Witnessing the children learn, understand and enjoy my lessons.

The final three questions in the field placement section of the *Survey of Perceptions* dealt specifically with reflection.

Were you required to reflect on any of the work related to reading instruction and instruction in the other language arts that you did in your field placement? How useful did you find that reflection process to be?

Roughly 70% of MAT[34] and 60% of PY[35] teacher candidates indicated that reflecting on work conducted in the field was required. When asked how useful reflection on field work was, roughly 85% of MAT[36] and 90% of PY[37] teacher candidates responding to the question thought it was either somewhat or extremely useful. The major reason given for why the reflective practice was important was because it allowed the teacher candidate to recognize what went well in the lesson as well as where there was room for improvement. Of the 10-15% of respondents that did not find this reflection to be useful, the following are general comments about the practice and some ways in which they felt it could have been made more useful:

MAT teacher candidates:

> More direction to what I needed to reflect [on].
>
> Discussing the lesson/strategies with my mentor or supervisor and hearing <u>their</u> takes on my approach.

PY teacher candidates:

> If we could express ourselves more freely.
>
> You will naturally reflect and take notes in your lessons. Formal reflection sucks the life out of student teachers.

---

[34] n-47
[35] n=41
[36] n=33
[37] n=27

What was the nature of your reflective thinking? In other words, what types of ideas or actions were you asked to reflect upon?

Only about half of the teacher candidates from each group answered this question; responses were similar. Many noted three standard questions that were used to guide reflection: *What went well during this lesson? What did not go well? Looking at this, what will I do next time?* Others reflected on the engagement level of the students and what can be done to actively engage all students; how to adapt instruction to meet the varying needs of students; how the instruction helped students learn; and setting personal/instructional goals.

4.1.2.3 Collaboration

This section was divided into three subsections: collaboration with the University Supervisor; collaboration with the Mentor Teacher and/or others at the school site; and collaboration with the University reading instructors.

Collaboration with the University Supervisor

How often were you observed by your university supervisor while you were teaching reading?

85% of MAT teacher candidates and 75% of PY teacher candidates responded that they were observed by their university supervisor teaching reading two or more times during the course of their field placement.

How often did you meet with your university supervisor to discuss teaching reading and the other language arts? What were the contexts of your meetings?

All teacher candidates who responded to this question, regardless of program, indicated that they met with their university supervisor after they had been observed teaching a reading lesson. The purposes of this meeting included discussing the lesson's strengths and possible improvements to be made for the next lesson; engaging students in the activity; and personal/instructional goal setting.

What was the main role of your university supervisor related to reading and instruction of the other language arts?

The main role of the university supervisor, as indicated by teacher candidates, was to observe them teach and to provide support for and offer feedback regarding the instruction of these reading lessons. Only one teacher candidate specifically indicated that their supervisor modeled instructional strategies for them.

How helpful was your university supervisor at aligning what you did in your coursework with what you did on-site?

Teacher candidates responded with a wide variety of answers regarding the helpfulness of their supervisor at aligning coursework and field work, with answers ranging from not at all helpful to extremely helpful. Some of the various answers given by teacher candidates included the following:

> MAT teacher candidates:
>
> > Very [helpful] – she would point out times when it would be helpful to use learned techniques.

> Helpful, but not as committed and effective as my mentor [teacher].
>
> Not very [helpful], she wasn't very aware of my coursework.
>
> Very [helpful], she was always trying to get me to use stuff from my coursework.

PY teacher candidates:

> No alignment. She focused on my lessons, not my classes.
>
> She was very aware of University approaches and made sure I used them.
>
> We never really connected coursework with teaching.
>
> Most things were learned on-site. I don't think there was communication between supervisors and course professors.
>
> Our meetings focused on aligning classes to objectives and objectives to standards.

Collaboration with the Mentor Teacher and/or Others at the School Site

The following table illustrates the responses teacher candidates gave regarding how often they met with their mentor teacher regarding reading instruction:

Table 22: Teacher Candidate Responses Regarding Collaboration with Mentor Teachers

Response	# MAT Teacher Candidates	% MAT Teacher Candidates	# PY Teacher Candidates	% PY Teacher Candidates
Daily	15	35.71	17	41.46
Weekly	17	40.48	18	43.90
Monthly	7	16.67	3	7.32
Never	3	7.14	3	7.32
	n=42		n=41	

As illustrated in Table 22, 76% of MAT and 85% of PY teacher candidates stated they met either weekly or daily to discuss reading with their mentor teacher. At the same time, six teacher candidates reported never meeting with their mentor teacher to discuss reading. None of these teacher candidates indicated why they never met with their mentor teacher. In general, they had positive things to say about their field experiences and mentor teachers, and all but one of the teacher candidates rated their field experience as extremely useful as it related to teaching reading. While it cannot be known for sure, it is possible that some teacher candidates did discuss reading instruction with their mentor teachers, but because it occurred so informally, they did not recognize it as a collaborative experience. However, it is also possible that these teacher candidates did indeed never have a collaborative discussion regarding reading instruction.

Did your mentor teacher ever clarify or demonstrate teaching concepts about reading instruction or instruction of the other language arts that you may have been struggling to master?

When responding to the above question, roughly half of the teacher candidates in each group answered yes (54.06% of MATs; 47.50% of PYs). At the same time, roughly half of the mentor teachers, as reported by teacher candidates, never clarified or demonstrated a teaching concept the teacher candidates were struggling to master.

Did you attend any professional development at your school site? How helpful were these sessions?

The vast majority of MAT and PY teacher candidates noted that they attended professional development at their school site. Some of the topics covered at these sessions included: Literacy Circles; Reader's Theater; Word Building; phonics instruction; vocabulary selection and instruction; preparation for school-wide testing; and the use of technology in the

classroom. The helpfulness of these professional development sessions varied considerably. Some teacher candidates responded that they were not helpful at all, while others noted that they were extremely helpful in their understanding of reading concepts and continued development as teachers. Several teacher candidates noted that the professional development sessions they attended were almost exactly like some of the classroom instruction they received (i.e. – Beck's Tier II Vocabulary Instruction). Others wrote that it was great to attend professional development alongside experienced professionals because they got a new perspective on ideas and they saw that teachers are truly lifelong learners. Those that felt the professional development sessions they attended were not useful noted that the material was too district or school specific (unless they obtained full-time jobs at this school, the information would not be useful to them in the future) or that some of the concepts covered during these were "over their head".

Did you, your mentor teacher and your university supervisor ever meet as a group? Why?

Frazier et al. (1997) discuss the importance of the triad – university student, mentor teacher and university supervisor – in the development of a quality pre-service teacher. Therefore, a question was asked regarding whether or not the three members of this group ever met. Nearly all teacher candidates in both groups answered that yes, they had met as a team (94.59% of MATs; 95.23% of PYs). MAT and PY teacher candidates alike listed the following reasons for these meetings:

- for midterm and/or final evaluations
- after observing reading lessons, to discuss the lessons
- at the beginning of the year (introductions)
- to set goals and/or discuss progress toward meeting goals

- to discuss problems
- to keep the lines of communication open

Did you ever collaborate with anyone else at your school site? Why?

Teacher candidates were also asked if they ever met collaboratively with anyone else at their school site, such as other teachers, the principal, special educations or reading specialists. 91.42% of MAT and 76.19% of PY teacher candidates said that they had. Teacher candidates noted that they met often with the same-grade teachers in their building to plan collaboratively. Other teacher candidates noted that they met with teachers at different grade levels to observe what went on in different classrooms and get another perspective on instruction. Teacher candidates also met with Special Education teachers, to discuss the needs of specific students, and Reading Specialists, to talk about specific teaching strategies and techniques. Finally, some teacher candidates were involved in extra-curricular activities, such as the school musical, and would collaborate with specialists as needed.

Collaboration with the University of Pittsburgh Reading Instructors

Did you ever meet with any University of Pittsburgh reading instructors outside of class? Why? Were they helpful?

The majority of teacher candidates in both groups – 83.79% of MATs and 78.58% of PYs – stated that, over the course of their time spent at the University, they had not met with their reading instructors outside of class. There is little reason for concern regarding these high numbers. Several of the teacher candidates that stated they had not met with their University reading instructors outside of class stated they did not need to because concepts were clearly

explained during class time. Those that did meet outside of class, however, stated the purpose of these meetings as being:

- informal discussion
- to get feedback and ask general questions about reading and/or coursework
- to clarify concepts and/or specific instructional strategies
- to obtain suggestions regarding books to use with students and for lesson planning
- because they also served as their advisor and/or supervisor
- to discuss frustrations with the course

Regardless of the reason for meeting with the University instructor, teacher candidates had positive things to say about such interactions, citing these meetings as being extremely helpful.

4.1.2.4 Additional Comments

Teacher candidates, at the end of the *Survey of Perceptions*, were given the opportunity to include any additional comments they may have had concerning their coursework, field work or collaborative efforts with others. Few did, but the comments that were provided are important to examine more closely, as they provide valuable feedback regarding strengths of the programs, as well as areas where teacher candidates feel they could use more instruction.

Concerning University courses, coursework and faculty:

> I think both reading instructors did a wonderful job in preparing us for our placements!
>
> -PY teacher candidate

Great instructors, solid practice, just more meaningful when on-site full time whereas one day [per] week provides hard time fitting all info in.

-PY teacher candidate

[Based on previous answers on the *Survey of Perceptions*] Can you tell I'm not happy with my intermediate instructor? I think that the University failed miserably at preparing me to teach intermediate language arts – especially since they are aware of the problem.

-PY teacher candidate

My reading intermediate class was a disaster and the teacher should not be allowed to teach!

-PY teacher candidate

The program's weak spot is writing instruction. I had virtually no training in this area.

-PY teacher candidate

I felt I learned the most in the secondary education reading program. My placement aided with this because of district policy.

-PY teacher candidate

In an ideal world, Pitt coursework is great, but in reality (PSSA!) it's so un-relatable.

-MAT teacher candidate

Intermediate instruction was very helpful as many things were modeled. Primary instruction did not focus on terminology/current trends so it was difficult to use this info at school.

-MAT teacher candidate

> Primary reading should be offered in the summer before intermediate reading!!!
>
> -MAT teacher candidate

> I was very disappointed in the coursework in reading. I was an English Lit major and expected to be more stimulated. The classes taught me very little that I have retained and still use today.
>
> -MAT teacher candidate

> Coursework needs to be changed.
>
> -MAT teacher candidate

Concerning the field placement and mentor teachers:

> My cooperating teacher did nothing to help with reading instruction.
>
> -PY teacher candidate

> My field experience was excellent.
>
> -PY teacher candidate

Additional comments:

> Other University staff needs to be more supportive (counselors/advisors) and not work against us!
>
> -MAT teacher candidate

4.2 STAGE 2 FINDINGS

The research question guiding the analysis of data collected in the following sections is: *What differences exist in the perceptions of teacher candidates in the MAT program as compared to those in the PY program as to how well they were prepared to teach literacy and as to which elements of their respective programs – coursework, field placement and supportive interaction with others – they feel best prepared them to teach literacy after at least three months of teaching?*

4.2.1 Follow-up Survey of Perceptions

In all, 95 MAT and PY teacher candidates participated in the spring administration of the *Knowledge Inventory* and *Survey of Perceptions*. Two of the teacher candidates did not provide email or postal addresses and therefore could not be reached for further participation in the follow-up. Email messages were sent to the 86 candidates who provided email addresses; copies of the letter were sent via postal mail to the seven participants that did not provide an email address. Additionally, letters were sent to the 26 teacher candidates whose messages were returned to the Principal Investigator as undeliverable. See Appendix F for a copy of the follow-up letter. Additionally, a second email (see Appendix H) was sent two weeks after the first one, to all teacher candidates that could be reached via email, reminding them to participate in the follow-up survey.

Of the 93 teacher candidates that were contacted:

- Three (2 MATs; 1 PY) responded that they could not participate in the follow-up because requirements stated that they be employed as full-time teachers; they had not yet obtained teaching positions at this time or were substitute teaching
- Nine[38] PY teacher candidates are currently enrolled in a Master's Degree program at the University of Pittsburgh and could not participate in the follow-up study because they did not meet the qualifications for the follow-up
- Two PY teacher candidates had not finished their degree program by the time of the administration of the follow-up survey
- One MAT teacher candidate was unable to be successfully reached via email or postal mail (letter was returned to sender)

Taking the above information into consideration, of the 95 original participants, 78 teacher candidates could potentially be able to participate in the follow-up assessments.

Follow-up surveys were completed online by 22 former teacher candidates; however, one respondent's answers were discarded because she was working in a school as a substitute teacher, a condition that did not qualify her for participation. Another respondent's answers were removed from the survey because she did not indicate the district in which she currently worked. This teacher candidate wrote "N/A" when asked to indicate school district name, leading the Principal Investigator to question if she had obtained a full-time teaching job. In all, 20 completed follow-up surveys were submitted, yielding a roughly 26% response rate[39].

[38] Ten former PY teacher candidates are currently enrolled in an M.Ed. program at the University, but one has a full time teaching job and did respond to the survey

[39] This rate is based on 78 possible respondents, down from the original 95 participants due to the noted disqualifying factors (current employment, ability to be contacted, etc.)

The follow-up survey, like the original, was organized into smaller parts. The following topics were addressed in the follow-up survey and are used to guide the discussion: general information; coursework; field placement; collaboration with others; and concluding comments.

4.2.1.1 General Information

Table 23 illustrates the basic demographic breakdown of respondents to the follow-up survey:

Table 23: Follow-up Survey Participants: Basic Demographics

	MAT	% MAT	PY	% PY	Total	% Total
Number of respondents	n=12		n=8		N=20	
Gender	11 F; 1 M	91.67/8.33	7 F; 1 M	87.50/12.50	18 F; 2 M	90.00/10.00
School Setting:						
Urban	2	16.67	5	62.50	7	35.00
Suburban	6	50.00	3	37.50	9	45.00
Rural	4	33.33	0	0.00	4	20.00
Grade Level:						
K	0	0.00	2	25.00	2	10.00
1	0	0.00	2	25.00	2	10.00
2	1	8.33	0	0.00	1	5.00
3	3	25.00	0	0.00	3	15.00
4	2	16.67	0	0.00	2	10.00
5	1	8.33	2	25.00	3	15.00
6	2	16.67	1	12.50	3	15.00
7	1	8.33	0	0.00	1	5.00
8	2	16.67	1	12.50	3	15.00

As the data from Table 23 show, former teacher candidates from both university programs responded to the follow-up survey (60% were from the MAT program). The majority of respondents were female (90%). Nearly half of the respondents are currently teaching in suburban schools, while roughly one-third is working in an urban placement. Rural schools are represented by 20% of the respondents. Schools in which the respondents work are not just

located in the Pittsburgh-area; respondents indicated that they are working in schools in central Pennsylvania, Maryland, New Jersey, New York, North Carolina, Virginia, Georgia, Florida and Colorado. Respondents are teaching at levels from kindergarten through eighth grade.

Some respondents indicated on the follow-up survey that they teach specific subjects:

- One is a K-6 science teacher
- One teaches 5th grade reading/language arts and math as well as 6th grade math; she also teaches Basic Skills, which is designed for students that found to be partially proficient on the New Jersey ASK (similar to the PSSA)
- One teaches at a private school and teaches all subjects to 8th grade students
- One teaches social studies and language arts
- One teaches pre-algebra and algebra to 8th grade students
- Since one respondent's school has departmentalized, she teaches primarily math and science to 5th graders
- One teaches 5th grade science and Special Needs Communication Arts (English, reading and spelling)
- One teaches EIP (Early Intervention Program) and Inclusion students in the 3rd grade
- One teaches 5th grade Language Arts
- One teaches both Pre-Algebra and "regular" 7th grade math, as well as ELL students and students with Special Needs

4.2.1.2 Coursework

Just as in the coursework section of the original *Survey of Perceptions*, the coursework section of the follow-up survey asked one major question: *How well prepared are you to teach specified reading activities or concepts given the instruction you received in your reading courses at the*

University of Pittsburgh? In addition to the original 15 prompts, six new prompts were added to the question to get at the respondents preparedness to work with diverse learners, classroom management skills, teaching reading in the content areas and using expository text during instruction. This question, as well as the entire follow-up survey, can be found in Appendix C.

Table 24 includes the average self-rating of respondents to prompts on the follow-up survey and a comparison of those results to the initial findings from the original *Survey of Perceptions*. Within the two major headings – Survey of Perceptions and Follow-up Survey of Perceptions – the data are broken down into three groups: respondents from the MAT program; respondents from the PY program; and overall average.

Table 24: Comparison of Self-Scores Regarding Preparedness to Teach Reading

	Survey of Perceptions Average Self-Rating			Follow-up Survey of Perceptions Average Self-Rating		
Area of Instruction	**MAT**	**PY**	**Overall**	**MAT**	**PY**	**Overall**
Phonemic Awareness	2.32	2.13	2.23	2.09	2.14	2.11
Phonics	2.27	2.16	2.21	1.82	2.14	1.94
Comprehension	2.66	2.50	2.58	2.58	2.29	2.47
Vocabulary	2.48	2.56	2.52	2.33	2.38	2.40
Fluency	2.43	2.36	2.39	2.42	1.86	2.21
Spelling	2.57	2.29	2.43	2.25	1.67	2.06
Writing	2.35	2.16	2.26	1.92	2.13	2.00
A sequence of lessons from a basal reading program	2.47	2.50	2.48	2.25	2.71	2.42
Discussions about a story from a basal reader	2.65	2.51	2.58	2.42	2.43	2.42
Discussions related to a trade book, chapter book or novel	2.63	2.48	2.56	2.42	2.00	2.26
Activities related to a trade book, chapter book or novel	2.53	2.48	2.51	2.33	2.14	2.26
Formal assessments	2.59	2.13	2.36	2.42	2.43	2.42
Informal assessments	2.69	2.33	2.51	2.50	2.43	2.47
Students' interest in reading or motivation to read	2.57	2.51	2.54	2.25	2.13	2.20
Differentiating instruction based on assessment data	2.57	2.17	2.37	2.00	2.13	2.05
Average across the first 15 areas:	**2.52**	**2.35**	**2.44**	**2.27**	**2.20**	**2.25**
Managing the classroom during reading instruction				1.67	2.13	1.85
Teaching reading in the content areas				2.25	2.29	2.26
Activities related to the reading of expository text				2.17	2.14	2.16
Adapting instruction to meet the needs of struggling readers (non-Special Needs students)				1.83	1.57	1.74
Adapting instruction to meet the needs of students with Special Needs				1.83	1.71	1.79
Adapting instruction to meet the needs of students that are English Language Learners				1.00	1.43	1.16
Average across ALL areas:	**2.52**	**2.35**	**2.44**	**2.13**	**2.11**	**2.12**

Table 24 shows the averages in each area of instruction for both groups of teacher candidates, as well as the overall average. The final six areas of instruction have been shaded out in the columns under *Survey of Perceptions* since they were not part of the original assessment. Looking first at the original 15 areas of instruction, the overall average obtained from the follow-up survey is lower in every category except formal assessments. This indicates that the respondents to the follow-up actually now perceive themselves as being somewhat less prepared in every category except for the use of formal assessments than they originally perceived themselves as being in the spring, when they were finishing their program at the University.

Overall, there were three areas of instruction in which there were statistically significant differences ($\alpha = .05$) between average scores from the original administration and the follow-up. These areas were: phonemic awareness instruction; spelling instruction; and administering informal assessment. In all three areas, the average score on the follow-up survey was lower than the average score on the original *Survey of Perceptions*, indicating that with experience in their own classroom, former MAT and PY teacher candidates found that they were actually less prepared to do these things than they had originally perceived. Further discussion of some of these issues is included in forthcoming sections as some of the respondents included comments about these topics when answering other follow-up questions.

The responses from the first 15 areas of instruction can be broken down by program – MAT and PY – and compared in that way. First, looking at MAT respondents, respondents of the follow-up survey had a lower average self-rating than the average self-rating recorded by MAT teacher candidates on the original *Survey of Perceptions* in all areas. There were two areas where the differences in average score were statistically significant ($\alpha = .05$): spelling instruction

and differentiating instruction based on assessment data. MAT and PY graduates perceive themselves as being less prepared now to teach these activities than they did when they were finishing their programs.

When analyzing responses of PY teacher candidates, the average self-rating that they gave themselves was higher on the original *Survey* than it was on the follow-up in all but four areas: phonemic awareness instruction; teaching a sequence of lessons from a basal reading program; administering formal assessments; and administering informal assessments. The differences between averages in all areas except phonemic awareness instruction were significant.

Turning to look at differences between MAT and PY respondents on the entire follow-up survey, it can be noted that, like on the original *Survey*, MAT respondents on average gave themselves a higher self-rating than the PY respondents in a majority of the areas of instruction. Respondents from the MAT program gave themselves a higher average score in ten of the areas; the areas in which PY respondents scored themselves higher include:

- instruction in phonemic awareness, phonics, vocabulary and writing
- teaching a sequence of lessons from a basal reading program
- discussions about a story from a basal reader
- administering formal assessments
- differentiating instruction based on assessment data
- managing the classroom during reading instruction
- teaching reading in the content areas
- adapting instruction to meet the needs of students that are English Language Learners

Only one set of scores are statistically significant ($\alpha = .05$); in the area of teaching a sequence of lessons from a basal reading program, teacher candidates in the MAT program had an average score of 2.25, while teacher candidates in the PY program had an average score of 2.71. This means PY teacher candidates perceived themselves to be better prepared to participate in this activity than did MAT teacher candidates.

It is important to look at the scores on the six items that were added to the follow-up survey, especially the final three. Looking at the overall average scores, respondents felt somewhat unprepared to manage their classroom during reading instruction, awarding themselves an average score of 1.85, just shy of a score of 2 which on the survey is defined as "My reading coursework somewhat prepared me". These respondents would benefit from more exposure to classroom management techniques. In general, respondents perceived themselves as being at least moderately prepared to teach reading in the content areas (2.26) and engage students in activities related to the reading of expository text (2.00), though their scores indicate that they may need more support in these areas.

The final three areas of instruction, which all deal with working with diverse learners, indicate that these teacher candidates have some concerns about their level of preparedness for working with these students. Respondents perceived themselves as being the least prepared in these areas, which indicates that these are areas in which teacher candidates enrolled in both programs would benefit from further instruction. The average self-rating for being able to adapt instruction to meet the needs of struggling readers (non-Special Needs students) was 1.74; adapting instruction for students with Special Needs was slightly higher, with an average rating of 1.79. Respondents perceived themselves as being the least prepared to adapt instruction to meet the needs of English Language Learners, giving themselves an average score of 1.16.

What, if anything, do you now find you are lacking in regards to teaching reading based on the work you did in your reading courses?

Responses to the above question vary widely and include the following:

MAT respondents:

> The idea of Guided Reading was not really introduced at all throughout the program. My district's reading program is centered around guided reading and novels. I do not feel that I was prepared to jump into the guided reading model because I had more experience with basals. My placement was in Pittsburgh Public and the instruction was based on a basal. I feel that I took much more away from my placement with my mentor teacher about teaching with a basal. [One of my professors] was one of the best professors I had throughout the entire program and I took a lot of my knowledge that I have today as a teacher away from her explicit instruction.

> Much of the coursework was based on activities or learning what the terms [meant]. There was not adequate discussion or ideas in terms of application in a real classroom. Differentiation and ways to meet all students' needs, both struggling and excelling [readers], were not addressed. Additionally, management of the classroom during differentiation would be helpful. We were given some methods to assess students but more guidance about what to do with the data when collected would benefit. Specifically, what to do in small and whole groups to help differentiate a class of students with diverse needs. We were told to not follow the basal but were not given guidance of what to use as material. There is so much to cover in reading and language arts that it is difficult to learn it all in mainly two courses. The first course was mainly spent learning the terms and concepts related to reading instruction. I feel our experiences with reading instruction were based more in the student teaching setting that we were assigned so we all had a different learning experience.

> I had a 3rd and 4th grade internship placement and was not able to fully practice the knowledge learned in my Primary Reading course. I did have to do mini-assessments using students in lower grades for this course, but since they were not my own students and I did not have the opportunity to fully delve into planning and teaching K-2 reading lessons on a continual basis, I feel that I am lacking in the Primary reading area.

PY respondents:

> Ideas for literacy centers, word wall work, and classroom management (keeping students engaged and on task) during literacy rotations.

> I know that there is always room for improvement; however, I feel [one of my professors] presented great lessons on teaching us how to teach vocabulary and work with the basal. As for chapter books, I feel that I am lacking in knowing how to incorporate them into the curriculum.

> Good questioning strategies for use during stories. I did get help from my adviser on this, but it was not something we discussed in my classes.

> I do not know if the program could have better prepared me. I was exposed to everything I am facing in the classroom and know where to look for resources. I think the only way to really learn is the hands on experience.

> I am having difficultly teaching language arts to ELL students.

Several of the same areas of instruction are found as lacking in their open response as in their self-score regarding perceived readiness to teach. The respondents clearly state that, given the experiences they are now having in their own classrooms, they would have liked to have more instruction in teaching reading using novels or chapter books, differentiating instruction to

meet the needs of diverse learners (ELL students are mentioned specifically), and classroom management. In addition, teaching primary reading skills is also mentioned. This is an area of instruction that several teacher candidates included in their original *Survey of Perceptions* as something they wish they had had more experience with during their field placement.

4.2.1.3 Field Placement

The one question included in this section asked respondents, given their current teaching situation and the experiences they had in the field as teacher candidates, what they would have changed about their field placement as it related to teaching reading. Respondents gave the following answers:

MAT respondents:

> I had a wonderful experience at my field placement. For the most part, the people were wonderful and supportive and I felt that I learned invaluable information through my experiences. I would have liked to have worked with a different age group, however. I only worked with one class the entire year and would have liked to have worked with students at other grade levels and maybe to have sat in on some science and social studies classes in the higher grades.
>
> I would have wanted a more detailed and thorough interview process not only for the mentor teacher, but for the intern as well in order to make sure that the partnership was a good fit.
>
> I would like to have had more instruction on teaching content specific reading.
>
> I would change absolutely nothing about my field placement. My mentor teacher taught me how to be the teacher that I am today. I gained more authentic knowledge about how to be a classroom

teacher from her and without the placement experience I do not think I would have been able to be [as] comfortable as a first year teacher. I definitely believe that everyone should have to work in an urban environment to understand all children. I was lucky enough to have an urban placement and now that I am in a rural/suburban placement I realize that my experience in urban education was priceless!

Being in the MAT program, I definitely had enough time and variety of experiences in the classroom. I learned a lot from my mentor. Teaching now, I wish I would have been exposed more to differentiating instruction and small group instruction. The majority of the instruction was whole group mainly because the students were grouped and switched for instruction.

I really enjoyed my field placement and feel that I got a lot out of it. I was able to work with three different 5th grade teachers (although I had one "mentor") and experience three completely different styles of teaching and interacting with the students. Although I really enjoyed working with the first teacher and learned a lot from her, I realized how much more I could learn after I started to rotate. I began to mimic what I saw much less and found my place in the middle much more easily and confidently.

I would have liked to work with an intermediate grade half of the school year, as well as a primary grade. I think it would have been a good experience to teach language arts to both ages.

At my site I only taught guided reading groups according to the district standards and I am struggling to now meet the needs of many different students in my class, many of whom are 1 to 2 years behind. It would have helped to talk about how to group a wide variety and work through this process in more depth.

PY respondents:

I would have changed nothing about my field placement. It was extremely beneficial. The only difference is that I was in a third

grade position and am currently teaching Kindergarten. So maybe some exposure to other grades would have helped a bit.

I think it may have been more beneficial to be in a classroom where there were more [students with] special needs and [students having] IEPs. When I student taught I only had one [student with an] IEP and it was a gifted student actually so I don't feel like I was prepared for inclusion.

I was very happy with my placement. I think the full school year was a good length of time to gain experience that would prepare me to enter my own classroom as a teacher. The coursework at Pitt was also very relevant and applicable in the classroom. I learned so much from the seasoned teachers. It was an awesome experience. I wouldn't have changed anything about my placement.

I really enjoyed my placement site. I thought it was great how we had to observe classrooms for the first semester. It gave us an opportunity to get comfortable with the students before we stood in front of the classroom to teach. I didn't feel as overwhelmed using the basal in the classroom. I know that when I was first handed one as a student at Pitt it seemed confusing. I liked getting to work with a basal before heading into the field.

The problem with the program is coming in once a week during the 1st semester, being the fun teacher who works one-on-one with the kids, and then trying to become the person in charge during the 2nd semester. Kids don't see you as the person in charge, so management isn't easy. All the observation time is great, but I think student teachers should be instructed more about how to assume control and lay good foundations for running a class from Day 1. That would decrease the amount of time in survival mode.

I can see where the MAT [teacher candidates] might have an advantage because it was all year and they were given more responsibility from the start. My experience with language arts

> was wonderful. My mentor gave me ample opportunity to embrace all aspects of Language Arts.
>
> I would have liked to experience other language arts programs in different grades, not just the grade I was placed in.

While all of the respondents seem to feel that their field placement was, on the whole, a wonderful experience, there are some themes that emerge that call for a closer look. Several of the respondents noted that they would have liked the opportunity to work at different grade levels so they could gain experience with students at different stages of the learning-to-read process. The benefits of working with students at different grade levels are expressed nicely by this MAT graduate:

> I would not make any changes about teaching language arts and reading at my placement experience. My internship placement site allowed me to teach language arts and reading at a variety of grade levels and ability levels. During the job search and interview process, I felt incredibly comfortable, and thankful, in being able to talk about my experiences with students from grades one through five. Although I spent only approximately six weeks teaching language arts at different grade levels, having a brief overview and experience with multiple levels was a beneficial experience in understanding how language and reading skills change throughout grade levels. In my current teaching position, reading skills are important in all of the classes that I teach. Leaving my internship site with a solid language arts background had definitely been beneficial to my current practice.
> .

By having had the opportunity to work with students at a variety of grade levels, this former MAT teacher candidate believes she has a better understanding of the reading continuum. Additionally, she feels it helped her obtain a job by having more experience to share with potential employers. Several of the respondents wrote that they would have liked an opportunity

similar to this respondents'; they may have been able to benefit in similar ways from this type of experience. Other changes respondents would have made to their field experiences, given their current teaching situation, include working with diverse learners and differentiating instruction to meet their needs, more instruction on reading in the content areas and more of a focus on classroom management.

4.2.1.4 Collaboration

Taking their current teaching situation into consideration, respondents were asked what they would have changed about their collaborative experiences with others while enrolled in their respective programs at the University. In response, former teacher candidates had positive things to say about their collaborative experiences. On the whole, those that responded to the follow-up survey thought their mentors and supervisors were very supportive. There were, however, some suggestions as to how the collaborative experience could be improved:

- providing the mentor with more background information on the program in which they serve
- more collaboration with other teacher candidates to "help each other out with our classroom problems or difficulties"
- more shared responsibility with the mentor teachers for planning lessons
- requiring more observations, and follow-up discussions, by the mentor teachers
- clear expectations that are agreed upon by both mentor teachers and university supervisors

4.2.1.5 Concluding Comments

In this section, respondents were asked to rate, on a scale of 1 to 5 with 5 representing a definite preparedness to teach reading, how well prepared they felt to teach reading at this point in time. The average score was 3.90, indicating that respondents perceived themselves as being very prepared to teach reading, but that they may still be learning. Respondents were then asked what their greatest need in the area of reading was, given that they are new teachers. A laundry list of needs emerged:

Instruction:

- More strategies for phonics instruction
- Phonemic Awareness
- Teaching writing
- How do I reach as many children as possible when teaching a specific skill?

Assessment and Diverse Learners:

- Being able to differentiate to all of the different reading levels in my classroom
- Knowing how to prioritize what the students need most and being flexible about grouping the students accordingly
- Assessment – where do go from the data I collected?
- Differentiation – assessing and then meeting every students' needs while maintaining order in a classroom
- Help teaching ELL students

Motivation/Engagement:

- Strategies to capture student interest and engage them in reading

Respondents were then asked to think about the one thing the faculty and staff in the MAT or PY program could do to help them in the area of reading instruction. Many responded that they did not believe the university could have offered them anything more; they were pleased with their experience and believed they were extremely well-prepared to teach reading. Some, even though they state that they are confident in their abilities to teach reading, felt that instruction in some areas could be improved. Areas that were repeatedly mentioned in which they felt a need for more instruction included teaching writing; differentiating instruction to meet the needs of all learners and administering and using assessments.

Finally, respondents were given the opportunity to provide additional comments regarding the three major areas of focus: coursework, field work and collaboration with others. Not one comment that was included in this section was negative. All respondents noted that they believed, on the whole, the university program in which they were enrolled prepared them to teach reading. While there were suggestions and comments made throughout the survey indicating areas of need (i.e. – writing instruction, work with diverse populations), all of the respondents to the follow-up survey felt they were given a solid foundation of reading knowledge in their courses in which to build their teaching skills, useful hands-on experience in the field, and opportunity to work collaboratively with others to help strengthen their skills.

4.2.2 Telephone Interviews

All teacher candidates that responded to the follow-up survey were sent an email asking for their participation in a phone interview. A copy of this letter is contained in Appendix G. Five teacher candidates responded that they would be willing to participate in an interview; however, despite numerous attempts, only two phone interviews were completed. A summary of each of

the interviews, followed by a discussion of how each relates to the findings of the *Survey of Perceptions* and overall study, is included in this section.

Phone Interview #1: Karie[40]

Karie currently teaches fourth grade, all subjects (self-contained), in a suburban school. She has nothing but wonderful things to say about her program MAT at the University of Pittsburgh. For her, the connection between her, her university supervisor and her field teacher were amazing. She came into the program wanting a suburban placement, but interviewed with a Pittsburgh Public School and made an amazing connection with her soon-to-be teacher. This teacher was a 34 year veteran. Unfortunately, this was also the year of her "worst class ever". Karie learned classroom management techniques from her right away – something she says Pitt needs to devote a class to at the start of the program because she feels teacher candidates learn about it much too late. Her first reading course taught her everything she needed to know about teaching reading. Going into a class to tutor students was a great solidifier of knowledge. Because of her experiences in the field, she would now rather be a teacher in an urban school setting.

Aside from the classroom management course, she would like to see Pitt:

- Offer more courses in Special Education (even if it is the self-chosen elective) because her school follows a full inclusion model
- Offer more information on guided reading; her school dedicates a lot of time to Fountas & Pinnell's work and she did not feel as well prepared to do this as she would have liked (there was a great deal of basal instruction, which she thought was beneficial)
- Stop "sugar-coating" things; too constructivist/discovery method at times; sometimes you just have to tell them what they need to know. She thought Pitt was geared more toward suburban schooling because she felt teachers might be able to do more

[40] Not her real name

constructivist-style activities with these students than they would an urban school population

Three items that she considered "critical" to her learning at the University are:

1. Tutoring struggling readers during the first semester
2. Working with basal readers – learning how to use them as a framework, not as something that is followed word for word
3. The opportunity to work with students in the field using Read Naturally (through her work, she helped two students move up to the proficient level working with them three times a week while working in her field placement)

Phone Interview #2: Jennifer[41]

Jennifer currently teaches eighth grade math. She came into the MAT program without a great deal of math teaching experience, but she always intended on teaching subject (she was a science major as an undergraduate). Her current school has mandated that once per marking period, every content-area teacher must incorporate one reading-based activity into their lesson plans. The activity usually spans three class periods, with teachers developing questions based on assigned readings, and students giving a class presentation at the end. The most recent one she assigned had students reading articles about architects. She feels that the work she did at Pitt around differentiating instruction helps her most during these activities because she has many of the lower-level students in her classes and now she knows how to modify instruction to meet their needs.

[41] Not her real name

Jennifer wishes she could have planned more with her mentor teachers; she felt she was often left to her own devices at times – unlike in her current job where there is a great deal of co-planning and collaboration.

Three items that she considered "critical" to her learning at the University are:

1. The summer tutoring program for the one-on-one experience working with struggling readers
2. As a field teacher at Falk in the math department, she had to teach everything. She did a novel group with the student in reading and it really taught her how to think on her feet
3. The Primary literacy course was truly beneficial because of the elaboration on concepts and the wonderful teacher. Though she strongly disliked the Intermediate course, she felt that it gave her a good foundation for the Primary literacy class

Even though the phone interviews were conducted with graduates of the same program (MAT), they confirm previous findings from the follow-up survey: that the various components of the program (coursework, field work, collaboration with others and reflection) were key in preparing teacher candidates to teach reading. While the graduates had suggestions for improvement, they believe they learned a great deal of information about reading instruction that they have been able to apply directly to their current teaching jobs, regardless of grade level or subject area in which they are working.

5.0 FINDINGS, CONCLUSIONS, DISCUSSION AND IMPLICATIONS

This chapter reviews the findings of this mixed-methods research study of the differences between MAT and PY teacher candidates in knowledge base and perceived readiness to teach literacy, both immediately upon completion of their respective graduate program and again after gaining experience teaching full-time. Additionally, it presents for consideration implications for teacher preparation programs and future research.

Both the MAT and PY programs were developed to provide students with the necessary knowledge and experiences needed to prepare teacher candidates to teach. In the area of reading, coursework was identical; the field component differentiated the programs. Teacher candidates enrolled in the MAT program spent, on average, over 1,000 hours in the field, compared to an average of just over 400 hours for teacher candidates in the PY program[42]. This research study was designed to examine the areas of literacy instruction and assessment in which differences in knowledge between MAT and PY teacher candidates exist, as well as what differences exist between MAT and PY teacher candidates' perceptions as to how well they were prepared to teach literacy immediately after completing their respective program and then again after gaining full-time teaching experience. Additionally, this study was designed to determine what differences exist between teacher candidates' perceptions as to which elements of their

[42] These averages were calculated using data from MAT and PY teacher candidates' time sheets, which are kept on file as part of their school records

respective programs – coursework, field placement and supportive interaction with others – best prepared them to teach literacy both immediately after completion of the program and then again after gaining full-time teaching experience.

5.1 FINDINGS

This section reports key findings about the areas of literacy instruction and assessment in which MAT and PY teacher candidates differ in knowledge, as well as the differences that exist in perceptions of MAT and PY teacher candidates as to how well prepared they perceive themselves as being to teach literacy, both immediately after completing their respective program and after they have gained full-time teaching experience in their own classroom. Additionally, the specific elements of their respective programs – coursework, field placement and collaboration with others – teacher candidates believe best prepared them to teach literacy will also be reported.

Findings related to Research Question 1: In which areas of literacy instruction and assessment (phonemic awareness, phonics, vocabulary, fluency, comprehension, assessment and instruction) are there differences in knowledge between University of Pittsburgh MAT and PY teacher candidates?

1. Based on the results of the *Knowledge Inventory*, there are few differences in knowledge of literacy instruction and assessment between MAT and PY teacher candidates.
2. Also based on the results of the *Knowledge Inventory*, teacher candidates enrolled in the MAT and PY programs, in general, possess only a rudimentary understanding of literacy instruction and assessment.

3. The grade level in which MAT and PY teacher candidates worked during their field placement did not appear to have an impact on their knowledge of reading instruction and assessment, based on their scores on the *Knowledge Inventory*.
4. For MAT teacher candidates, there was a significant relationship between gender and *Knowledge Inventory* score; however, this finding should be interpreted with caution given the few males enrolled in the program.
5. For PY teacher candidates, there were significant relationships between *Knowledge Inventory* score and: gender; undergraduate GPA; and PRAXIS writing exam score. Again, the relationship between *Knowledge Inventory* score and gender should be interpreted with caution given the low number of males enrolled in the program. Additionally, the correlations between inventory score and GPA and inventory score and PRAXIS writing score were extremely low.
6. When looking at the top and bottom 10% of MAT and PY scores on the *Knowledge Inventory* and the teacher candidates that obtained those scores, it is clear that high (or low) undergraduate GPAs and PRAXIS scores did not directly correspond to a high (or low) inventory score.
7. When looking at the top and bottom 10% of MAT scores on the *Knowledge Inventory* and the teacher candidates that obtained those scores, high scorers were younger, on average, than low scorers. The opposite was true of the PY scores: high scorers were older, on average, than low scorers.
8. When looking at the top and bottom 10% of MAT and PY scores on the *Knowledge Inventory* and the teacher candidates that obtained those scores, 35% of <u>all</u> male teacher candidates appeared in the low scoring groups. Seven of eight male teacher candidates obtained scores which placed them in the bottom 10% of scorers for their respective program (3 MATs; 4 PYs); one male teacher candidate obtained a score that placed him in the top 10% of scorers for his program (PY).

Findings related to Research Question 2: What differences exist in the perceptions of teacher candidates in the MAT program as compared to those in the PY program as to how well they were prepared to teach literacy and as to which elements of their respective programs –

coursework, field placement and supportive interaction with others – they feel best prepared them to teach literacy immediately after completing their respective program?

9. MAT and PY teacher candidates believed that, in general, their coursework and field work prepared them equally well to teach reading; neither program component appeared to be more important than the other.
10. Based on perceptions of their coursework preparation, MAT teacher candidates perceived themselves as being, on average, more prepared to teach reading than their PY peers across all areas. In specific areas, MAT teacher candidates perceived themselves as being, on average, significantly more prepared than their PY peers to teach spelling and lead discussions related to a trade book, chapter book or novel.
11. Based on perceptions of their coursework preparation, MAT teacher candidates, on average, felt the least prepared to teach phonics. PY teacher candidates, on average, felt the least prepared to: teach phonemic awareness, phonics, spelling and writing; administer formal assessments; and differentiate instruction based on assessment data.
12. Roughly 90% of teacher candidates from both preparation programs believed that their experiences in the field were closely related to what they were learning in their University reading courses.
13. A higher percentage of MAT teacher candidates than PY teacher candidates believed their field placement was extremely related to teaching reading (86% and 70%, respectively).
14. MAT and PY teacher candidates reported that reflection was an integral part of their preparation program, and it was found to be important to their development as teachers.
15. MAT and PY teacher candidates reported that there was collaboration between members of the triad (the teacher candidate, university supervisor, and mentor teacher), but that this collaboration was viewed with mixed feelings. In either program, some teacher candidates felt the collaboration was useful, while others felt this was an area that could be improved upon. Few teacher candidates from the MAT and PY programs reported collaborating with their university instructors outside of class.

Findings related to Research Question 3: What differences exist in the perceptions of teacher candidates in the MAT program as compared to those in the PY program as to how well they were prepared to teach literacy and as to which elements of their respective programs – coursework, field placement and supportive interaction with others – they feel best prepared them to teach literacy after at least three months of teaching?

16. Respondents from both the MAT and PY programs perceived themselves as being less prepared to teach reading after gaining experience as full-time teachers than they did immediately after completing their respective programs.
17. Based on the findings of the follow-up survey, respondents from the MAT program felt least prepared to manage the classroom during reading instruction and deliver instruction in the areas of phonics and writing; they also felt unprepared to adapt instruction to meet the needs of struggling readers, students with Special Needs and ELL students.
18. Based on the findings of the follow-up survey, respondents from the PY program felt least prepared to deliver instruction in the areas of spelling and fluency; they also felt unprepared to adapt instruction to meet the needs of struggling readers, students with Special Needs and ELL students.
19. The phone interviews conducted with two of the respondents corroborated the findings from the follow-up survey: teacher candidates felt generally well-prepared to teach reading based on their experiences – both in class and in the field – at the University, but they had suggestions for program improvement based on areas in which they felt the least prepared (i.e. – working with students with Special Needs).

5.2 CONCLUSIONS

The following conclusions are based on the findings generated in this study of teacher preparation candidates.

Conclusion 1: There are no real differences in knowledge of reading instruction and assessment between teacher candidates from the MAT and PY programs as evidenced by the results of the Knowledge Inventory. However, based on their scores, teacher candidates from both programs would benefit from more instruction about how to teach reading in a classroom setting.

Put Reading First: The Research Building Blocks for Teaching Children to Read (2001), published by the National Institute for Literacy and the Center for the Improvement of Early Reading Achievement, serves as an outline for reading educators regarding the five components of reading instruction: phonemic awareness, phonics, fluency, vocabulary and comprehension. In order to teach reading successfully, educators must have a complete understanding of these areas, as well as how to deliver appropriate instruction in each. These five areas are the foundation of reading instruction, and therefore are a major focus in literacy courses in teacher preparation programs. Understanding teacher candidates' knowledge levels surrounding these areas is of critical importance, because what they leave the University knowing is what they will be able to teach to students in their own classrooms, at least initially.

Based on the findings of the *Knowledge Inventory*, teacher candidates from both the MAT and PY programs have a similar understanding of reading instruction and assessment knowledge. In general, knowledge of such material was not dependent upon the program in which they were enrolled, or on the grade level in which the teacher candidates were placed for their field experience. This means that type of experience did not seem to matter in terms of students' scores on this knowledge inventory. For example, those teacher candidates working in

primary field placements did not score better on items that were more relevant to their teaching placement, such as phonemic awareness instruction, than did those teacher candidates working in upper elementary or middle school placements. Though there were some relationships between score on the *Knowledge Inventory* and undergraduate GPA, PRAXIS exam scores, age or gender, these correlations are either small or, in the case of gender, should be interpreted with caution based on overall enrollment. Even given this cautionary note, the findings related to gender are interesting: 35% of all male teacher candidates had scores in the bottom 10% on the *Knowledge Inventory*.

What is critical to note, however, is that teacher candidates' level of reading instruction and assessment knowledge, regardless of program, was relatively limited based on the mean scores obtained by each group. Though there were a wide range of scores obtained on the *Knowledge Inventory*, the average score correct was roughly 30 out of 50, or 60%. In other words, the scores indicate that although teacher candidates from both groups have a general understanding of reading instruction and assessment, there is still much more that they can learn. Although this is a single measure, the performance is indicative of students' difficulty with some of the terminology or understanding of some of the basic linguistic underpinnings of the reading process. Regarding this, Moats, in her position paper entitled "Teaching Reading is Rocket Science: What Expert Teachers of Reading Should Know and Be Able To Do" (1999), indicates that "until we are faced with a class of children who are learning how to read symbols that represent speech sounds and word parts, we may never have analyzed language at the level required for explaining and teaching it" (p. 11). Additionally, "when adults are evaluated on knowledge of language, even those who are educated exhibit rudimentary or cursory familiarity with concepts about our writing system that are insufficient for teaching children. Surveys

measuring experienced teachers' ability to identify speech sounds, spelling patterns, and word structures reveal confusions that are typical of most adults" (p. 12). Moats, therefore, believes that these beginning teachers must have an understanding of the terminology if they are going to be able to teach effectively. Pearson (2001), however, disagrees with this 'black and white' stance on reading and language. He does not view language as static, as a "set of objects out there that one could accumulate" (p. 14); rather, he states that language has a "dynamic, dialogic quality that we know . . . when we see it in use" (p. 14). Pearson encourages teacher candidates to explore and develop a deep understanding of language as it relates to reading instruction.

Conclusion 2: Both the coursework and field experience appeared to be critical elements of the teacher preparation programs, allowing teacher candidates in both the MAT and PY programs to gain knowledge of concepts and put into practice what they learned, thus helping to prepare them to teach reading.

The findings from the *Survey of Perceptions* show that, based on the instruction teacher candidates received in their university reading courses, teacher candidates generally perceived themselves as being prepared to teach reading. Looking at 15 specific areas of instruction or assessment – with topics ranging from fluency instruction to facilitating class discussions related to a trade book to differentiating instruction based on assessment data – teacher candidates from both programs rated themselves as prepared to teach or use these concepts in their own classrooms. Teacher candidates found specific – and varied – course activities to be of critical importance to their personal development as reading teachers, once again indicating that coursework contributed to their understanding and knowledge of reading instruction and perceived readiness to teach reading.

The majority of teacher candidates from both programs believed that their field experience was extremely useful as it related to teaching reading, with several stating that it gave them the opportunity to gain hands-on experience and put into practice what they had learned in theory in the classroom. The University's integration of field work with coursework, regardless of program, is supported by the research, which shows that integrating coursework and field placements help students more than having either occur independently (Commeyras et al., 1993; Cox et al., 1998; Hedrick et al., 2000; Linek et al., 1999; Massey, 2003).

Research also indicates that pre-services teachers' confidence in teaching ability is linked to their experiences working in the field with struggling readers (Duffy & Atkinson, 2001). Several teacher candidates within the MAT program noted that their work tutoring struggling readers during the semester in which they were enrolled in their Intermediate reading course was the most important activity in which they participated while at the University.

In addition, several teacher candidates in the MAT program valued specific experiences (e.g., tutoring struggling readers) that differed from those valued by PY teacher candidates (e.g., basal reading assignment). Though these experiences may have been very different, they were given nearly equal importance by teacher candidates. This shows that, while experiences may be different, teacher candidates can identify their value and benefit from each.

The equal attention given by teacher candidates from both programs to the coursework and field experience indicates the necessity of both. This research shows that teacher programs, while incorporating valuable field experiences, should not be entirely 'experience-based'. Teacher candidates in the MAT and PY programs not only gained knowledge from their coursework, they perceived the work they did in these courses as having been critical in preparing them to teach reading.

Conclusion 3: Collaboration among members of Frazier's triad (1997) – teacher candidate, mentor teacher and university supervisor – as well as with other school personnel, was present for teacher candidates in both the MAT and PY programs, but the perceived usefulness of this experience was varied.

Teacher candidates, regardless of program, stated that they collaborated with their university supervisor and mentor teacher on various occasions throughout the duration of their field placement, and that this collaboration usually occurred after formal observations. However, not all experiences were useful. Some teacher candidates noted that their university supervisor did not have a complete understanding of the program and was therefore not always helpful in aligning what was taught at the university with what occurred in the field. At times, the opposite was true: some teacher candidates responded that their supervisor was extremely knowledgeable and would make a point of discussing course material with the teacher candidate and encouraging its application in the field.

Working in the field required teacher candidates to work closely and collaborate with their mentor teacher. However, not all teacher candidates noted the importance of this work. One possible explanation is that, in responding to the question on the *Survey of Perceptions*, teacher candidates were reflecting on formal collaborative meetings – such as the ones that occur after an observation – and not their day-to-day interactions. While some teacher candidates may not have perceived themselves as having a good relationship with their mentor teacher (different belief systems, teaching styles, etc.), it may be that some of these teacher candidates did not take into account the daily interactions they had with their mentor teachers regarding reading instruction. Perhaps if they had, they would have noted that there was more collaboration

regarding reading than they had originally thought, and that these collaborative experiences were positive.

Collaboration with other people also occurred. Teacher candidates from the MAT and PY programs noted that they worked collaboratively with other teachers at their field placement, as well as special service providers such as Special Education teachers and Reading Specialists. Teacher candidates noted that they would have liked more of an opportunity to collaborate with their peers, in order to share their thoughts and ideas and support one another in the classroom. This type of collaboration is encouraged by several researchers, who state that collaboration between pre-service teachers within a program is just as important as collaboration among the members of Frazier et al.'s (1997) triad, and that working together, pre-service teachers can learn and practice new teaching strategies (Nierstheimer, Hopkins, Dillon & Schmitt, 2000) and gain general knowledge regarding literacy instruction (Wedman, Kuhlman & Guenther, 1996).

Conclusion 4: Reflection was an integral component of both the MAT and PY programs, and teacher candidates saw great value in this process.

With continuous reflection, pre-service teachers consider the reasons behind why they teach specific literacy skills and use specific teaching strategies and techniques (Fazio, 2000). Teacher candidates reported being asked to reflect on their coursework and experiences in their field placement, and the vast majority of them felt it was a beneficial process, allowing them to reflect on what they know and how to apply it to their work with students, as well as to assess their interactions with students and make improvements where needed. However, a few teacher candidates questioned its usefulness, stating that more guidance was needed. It is important that teacher educators not only encourage teacher candidates to reflect, but provide them with reasons

as to *why* one must reflect on one's practices – and even more important, provide them with a structure for reflecting.

Conclusion 5: As evidenced by the findings from the follow-up *Survey of Perceptions* and phone interviews, recent graduates of the MAT and PY programs are positive about their experiences at the University; however, as new teachers, they are more aware of what they do not know and are able to identify their limitations.

Few research studies have followed teacher candidates from their preparatory programs into their full-time teaching jobs; Maloch et al. (2003) are an exception. Maloch et al.'s work describes the importance to teacher preparation program graduates of such program traits as "college classroom practices, field experiences, and the knowledge base gained from coursework" (p. 449). The subjects in her study were recent graduates of a teacher preparation program; at the time of data collection, they were beginning teachers. Based on their experiences at their university, Maloch et al. found that subjects believed their preparation program greatly prepared them to teach reading.

By conducting a follow-up survey with MAT and PY graduates, it was determined that they still believed, given all their new experiences, their graduate program prepared them well. There were however, some areas in which they felt the University could have helped them more. For example, now having gained more real-world experience, teacher candidates from both programs agree that more instruction on working with students with diverse needs would have helped them better adjust to their current teaching situations. Additionally, teacher candidates indicated that they would have liked to have had more instruction on how to teach spelling and writing. Given their current experiences, classroom management was also an area in which teacher candidates from both programs indicated there was a need for continued work.

Teacher candidates, in general, perceived themselves as being less prepared to teach all areas of reading instruction and assessment measured on the *Survey of Perceptions* at this point in time than they did immediately after completing their respective programs. This is not entirely surprising, given the demands first-year teachers face and the reality check that they get when they have a classroom of their own. Faced with, among other things, having to manage an entire classroom all day by oneself, being responsible for instruction in all academic areas, assessing and reporting on students' progress, it was not unexpected that recent graduates of the MAT and PY programs now perceive themselves as less prepared to teach reading. Comments made by teacher candidates in both programs clearly illustrate their appreciation of their program and what their various experiences taught them about teaching reading.

5.3 DISCUSSION

How does one measure the success of a teacher preparation program? This research study employed the use of a quantitative measure, the *Knowledge Inventory*, as well as qualitative measures, which included the *Survey of Perceptions*, *Follow-up Survey of Perceptions* and phone interviews. There are of course other ways in which to measure a programs' success, some of which are brought to light after examining the assessment measures used here, as well as the data that were collected.

5.3.1 The Instruments

Though they provided valuable results, the *Knowledge Inventory* and *Survey of Perceptions* were just two ways of measuring the success of the MAT and PY programs; several other measures could have been used. For example, though the *Knowledge Inventory* provided important data regarding the knowledge MAT and PY teacher candidates have concerning reading instruction and assessment, a collection of work samples may have provided the same information. Teacher candidates that did not perform well on the assessment for various reasons – they have difficulty with multiple choice tests; they did not understand some of the language – may have been better able to demonstrate their knowledge through a portfolio assessment. Likewise, individual interviews with teacher candidates may have yielded valuable results that could have been used in place of those obtained by the *Survey of Perceptions*.

5.3.2 The Follow-Up Data

One critical element of this study was the follow-up portion; by administering assessments and interviewing teacher candidates after they had gained experience in their own classroom, valuable information was gathered regarding the quality of the MAT and PY preparatory programs. Without such a follow-up, teacher candidates' validating remarks would not be heard and the successes of the MAT and PY programs would be less clear. While the follow-up data indicate that teacher candidates from both programs perceived themselves as being somewhat less prepared to teach reading than they were when they completed their respective program, this does not mean that the programs were unsuccessful in educating teacher candidates. It is not surprising that respondents felt this way, given the demands of being a first-year teacher. No

longer do these respondents have the luxury of concentrating on a small number of students or a few specific areas of instruction as they did as teacher candidates; they are now responsible for all of their students' learning on a daily basis. The demands of such daily tasks as managing the classroom, planning instruction and assessing can be overwhelming for teachers, especially those new to the profession. The lowered perceptions reported by graduates of the MAT and PY program most likely reflect, in part, some of their stress in dealing with these demands.

The follow-up portion of this study also provided information regarding the unmet needs of teacher candidates that they only discovered after leaving their program. Without such a follow-up, important feedback would be lost. Teacher candidates made several suggestions as to areas in which they feel they would have benefited from more instruction, such as working with diverse learners (struggling readers, students with Special Needs, and English Language Learners). Regarding the field experience, although teacher candidates stated on the follow-up survey how valuable their field experience was, many of them noted areas of improvement regarding this aspect of their program, such as spending more time in the field and having the opportunity to work with students at different grade levels. Additionally, teacher candidates made it clear that they would have liked to have more collaborative opportunities with their peers, and noted that their supervisors were not always knowledgeable of their program requirements and professional needs.

5.3.3 Limitations

It is important that the limitations of this study be noted. They include: teacher candidate knowledge upon entering the program; the *Knowledge Inventory* and its time of administration; and follow-up participation.

It is unknown what knowledge of reading instruction and assessment MAT and PY teacher candidates possessed upon entering their respective program because they were not given a pre-test. Therefore, it is difficult to determine their knowledge growth in the area of reading over the course of their time spent at the University.

Second, the *Knowledge Inventory* is a pencil-and-paper multiple choice test that was designed by researchers with the Florida Center for Reading Research for use in evaluating teachers' knowledge of reading instruction and assessment prior to and after participation in professional development seminars. While this assessment device is one source of information, it reflects only one's knowledge and does not at all assess a teacher candidate's ability to perform effectively as a teacher. This measure, however, provides important information about what teacher candidates know about reading instruction because it is based on research on effective reading instruction. Moreover, it was an instrument that could be used in this study because of its ease of use and the relatively short amount of time it takes users to complete. Additionally, though the *Knowledge Inventory* was developed to be administered to teachers involved in Reading First (focusing on grades K-3), it addresses the critical areas identified by the NRP that all teachers need to understand if they are going to be effective teachers of reading in the elementary schools. Also, when the test of knowledge was administered to teacher candidates, it was administered at the end of their program, which may have been a less-than-ideal time. While administering the *Knowledge Inventory* at this time captured their level of reading instruction knowledge after completing their program, one wonders how much thought teacher candidates put into it given their other possible concerns (e.g., finals, graduation, job searches).

Finally, while the data obtained from the follow-up survey and telephone interviews were extremely useful, a larger number of participants would have been desirable. The findings from

the telephone interviews were important in corroborating and elaborating on some of the findings from the follow-up survey; more participation in this area would have provided additional valuable anecdotal information. Despite numerous attempts at contacting teacher candidates, however, it was impossible to obtain more participants given the entirely voluntary nature of this stage of data collection.

5.3.4 The Value of Measuring a Program's Effectiveness

Currently, Schools of Education across the nation are under fire for not adequately preparing their teacher candidates in the area of reading. In 2006, the National Council on Teacher Quality published their executive summary, *What Education Schools Aren't Teaching About Reading and What Elementary Teachers Aren't Learning*, which looked at reading course syllabi from 72 institutions across the country in order to "grade" each institution on how well it prepared its pre-service teachers in the area of reading instruction. The researchers were interested in determining, based on syllabi content alone, which universities taught the science of reading; that is, which of the 72 universities spent time teaching the crucial components of reading instruction – phonemic awareness, phonics, vocabulary, fluency and comprehension. According to their findings, only 11 of the 72 institutions in this study taught all five crucial components of reading instruction; nearly half of all schools included in this research failed to teach, based on the syllabi, any of the five components of reading instruction in the required reading courses offered at their institution. The National Council on Teacher Quality asserts that Schools of Education are doing a poor job educating their teacher candidates, and that universities need to take a serious look at the programs they offer and make major changes if they are to prepare quality teachers of reading.

Based in their own self-reports, teacher candidates from both the MAT and PY programs perceived themselves as being prepared to teach reading both immediately upon completion of their respective program and after teaching in their own classroom for several months. Though teacher candidates obtained average scores on the *Knowledge Inventory* similar to those of experienced teachers, higher scores on the assessment would have been desirable. This research illustrates the successfulness of two teacher preparation programs offered at just one university. Because teacher education, especially in the area of reading instruction, is such a hot topic at the present time, it is imperative that other Schools of Education participate in similar research – research that illustrates what teacher preparation programs are teaching their students and the positive outcomes of this instruction.

5.4 IMPLICATIONS

There are few – if any – ways in which MAT and PY teacher candidates differed in their knowledge of literacy instruction and assessment or their perceived readiness to teach reading based on their experiences in their respective programs, both near the time of graduation and after teaching in their own classroom for nearly half a year. No matter how the data were analyzed, the few ways in which teacher candidates from the two programs differed do not seem to be significant. What is important is that, generally speaking, teacher candidates learned how to teach reading, believed they learned how to teach reading, and after getting into their own classroom, <u>still</u> believe they know how to teach reading, given their teacher preparation program. However, this research has several implications for how the programs could be more effective at

educating teacher candidates, which have been derived both from the results of the *Knowledge Inventory* as well as from teacher candidate self-reports from both administrations of the *Survey of Perceptions* and the phone interviews.

Though there was little difference between knowledge base of teacher candidates in the different programs offered at the University, it is clear from their scores that all teacher candidates would benefit from further instruction in all areas of reading. Teacher candidates' knowledge base needs to be expanded, and they have to have a solid understanding of the components of reading instruction if they are to be effective teachers of reading. Specific areas in which there is a demonstrated need include instruction in spelling and writing. University professors need to make many difficult decisions when planning their courses – determining how much time to spend on specific topics is one such decision. By using the findings from this study to inform their decisions, professors can make their courses more beneficial for their students by addressing teacher candidates' concerns and matching instruction to meet their needs. It may also be beneficial to add more reading-focused courses to the MAT and PY program. For example, teacher candidates – particularly those from the MAT program – noted their experience tutoring readers as being meaningful to their development as reading teachers. Using this feedback to enhance both teacher preparation programs, courses that require teacher candidates to tutor struggling readers could be added to the program requirements; these courses would allow teacher candidates to gain more experience working with students and reinforce their understanding of the content material.

The results of the *Survey of Perceptions* also indicated a need for more instruction in: teaching teacher candidates how to use formal and informal assessments, as well as how to differentiate their instruction based on the outcome of these assessments; classroom management

strategies; and accommodating instruction to meet the needs of diverse learners (struggling readers, students with Special Needs, and ELL students). The latter need may warrant an additional course added to the course requirements. As Karie stated in her telephone interview, she would have benefited from more instruction in Special Education given her current teaching situation. More work that specifically addresses developing and/or accommodating reading instruction to meet the needs of diverse learners would benefit all teacher candidates.

It is also important that teacher candidates are paired with supportive mentor teachers that share the beliefs presented during University instruction. Mentor teachers and university supervisors must be purposefully chosen; these members of the teaching "triad" need to not only understand the programs themselves, but they must understand their roles within the program and share similar instructional and educational beliefs.

Reflection, while an important process, needs to be clearly defined for teacher candidates. Teacher candidates need to know why they are reflecting and what they should do with the information they gather. Again, they must be given guided practice for reflection, be provided with specific questions on which to reflect, and share their reflections with their peers in order to learn more (Bean, 1994; Swafford, Peters & Lee, 1998). The process of reflection can be compared to using assessment data to drive instruction. First, teachers choose a topic or subject on which to assess students' abilities; next, they administer the assessment and collect data; then they use the data to drive further instruction. So should go the process of reflection. Teacher candidates need to reflect on a specific action or topic; next, they must look at what their reflection is telling them. For example, was the lesson successful? What would I change about the lesson? Finally, teacher candidates must take what they have learned from their reflection and apply it to their future actions. Simply thinking about a topic and identifying areas of change

does not improve one's quality as a teacher. This knowledge must be applied, and teacher candidates need guidance on how to do this.

The overall findings of this research indicate there is a real value in having both programs offered at the University. One of the most important benefits of offering these two teacher preparation programs is that the University is able to make the teaching profession accessible to a wide variety of people with differing needs. Prospective teacher candidates can choose the program that best fits their current situation – i.e., lifestyle, financial needs – and be sure that they are getting a quality education. For example, teacher candidates that are unable to commit to attending classes at the University for a full year because of family or financial commitments, should not have to settle for a lesser program because of these needs or concerns – and based on the findings of this study, they are not. Teacher candidates can rest assured that the preparation they receive at the University and in the corresponding field experience provides them with a good foundation of reading knowledge, preparing them to enter their own classroom as confident teachers of reading. While the results of the different assessments indicate possible areas of improvement in each program, MAT and PY teacher candidates appear to have been equally well prepared, at least on the test administered. On average, teacher candidates' knowledge base is similar as indicated by the results of the *Knowledge Inventory*; the original and follow-up *Survey of Perceptions* indicated that teacher candidates from the MAT and PY programs perceive themselves as being equally well prepared to teach reading.

However, though there are benefits of having two program options available to prospective students, the findings from the *Knowledge Inventory* lead one to question if the degrees awarded to students upon completion of their respective programs are warranted. If a teacher candidate from the PY program has the same understanding of the concepts of reading

instruction and assessment as a teacher candidate from the MAT program, why does one graduate with a certificate while the other graduates with a Masters Degree? Teacher educators in the field of reading need to weigh these findings carefully and use them to guide the development of such programs.

Additionally, teacher educators in the field of reading need to use the findings from the *Knowledge Inventory* and *Survey of Perceptions* to guide their course planning. It is important to note how teacher candidates from various programs – ones that include more or less time in the field working with students, for example – evolve as learners over time. While it is crucial that teacher educators have high expectations and require students to complete various programs possessing a similar level of understanding of specific reading content, it is unrealistic for teacher educators to expect that teacher candidates reach these 'knowledge milestones' at the same time. For example, MAT teacher candidates may become more proficient at teaching a specific skill sooner than PY teacher candidates given their extended amount of time spent in the field; teacher educators should take this into consideration when planning their courses.

The data from this study indicate the need for strong induction programs for first-year teachers. Though teacher candidates perceive themselves as being well-prepared to teach reading, they require additional support to be effective teachers. Shanker (1996) states that, in induction programs, "new teachers are inducted into the profession in a systemic way. Once they start teaching, they are able to develop and perfect their skills by relying heavily on the expertise of their more experienced colleagues" (p. 222-223). Based on the results of the *Knowledge Inventory* and the *Survey of Perceptions*, teacher candidates from the MAT and PY programs would greatly benefit from participation in an induction program – one that would not

only help build on the knowledge they already have concerning reading instruction, but that would also help build their burgeoning confidence in delivering such instruction.

5.4.1 Further Research

Further research must be conducted, especially research with follow-up components, to determine the long-term effectiveness of teacher preparation programs in regards to preparing candidates to teach reading. Trying to understand why teacher preparation programs are successful is extremely important since the findings can and should be used to guide these programs to become more complete as well as to meet the needs of the teacher candidates they serve.

Research indicates the critical elements of effective teacher preparation programs as being coursework with an integrated field experience (Commeyras et al., 1993; Duffy & Atkinson, 2001; Fang & Ashley, 2004; Linek et al., 1999), collaboration with others (Dowhower, 1990; Frazier, Mencer & Duchein, 1997; Nierstheimer, Hopkins, Dillon & Schmitt, 2000; Wedman, Kuhlman & Guenther, 1996) and reflection (Fazio, 2000; Hedrick, McGee & Mittag, 2000; Mallette, Kile, Smith, McKinney & Readence, 2000; Weinstein, 1990). The findings of this research indicate that, when these components are in place, teacher candidates are knowledgeable of the subject matter and perceive themselves as being generally well-prepared to teach reading. Further research into the successfulness – both short- and long-term – of various teacher preparation programs is necessary to improve these programs so that Schools of Education are preparing the best teacher candidates possible.

Four possible future studies include: investigating what factor age, and thus possibly experience, plays in the knowledge and perceived readiness to teach reading of teacher

candidates; incorporating additional assessments into a similar study; assessing MAT and PY teacher candidates' ability to teach reading lessons in the field, given their known knowledge of the material and perceived readiness to teach reading; and building upon the results of the current study to put the suggested program improvements into action.

When looking specifically at PY teacher candidates' scores on the *Knowledge Inventory* and their ages, it was clear that the higher scoring teacher candidates were, on average, older than the lower scoring teacher candidates in this program[43]. An investigation into the varied prior experiences of teacher candidates in this program may lend interesting insight into their individual success in this particular field.

By administering the *Knowledge Inventory* as a pre-test at the start of each program as well as a post-test at the end, researchers would be able to measure what knowledge of reading teacher candidates entered the program with and what knowledge gains they made over the course of their respective programs. Continued efforts need to be made, however, in building a knowledge test that addresses all components of the reading process. Additionally, two other ways of assessing teacher candidates' knowledge include field observations and the collection of work samples. By adding these two measures, the limitations of a pencil-and-paper test of knowledge are not in place; teacher candidates are assessed not just on what they know in theory, but on what they can put into practice.

Building on the idea of incorporating additional assessments, the use of observation would more concretely illustrate their preparedness to teach reading. Teacher candidates may perceive themselves as being prepared to teach reading, but does what they do in class with students illustrate these perceptions? By conducting field observations, researchers would be

[43] The opposite was true for teacher candidates in the MAT program.

able to identify a link between what teacher candidates *think* they can do and what they *actually* do regarding reading instruction.

Finally, building upon the results of the current study by putting the suggested program improvements into action is an important next step in the process of improving teacher education programs. The areas of need identified by the teacher candidates that participated in this administration of the *Knowledge Inventory* and original and follow-up *Survey of Perceptions* need to be addressed in the planning of courses and field work in both the MAT and PY programs. Then, once modifications to the programs have been made, assessing the new cohort of teacher candidates and comparing *Knowledge Inventory* scores and perceptions of readiness to teach reading would allow researchers to determine how effective the changes were, as well as where more changes need to be made.

APPENDIX A

KNOWLEDGE INVENTORY[44]

Questions on the *Knowledge Inventory* have been labeled according to the category to which they belong. The key is as follows:

Phon. – Phonics
PA – Phonemic Awareness
Comp. – Comprehension
Vocab – Vocabulary
Fluen – Fluency
Inst. – Instruction
Assess – Assessment

[44] Obtained from and used with the permission of the Florida Center for Reading Research, 277 N. Bronough St. Suite 7250, Tallahassee, FL 32301; http://www.fcrr.org; 850-644-9352

Comp. 1. Bloom's Taxonomy can be used to assist the kindergarten teacher in: (comprehension)

a. organizing learning centers

b. describing student work

c. developing questions for read-aloud discussions

d. planning instructional formats

Phon. 2. Which of the following words has a digraph?

a. bake b. flip c. stop **d. chip**

Vocab 3. Vocabulary knowledge is a significant predictor of:

a. ability to exhibit on-task behavior

b. ability to understand whole-part relationships

c. reading success

d. all of the above

Phon. 4. Which sentence describes helpful classroom strategies for struggling readers?

a. During small-group reading instruction, the teacher always reads the story first to ensure comprehension

b. During small-group reading instruction, place struggling readers with higher performing readers to increase their motivation

c. During small-group reading instruction, provide instructional level decodable tests so that students have the chance to apply alphabetic principle

d. During small-group reading instruction, provide frustration level texts so that the teacher has many opportunities to scaffold instruction

Comp 5. Which of the following sentences does not apply to graphic organizers?

a. Graphic organizers increase understanding of the decoding process.

b. Graphic organizers provide a means to scaffold understanding.

c. Graphic organizers can increase understanding of words and concepts.

d. Graphic organizers provide visual and contextual support.

PA 6. Which sound is the onset of the word big?

a. /ig/ **b. /b/** c. /g/ d. /i/

Phon. 7. Effective reading instruction includes explicit, systematic instruction in: blending letter-sound correspondences, recognizing high frequency and irregular words, using common spelling and syllable patterns, and structural analysis. These are examples of:

a. phonics and word family instruction

b. phonics and word study instruction

c. phonics and word analogy instruction

d. word analogy and word family instruction

Phon. 8. Students who are struggling readers benefit from all of the following except:

a. explicit instruction in phonemic awareness and the alphabetic principle

b. more instructional time with many opportunities to respond

c. implicit instruction in phonics

d. decodable texts that enable them to apply the skills they are learning

PA 9. How many phonemes are in the word straight?

a. 4 b. 6 **c. 5** d. 8

Vocab 10. un-, con-, est and morph are all examples of:

a. irregular words

b. rime

c. morphemes

d. graphophonic knowledge

Comp 11. Being aware of one's own thinking processes during reading, such as focusing one's attention, noticing when one is not understanding what is read, and processing information is known as:

a. metacognition

b. implicit thinking

c. explicit thinking

d. think aloud

PA 12. Phonological awareness:

a. involves segmenting, blending and manipulating sounds of written words

b. refers to the more general understanding of the sound structure of words and sentences

c. develops naturally and cannot be taught

d. involves helping children to understand that the sequence of letters in written words represents the sequence of sounds in spoken words

Phon. 13. Identify the definition of a morpheme:

a. smallest unit of sound

b. smallest unit of meaning

c. a word with multiple meanings

d. a spelling pattern

PA 14. During a phonemic awareness lesson, the teacher says "/m/ /a/ /p/." Then, the students say, "map." The students are:

a. segmenting

b. manipulating

c. blending

d. sounding out

Phon. 15. If a 3rd grade student is reading test with 93% accuracy level, he is:

a. reading at his independent level and should be encouraged to read books at this level independently

b. reading at his instructional level and should be encouraged to read books at this level independently

c. reading at his independent level and you should use this level of text for reading instruction

d. reading at his instructional level and you should use this level of text for reading instruction

PA 16. Phonemic awareness is the knowledge that:

a. the words we speak are composed of individual sounds

b. the sequence of letters in written words represents the sequence of sounds in spoken words

c. the words we speak are composed of morphemes

d. phonemes are meaningful units of sound

Phon. 17. Which word includes a consonant blend?

a. train b. shout c. chip d. watch

Comp 18. Select the item that does not belong in the comprehension activity referred to as reciprocal teaching:

a. summarizing

b. asking questions about the text

c. predicting what might happen next in the text

d. first letter mnemonic

Fluen 19. Prosody is the ability to:

a. speak a foreign language

b. read for meaning

c. read with proper expression

d. decode text quickly

Comp 20. Which of the following statements is not true of effective 3rd grade comprehension strategy instruction?

a. Students can learn to use strategies flexibly.

b. Effective comprehension instruction is explicit.

c. It is best taught implicitly.

d. It can be taught through cooperative learning.

Comp 21. Identify the item below that is an example of research-based multiple-strategy comprehension instruction:

a. visualization

b. cloze procedure

c. scaffolding

d. repeated reading

Vocab 22. According to research, which of the following is not one of the ways that students learn meaning of words indirectly?

a. through conversation with other people, especially adults

b. repeated exposure to active word-building sequences

c. by reading extensively on their own

d. through listening to adults read to them

Fluen 23. An effective approach to increase students' reading speed is:

a. round robin reading

b. chunking

c. choral reading

d. repeated reading

Phon. 24. The teacher has students review and practice previously taught letter-sound correspondences, read words containing those same correspondences, and then has the students write words using those same letters. Writing during reading instruction:

a. will be confusing for struggling readers

b. helps students to apply the alphabetic principle

c. helps students recognize onset and rime

d. should only occur occasionally

PA 25. Which of the following demonstrates correct segmenting of the individual sounds in the word big?

a. /buh/ /i/ /guh/

b. /b/ /i/ /g/

c. /b/ /ig/

d. a and b

PA 26. Teacher: "Listen as I say some words. Tell me which words begin with the same sound: big, boy, house." This is an example of:

a. teaching phonemic awareness

b. teaching the alphabetic principle

c. phonics instruction

d. none of these

PA 27. How many phonemes are in the word three?

a. two **b. three** c. four d. five

PA 28. What type of task is the following? Teacher: "I'm going to say a word and I want you to say the word one sound at a time: tap." Students respond: "/t/ /a/ /p/."

a. rhyming

b. deletion

c. segmentation

d. blending

PA 29. Which word has the same phoneme as the first phoneme in top?

a. those b. listen **c. mixed** d. although

Phon. 30. Teaching students letter-sound correspondences:

a. prepares them for decoding words

b. is not an important pre-reading skill

c. is a phonemic awareness activity

d. should always occur in the context of whole words

Vocab 31. Morphemic analysis could be helpful when determining the meaning of which of these words?

a. untie

b. strategies

c. clues

d. which

Phon. 32. Which of the following sets of words is phonetically regular?

a. mat, done, cake

b. have, in, had

c. the, said, rake

d. mat, in, shape

Phon. 33. The understanding that the sequence of letters in written words represents the sequence of phonemes in spoken words refers to:

a. phonological awareness

b. phonemic awareness

c. the alphabetic principle

d. letter combinations

Phon. 34. To provide 2nd grade students practice with automatic recognition of high frequency, irregular words, teachers can create sight recognition activities using words such as:

a. when, want, which

b. ball, fan, rare

c. because, does, again

d. light, weight, my

Vocab 35. Vocabulary is important to the reading process because:

a. it ensures instant sight word recognition

b. readers need useful decoding strategies

c. it enables readers to increase fluency

d. readers must know what most of the words mean before they can understand what they are reading

Vocab 36. Which words from a story should a teacher identify to use for vocabulary instruction?

a. high frequency and useful words

b. words identified by the teacher's edition

c. high frequency and difficult words

d. important, useful, and difficult words

Comp 37. Narratives:

a. have no particular structure

b. are lists, descriptions, and explanations

c. are stories that include elements of story grammar

d. are equivalent to fiction

Inst. 38. The majority of children who struggle when learning to read:

a. will profit the most from reading instruction that provides them with meaningful experiences reading and writing and lets them discover most skills on their own

b. need systematic and explicit instruction in vocabulary and comprehension strategies, but should be able to acquire basic word reading skills as they practice reading meaningful stories

c. need systematic instruction in phonemic awareness and phonics to become accurate readers, and then will learn the vocabulary they need from extensive reading

d. need systematic instruction in both word reading skills and in vocabulary and comprehension strategies in order to become good readers by 3rd grade

PA 39. If you want to give students practice with auditory segmentation of four-phoneme words so that they can represent all of the speech sounds in one-syllable words, you could have them practice this skill with the following words:

a. shape, test

b. please, brain

c. sharp, straight

d. all of the above

PA 40. Phonemic awareness is the knowledge that:

a. the sounds in words are represented by letters

b. the words we speak are composed of individual sounds

c. the alphabet in important when learning how to read

d. we have an alphabetic language

PA 41. What is the third phoneme in does?

a. /s/ **b. /z/** c. /e/ d. /u/

Phon. 42. Each student orally reads a grade level passage as the teacher records word accuracy. Which student was reading at his/her instructional level?

a. Amy, 96%

b. Jose, 94%

c. Michelle, 89%

d. Mary, 88%

Phon. 43. A word that contains an open syllable is:

a. cake b. pain c. ferment **d. veto**

Fluen 44. Which of the following scenarios would best help students build reading fluency?

a. During whole group instruction, the teacher calls on one student at time to read a section of text

b. Each student chooses a book to read independently and silently

c. In pairs, students orally read text assigned by the teacher

d. The teacher reads aloud from a book as the students sit and listen attentively

Assess 45. A test that is reliable is one that:

a. can be administered by a professional

b. gives consistent results

c. is also valid

d. has many forms to monitor student progress

Comp 46. Which of the following is not a component of Reciprocal Teaching?

a. visualizing

b. summarizing

c. clarifying

d. questioning

Comp 47. The K-W-L comprehension strategy is designed primarily to be used with:

a. all types of text

b. narrative text

c. expository text

d. difficult text

Comp 48. For K-3 students who have not yet learned to read well, the following statement is true:

a. Reading and listening comprehension are about the same.

b. Reading comprehension is better than listening comprehension.

c. Reading and listening comprehension are independent of each other.

d. Listening comprehension is better than reading comprehension.

Fluen 49. Fluency can best be defined as:

a. speed, accuracy, and expression

b. speed of reading

c. speed and expression

d. accuracy and expression

Inst. 50. Offering students the support they need to accomplish tasks includes sequencing skills, modeling and explaining thinking processes, and providing corrective feedback. This type of support is called:

a. assisted learning

b. scaffolding

c. constructive learning

d. explicit support

APPENDIX B

SURVEY OF PERCEPTIONS

Name: _____

Teacher Candidate Survey of Perceptions

The purpose of this survey is to obtain your perceptions about how well prepared you are to **teach reading and the other language arts**. The survey has been divided into four sections: general information, coursework, field placement, and supportive interaction with others. Please answer each question as clearly and honestly as possible, providing specific details when asked. **Questions are printed on both the front and back of each page.**

Part I: General Information

1. Please put a check next to the teacher preparation program in which you are enrolled:

MAT _____ PY _____

2. Please indicate the name of the school and school district where you spent your student-teaching placement:

School Name: _____

School District: _____

3. Please indicate the grade level at which you were teaching during your student-teaching placement. Circle all that apply:

K 1 2 3 4 5 6 7 8

Combination* Working with Reading Specialist

**If working in a combination classroom, please indicate grade levels*: _____

Part II: Coursework

The following section addresses your reading coursework experiences. Please answer the questions based only on the experiences you have had in your **reading courses** while enrolled in the PY or MAT program at the University of Pittsburgh. Those required courses include: I&L 2206, Reading and Language Arts in the Primary Grades, and I&L 223, Reading and Language Arts in the Intermediate Grades.

4. Please check the appropriate box indicating your level of preparedness to deliver each specified form of instruction or assessment. The code is as follows:

0 = I am definitely not prepared

1 = Although I am familiar with this term or idea, I am hesitant about teaching this

2 = I am somewhat prepared; I could handle this with support from a manual or a mentor

3 = I am definitely prepared

After responding to each form of instruction, please provide an example of an instructional approach that you would use.

Based on your experiences in your reading courses, how well prepared do you feel you are to deliver or develop:	**Level of Preparedness**				**Please provide an example of an <u>instructional approach</u> that you would use:**
	0	**1**	**2**	**3**	
Phonemic awareness instruction					
Phonics instruction					
Comprehension instruction					
Vocabulary instruction					
Fluency instruction					
Spelling instruction					
Writing instruction					
A sequence of lessons from a basal reading program					
Discussions about a story from a basal reader					
Discussions related to a trade book, chapter book or novel					
Activities related to a trade book, chapter book, or novel					
Formal assessments (i.e., norm referenced)					
Informal assessments (i.e., informal inventory, curriculum-based measures, etc.)					
Students' interest in reading or motivation to read (using appropriate texts, selecting materials that reflect student interest, etc.)					
Differentiating instruction based on assessment data					

5. What was the most important assignment or activity in either of your **reading courses**? Please explain why.

_____

_____

_____

6. What was the most important resource (text, handout, etc.) you obtained in either of your **reading courses**? Please explain why.

_____

_____

_____

7. In your **reading courses**, were you required to reflect on any of the work you had done?

Yes No

If yes, please provide examples of the type of reflection(s):

_____

_____

_____

8. How useful did you find the reflection process to be? Circle one:

Extremely useful Somewhat useful Not useful at all

If you circled **"Extremely useful"** or **"Somewhat useful"**, please explain why:

_____

_____

_____

If you responded by circling **"Not useful at all,"** please state what you think would have made it more useful:

_____

_____

_____

Part III: Field Placement

The following questions address experiences you have had in your field placement. Please be as detailed as possible when answering.

9. Looking specifically at **instruction in reading and the other language arts**, how closely related were your experiences in the field to what you were learning in class? Circle one:

Totally related Somewhat related Not related at all

Please provide an example to support the description that you circled.

_____

_____

_____

10. When you learned something in one of your **reading** courses, were you able to directly apply it to your field experience? Circle one.

All the time More often than not Sometimes Never

Please provide an example to support the description that you circled.

_____

_____

_____

11. In what ways did your thinking about the **teaching of reading and the other language arts** change over time (from the beginning of your placement) to present?

_____

_____

_____

12. Were your mentor teachers' **beliefs about reading instruction and approaches to teaching reading and the other language arts** closely related to those of your University reading instructors? (i.e., did you feel he or she "meshed" with what you were learning in class?). Circle one:

Not related at all Somewhat Very close

Please explain:

_____

_____

_____

13. **Overall**, how useful was your field experience as related to **teaching reading and the other language arts**? Circle one.

Extremely useful Somewhat useful Not useful at all

Why?

_____

_____

_____

14. **In general**, what would you change about your field placement, especially **as related to teaching reading and the other language arts** (i.e., duration, placement site)? Please explain why you would make these changes.

_____

_____

_____

15. **In general**, what did you find most rewarding about your field placement **as related to teaching reading and the other language arts**?

_____

_____

_____

16. Were you required to reflect on any of the work related to reading instruction and instruction in the other language arts that you did in your field placement? Circle one:

Yes No

If you answered **yes**, please provide examples of the type(s) of reflection(s):

_____

_____

_____

17. How useful did you find the reflection process to be? Circle one.

Extremely useful Somewhat useful Not useful at all

Why?

_____

_____

_____

If you responded by circling **"Not useful at all,"** please state what you think would have made it more useful:

_____

_____

_____

18. What was the nature of your reflective thinking? In other words, what types of ideas or actions were you asked to reflect upon (aspects of planning, instruction, nature of the learner, etc.)?

_____

_____

_____

Part IV: Collaboration with Others

The following questions address the collaboration that occurred during your time in the PY or MAT program between, you, your University reading instructors or supervisor and your mentor teacher. Please be as detailed as possible when answering the questions.

A. Collaboration with your University Supervisor

19. How often were you **observed** by your university supervisor while you were **teaching reading or the other language arts**? Circle one:

Two or more times

At least once

I was never observed teaching reading or the other language arts

20. How often did you **meet** with your university supervisor (i.e., weekly, monthly) to discuss **teaching reading and the other language arts**?

_____

_____

_____

21. What were the contexts of your meetings with your university supervisor about teaching reading and the other language arts (i.e., conferring after a lesson, you made an appointment, group meeting on-site or at the University)?

_____

_____

_____

22. What was the main role of your university supervisor related to **reading instruction and instruction of the other language arts** (i.e., observing, coaching, modeling, listening/providing support, other)?

_____

_____

_____

23. How helpful was your university supervisor at aligning (or drawing a connection between) what you did in your coursework with what you did on-site? Please explain.

_____

_____

_____

B. Collaboration with your Mentor Teacher and/or Others at the School Site

24. How often did you talk with your mentor teacher regarding **reading instruction and instruction of the other language arts**? Circle one:

Daily Weekly Monthly Never

What were the topics or issues you explored?

_____

_____

_____

25. Did your mentor teacher ever clarify or demonstrate teaching concepts about reading instruction or instruction of the other language arts that you may have been struggling to master? Circle one:

Yes No

If you answered **yes**, how helpful were his or her clarifications and/or demonstrations?

_____

_____

_____

26. Did you attend any professional development at your school site? Circle one:

Yes No

If you answered **yes**:

What were the topics?

_____

_____

_____

How helpful were these professional development sessions? Please explain your answer.

_____

_____

_____

27. Did **you**, **your mentor teacher and your university supervisor** ever meet as a group? Circle one:

Yes No

If you answered **yes**, why did the three of you meet?

_____

_____

_____

28. Did you ever collaborate with anyone else at your school site (other teachers, the principal, special educators, reading specialists, etc.)?

Yes No

If you answered **yes**, please state with whom you collaborated and why:

_____

_____

_____

C. Collaboration with your University of Pittsburgh Reading Instructors

29. Did you ever meet with any University of Pittsburgh **reading** instructors outside of class? Circle one:

Yes No

If you answered **yes**:

Why did you meet with them?

_____

_____

_____

Were they helpful? Please explain your answer.

_____

_____

_____

30. Do you have any other comments about coursework, field work, or collaborative efforts that you would like to share at this time?

_____

_____

_____

THANK YOU!

APPENDIX C

FOLLOW-UP SURVEY OF PERCEPTIONS

Follow-up Survey of Perceptions

The purpose of this survey is to obtain your perceptions about how well your education program (MAT or PY) prepared you to teach reading and the other language arts now that you are working in the classroom. The survey has been divided into five sections: general information, coursework, field placement, supportive interaction with others, and concluding comments. Please answer each question as clearly and honestly as possible, providing specific details when asked. **Questions are printed on both the front and back of each page.**

Part I: General Information

1. Username: _____

2. Are you: Female Male

3. Please put a check next to the teacher preparation program from which you graduated:

   MAT _____ PY _____

4. Where are you currently teaching?

   School Name: _____

   School District: _____

   State (if outside PA): _____

5. Is your school: Urban Suburban Rural

6. What grade level are you currently teaching? *If you are teaching at more than one grade-level, check all that apply and explain on the lines that follow:*

K 1 2 3 4 5 6 7 8

_____

_____

_____

7. If you are teaching a specific subject or population (science, math, ELL, Special Needs Students, etc.), please indicate so below:

_____

_____

_____

Part II: Coursework

The following section addresses your reading coursework experiences. Please take a moment to reflect on the experiences you had and knowledge you gained in your **reading courses** while enrolled in the PY or MAT program at the University of Pittsburgh. Those required courses include: I&L 2206, Reading and Language Arts in the Primary Grades, and I&L 223, Reading and Language Arts in the Intermediate Grades.

8. Please check the box that most appropriately indicates how well prepared you are to teach reading given the instruction you received in your reading courses at the University of Pittsburgh. The code is as follows:

0 = My reading coursework definitely did not prepare me

1 = Although I am familiar with this term or idea based on my coursework experiences, I am hesitant about teaching this

2 = My reading coursework somewhat prepared me; I could handle this with support from a manual or a mentor

3 = My reading coursework definitely prepared me

Use these questions to guide you in answering each section: ***Based on what I learned in my reading courses at Pitt****, what is easy for me to do? How well do I think I do it? Even though I may know it, do I think I am good at it?*

Based on your experiences in your reading courses, how well prepared do you feel you are to deliver or develop:	**0**	**1**	**2**	**3**	**Not Applicable**
Phonemic awareness instruction					
Phonics instruction					
Comprehension instruction					
Vocabulary instruction					
Fluency instruction					
Spelling instruction					
Writing instruction					
A sequence of lessons from a basal reading program					
Discussions about a story from a basal reader					
Discussions related to a trade book, chapter book or novel					
Activities related to a trade book, chapter book, or novel					
Formal assessments (i.e., norm referenced)					
Informal assessments (i.e., informal inventory, curriculum-based measures, etc.)					
Students' interest in reading or motivation to read (using appropriate texts, selecting materials that reflect student interest, etc.)					
Differentiating instruction based on assessment data					
Managing the classroom during reading instruction (keeping students engaged and on-task, etc.)					
Teaching reading in the content areas					
Activities related to the reading of expository text					
Adapting instruction to meet the needs of struggling readers (non-Special Needs students)					
Adapting instruction to meet the needs of students with Special Needs					
Adapting instruction to meet the needs of students that are English Language Learners					

9. What, if anything, do you now find you are **lacking** in regards to **teaching reading and the other language arts** based on the work you did in your reading courses?

_____

_____

_____

Part III: Field Placement

The following question address experiences you have had in your field placement and how they relate to your current work. Please be as detailed as possible when answering.

10. Given your current teaching situation and the experiences you are now having, what would you have changed about your field placement, especially **as related to teaching reading and the other language arts** (i.e., duration, placement site)? Please explain why you would make these changes.

_____

_____

_____

Part IV: Collaboration with Others

The following question address the collaboration that occurred during your time in the PY or MAT program between, you, your University reading instructors or supervisor and your mentor teacher. Please be as detailed as possible when answering the questions.

11. Given your current teaching situation, what, if anything, would you have changed about your collaborative experiences with others while enrolled in the MAT or PY program? In other words, what were your collaborative experiences **lacking**?

_____

_____

_____

Part IV: Concluding Comments

12. **Overall**, how well prepared do you feel to teach reading at this point in time? Check your answer on a scale of 1-5:

1 = not at all prepared to teach reading; 5 = definitely prepared to teach reading

1 2 3 4 5

13. As a new teacher, in the area of **reading and literacy instruction**, what is your greatest need?

_____

_____

_____

14. If there was one thing the faculty and staff in the MAT or PY program at the University of Pittsburgh could do to help you in the area of reading and literacy instruction, what would it be?

_____

_____

_____

15. Looking back on your experiences in the MAT or PY program and given your current teaching situation, do you have any other comments that you would like to share at this time about the:

Coursework:

_____

_____

_____

Field Work:

_____

_____

_____

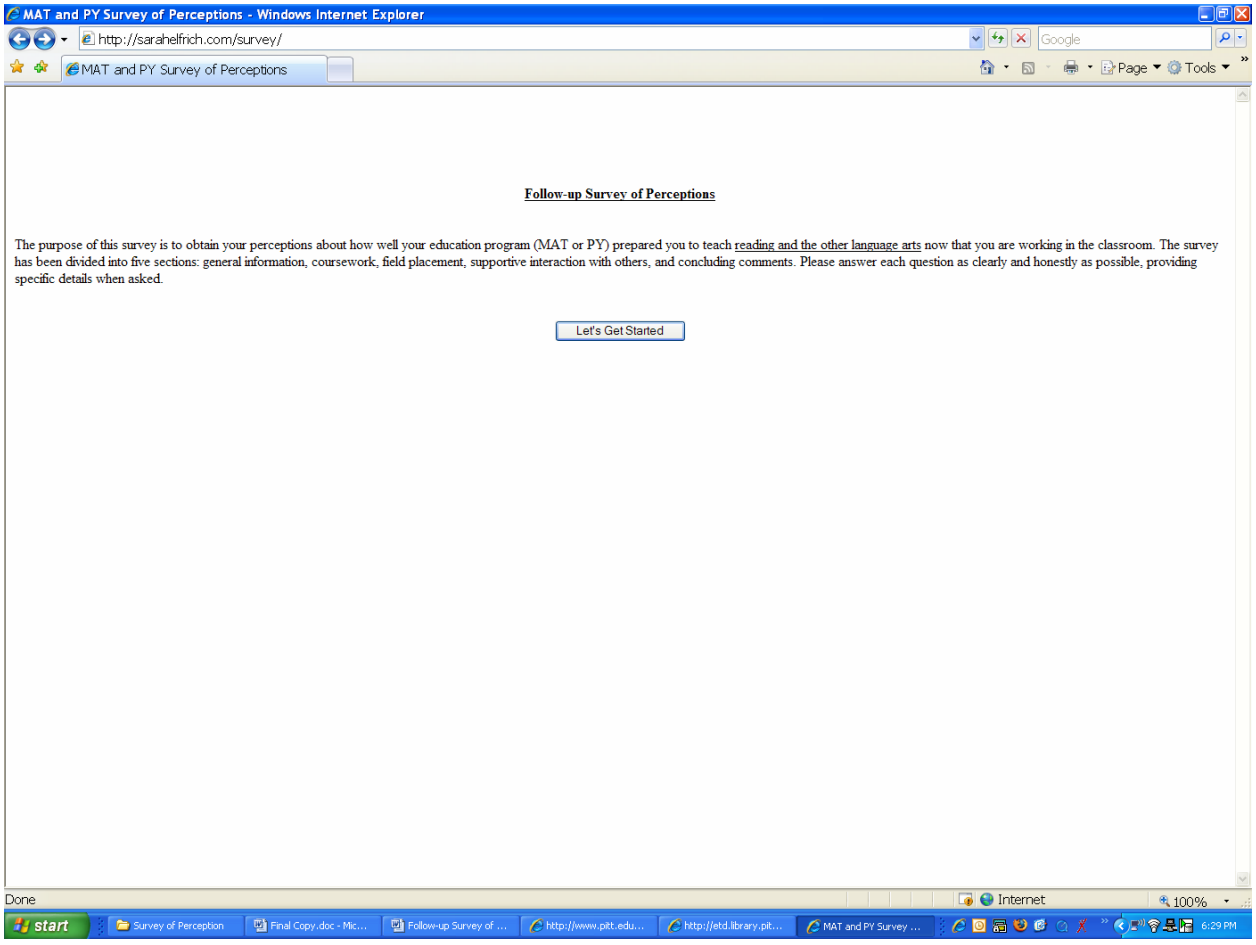
Collaborative efforts with others:

_____

_____

_____

The following images are screen shots of the *Follow-up Survey of Perceptions* as it appears on the internet:




MAT and PY Survey of Perceptions - Windows Internet Explorer
http://sarahelfrich.com/survey/page2.php
MAT and PY Survey of Perceptions
Part I: General Information
1) Username:
2) Are you: Male Female
3) Please select the teacher preparation program from which you graduated: MAT PY
4) Where are you currently teaching?
School Name:
School District:
State (if outside PA):
5) Is your school (please select one): Urban Suburban Rural
6) What grade level are you currently teaching? If you are teaching at more than one grade-level, check all that apply and explain on the lines that follow: K 1 2 3 4 5 6 7 8
7) If you are teaching a specific subject or population (science, math, ELL, Special Needs Students, etc.), please indicate so below:
next
Done
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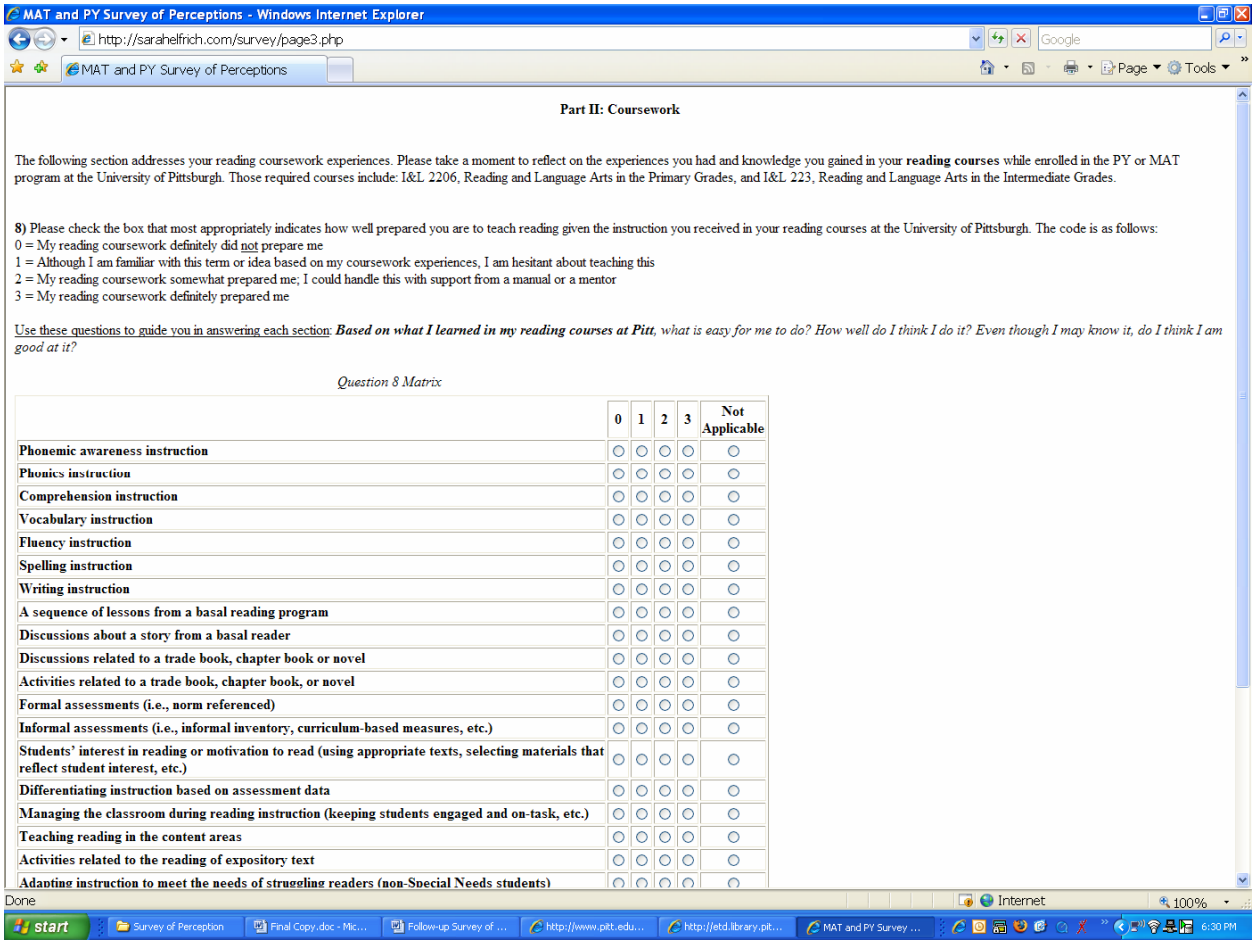
MAT and PY Survey of Perceptions - Windows Internet Explorer
http://sarahelfrich.com/survey/page3.php
MAT and PY Survey of Perceptions
Part II: Coursework
The following section addresses your reading coursework experiences. Please take a moment to reflect on the experiences you had and knowledge you gained in your reading courses while enrolled in the PY or MAT program at the University of Pittsburgh. Those required courses include: I&L 2206, Reading and Language Arts in the Primary Grades, and I&L 223, Reading and Language Arts in the Intermediate Grades.
8) Please check the box that most appropriately indicates how well prepared you are to teach reading given the instruction you received in your reading courses at the University of Pittsburgh. The code is as follows:
0 = My reading coursework definitely did not prepare me
1 = Although I am familiar with this term or idea based on my coursework experiences, I am hesitant about teaching this
2 = My reading coursework somewhat prepared me; I could handle this with support from a manual or a mentor
3 = My reading coursework definitely prepared me
Use these questions to guide you in answering each section: Based on what I learned in my reading courses at Pitt, what is easy for me to do? How well do I think I do it? Even though I may know it, do I think I am good at it?
Question 8 Matrix
0
1
2
3
Not Applicable
Phonemic awareness instruction
Phonics instruction
Comprehension instruction
Vocabulary instruction
Fluency instruction
Spelling instruction
Writing instruction
A sequence of lessons from a basal reading program
Discussions about a story from a basal reader
Discussions related to a trade book, chapter book or novel
Activities related to a trade book, chapter book, or novel
Formal assessments (i.e., norm referenced)
Informal assessments (i.e., informal inventory, curriculum-based measures, etc.)
Students' interest in reading or motivation to read (using appropriate texts, selecting materials that reflect student interest, etc.)
Differentiating instruction based on assessment data
Managing the classroom during reading instruction (keeping students engaged and on-task, etc.)
Teaching reading in the content areas
Activities related to the reading of expository text
Adapting instruction to meet the needs of struggling readers (non-Special Needs students)
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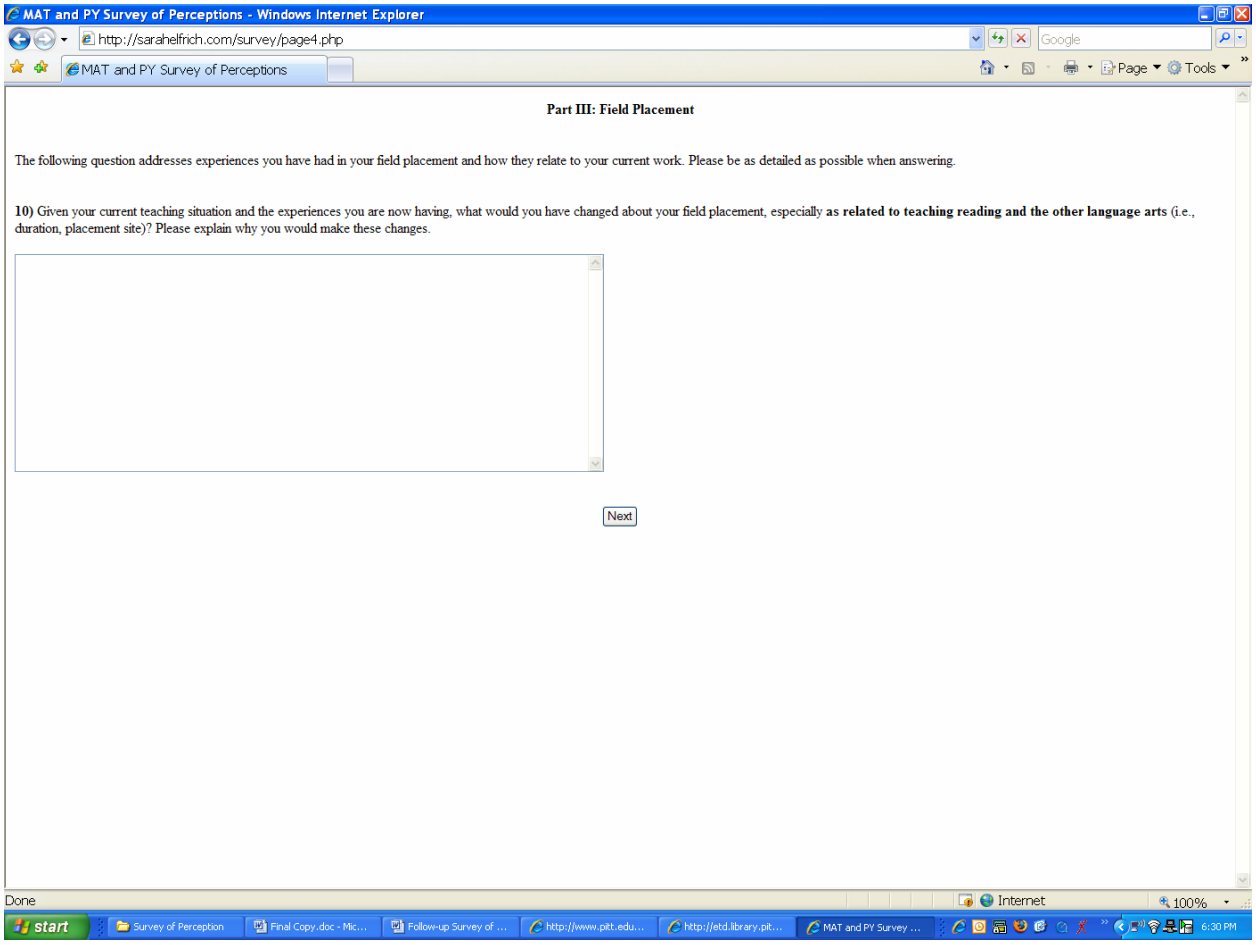
MAT and PY Survey of Perceptions - Windows Internet Explorer
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MAT and PY Survey of Perceptions
Part III: Field Placement
The following question addresses experiences you have had in your field placement and how they relate to your current work. Please be as detailed as possible when answering.
10) Given your current teaching situation and the experiences you are now having, what would you have changed about your field placement, especially as related to teaching reading and the other language arts (i.e., duration, placement site)? Please explain why you would make these changes.
Next
Done
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start


MAT and PY Survey of Perceptions - Windows Internet Explorer
http://sarahelfrich.com/survey/page5.php
MAT and PY Survey of Perceptions
Part IV: Collaboration with Others
The following question addresses experiences you have had in your field placement and how they relate to your current work. Please be as detailed as possible when answering.
11) Given your current teaching situation, what, if anything, would you have changed about your collaborative experiences (examples of collaborative experiences include informal meetings with your mentor teacher, observation sessions with your supervisor, etc.) with others while enrolled in the MAT or PY program? In other words, what was missing in your collaborative experiences?
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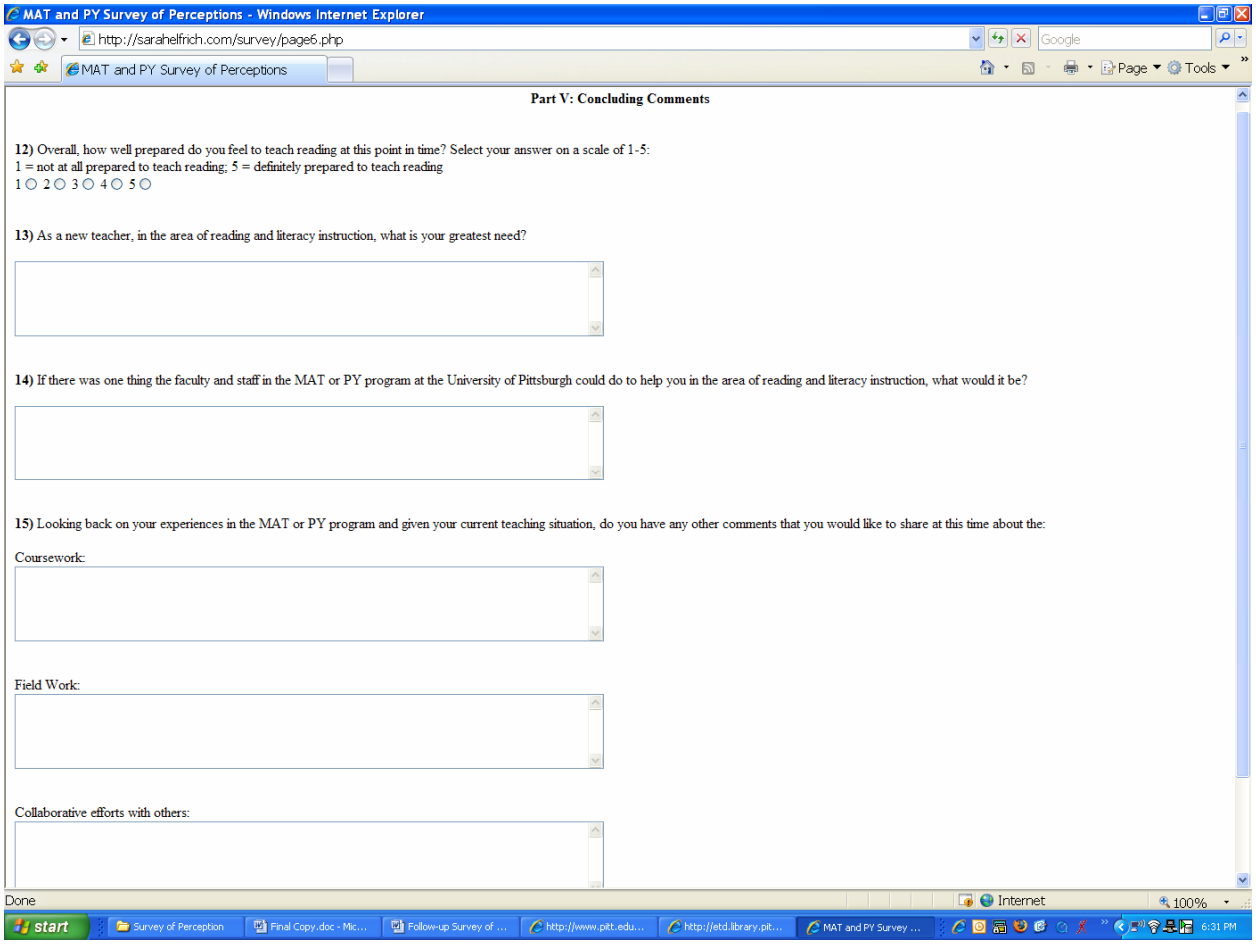
MAT and PY Survey of Perceptions - Windows Internet Explorer
http://sarahelfrich.com/survey/page6.php
MAT and PY Survey of Perceptions
Part V: Concluding Comments
12) Overall, how well prepared do you feel to teach reading at this point in time? Select your answer on a scale of 1-5:
1 = not at all prepared to teach reading; 5 = definitely prepared to teach reading
1 2 3 4 5
13) As a new teacher, in the area of reading and literacy instruction, what is your greatest need?
14) If there was one thing the faculty and staff in the MAT or PY program at the University of Pittsburgh could do to help you in the area of reading and literacy instruction, what would it be?
15) Looking back on your experiences in the MAT or PY program and given your current teaching situation, do you have any other comments that you would like to share at this time about the:
Coursework:
Field Work:
Collaborative efforts with others:
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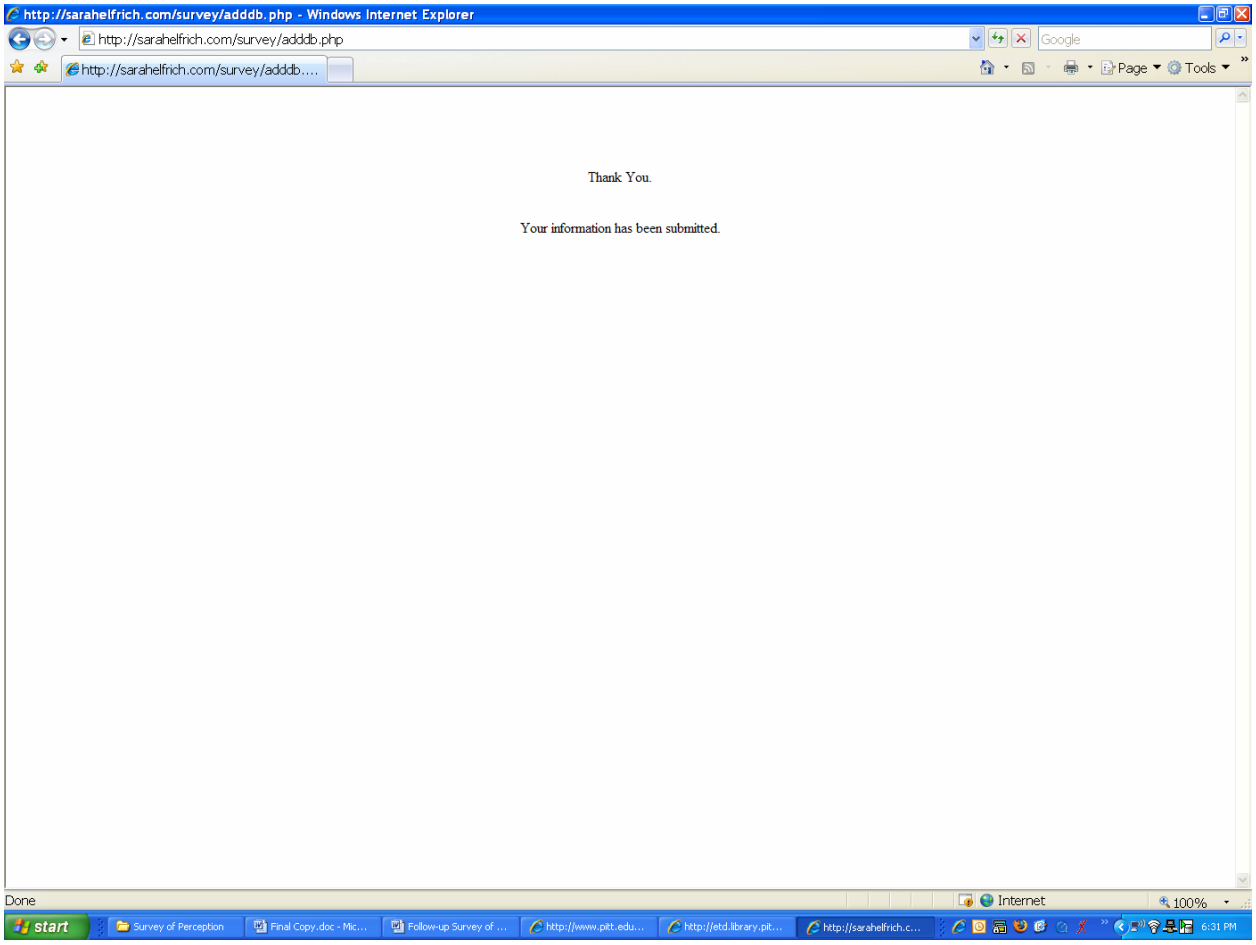
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APPENDIX D

TELEPHONE INTERVIEW PROTOCOL

The purpose of this phone interview is to gain more detailed information regarding the information you provided on both the initial and follow-up Survey of Perception. This interview will take approximately 15-20 minutes; is now a good time to talk?

1. Please elaborate briefly on your current teaching position.

2. Concerning the areas of reading instruction you rated as being the most prepared for, what specific instruction did you receive that you felt best prepared you?

3. Concerning the areas of reading instruction you rated as being the least prepared for, what do you feel you were missing or should have gotten in order to better prepare you?

4. There are areas of change between your initial survey responses and follow-up survey responses. What led to this change?

5. Please elaborate on the changes you would have made to your teaching placement given what you now know as a full-time teacher.

6. When answering the question "Overall, how well prepared do you feel to teach reading at this point in time?" you chose (see individual results). Can you please elaborate on your reason(s) for selecting this answer?

7. Which three experiences would you rate as critical to your learning to be a teacher of reading?

APPENDIX E

STAGE 1 INTRODUCTORY LETTER TO MAT AND PY TEACHER CANDIDATES

April 7, 2006

Dear Students:

Today you have the opportunity to provide feedback about your experiences with the teacher preparation program at the University of Pittsburgh, especially as it relates to what you have learned about teaching reading and the other language arts.

Sara Helfrich, a doctoral student in Reading Education at the University of Pittsburgh, is working with the Teacher Preparation Program to obtain information that will help improve the pre-service program in reading and language arts. Her study has three parts:

1. A *Survey of Perceptions* about what you have learned about teaching reading and the other language arts which you will complete today.

2. A *Knowledge Inventory* that will enable the Teacher Preparation Program to get a better picture of what you have learned through your experiences. Again, this will be completed today.

3. A *Follow-up Survey/Interview* administered to those graduates who are teaching to get a better idea of what they think they have learned, now that they are in the field. We will ask you to provide a contact number if you are willing to participate in this part of the study, which will take place in November or December, 2006.

The two surveys being completed today are important to the faculty in improving the Teacher Preparation Program. The follow-up survey is part of Sara's dissertation study.

Although you are being asked to provide your name on both forms, <u>they will not be used to identify individuals</u>. They will be used for data collection and organization purposes only, and individual scores will only be seen by Sara. Indeed, the results of the *Knowledge Inventory* and *Survey of Perceptions* will not be calculated until after classes are over and final grades have

been submitted. If you would like a copy of your score on the Knowledge Inventory, please indicate this below and Sara will send the results to you sometime in late June or early July.

Combined, the assessments should take approximately 1 hour to complete. Please answer as thoughtfully and thoroughly as possible; your input is greatly appreciated!

Thank you!

Sara Helfrich — Rita M. Bean, Ph.D.

Doctoral Student — Professor

Please check the appropriate response:

I would like to know my score on the Knowledge Inventory ___Yes ___No

I would be willing to participate in a follow-up written survey of perceptions ___Yes ___No

I would be willing to participate in a telephone survey ___Yes ___No

Name:_____

Permanent Address:_____

City:_____ State:_____ Zip:_____

Email Address:_____

Phone Number:_____

APPENDIX F

EMAIL FOR PARTICIPATION IN STAGE 2: FOLLOW-UP SURVEY OF PERCEPTIONS

January 2007

Dear Teacher:

You recently completed the teacher preparation program in the School of Education at the University of Pittsburgh and therefore, have important thoughts and feelings about the effectiveness of that program in preparing you to be an effective teacher of reading.

In April 2006, you completed a *Survey of Perceptions* designed to help faculty assess the effectiveness of its teacher preparation programs as they are related to teaching reading. As a doctoral student in Reading Education at the University of Pittsburgh working with Dr. Rita Bean, I am interested in doing a follow-up study that will give you an opportunity to discuss program strengths and weaknesses, based on your experiences as a beginning teacher. I plan to compare the results gathered in the spring with your thoughts and feelings after being employed as a teacher, having spent at least two to three months on the job. The University of Pittsburgh is interested in your feedback; it will help them implement a high quality program for preparing teachers of literacy. This work will also contribute to the knowledge in the area of teacher preparation.

If you are currently employed as a full-time teacher at any grade level, I would appreciate if you would be willing to respond to a brief online survey. No individual will be identified in this study and responses will be kept confidential. However, I will need a username so that I can determine whether there are any changes in your views (for example, now that you are "on the job," are there topics or issues that you wish had been included in your program). Therefore, each participant will be asked to enter a username at the start of the survey. **Your**

username is your first and last initial, followed by your date of birth. For example, if your name is Mary Smith and you were born on June 17, 1980, your username would be ms06171978.

To participate, please follow the steps outlined below:

- Access the survey at www.sarahelfrich.com/survey
- Read the instructions on the introductory screen; click on the "Let's Get Started" button when you are ready to proceed
- On the next screen, you are asked to type your username (username is first and last initial followed by your date of birth); when you have done this, answer the rest of the questions and click on the "next" button when you are ready
- Continue answering the questions, clicking on the "next" button to move to the next screen
- When you reach the end of the survey, click the "Submit" button once to end your session
- *Each participant will be entered to win a $25 Barnes & Noble gift card; the winner will be randomly chosen once all survey information has been collected!*
- **Please respond to this survey by January 26, 2007!**

Thank you for your time; I appreciate your help with this effort and look forward to hearing from you soon!

Sara Helfrich
University of Pittsburgh, Doctoral Candidate

Rita Bean, Ph.D.
University of Pittsburgh

APPENDIX G

EMAIL FOR PARTICIPATION IN STAGE 2: TELEPHONE INTERVIEW

Dear Teacher:

Thank you for responding to the on-line survey in which you were asked to discuss the University of Pittsburgh's MAT or PY program strengths and weaknesses, based on your experiences as a recent graduate and beginning teacher. At this time, I would like to ask for your participation in a phone interview; these interviews will be brief in nature and will be used to clarify answers and expand on ideas you have included in your survey. The interview consists of 6-7 questions and will take no more than 15 minutes to complete. As always, no individual will be identified in this study and responses will be kept confidential. *Every interview participant will be given a Starbucks gift card!*

If you are interested in participating, please respond by sending me an email that includes:

- Your first name only
- Your phone number
- The best time(s) to call you during the week

Thank you for your time; I appreciate your help with this effort and look forward to hearing from you soon!

Sara Helfrich
University of Pittsburgh, Doctoral Candidate

Rita Bean, Ph.D.
University of Pittsburgh

APPENDIX H

REMINDER EMAIL FOR PARTICIPATION IN STAGE 2: SURVEY OF PERCEPTIONS

You were recently sent an email asking for your participation in a follow-up survey regarding your thoughts about your graduate program at the University of Pittsburgh. If you haven't already, please take a moment to visit the website and answer a few easy questions!

To participate, please follow these directions:

- Access the survey by typing www.sarahelfrich.com/survey into your web browser
- Read the instructions on the introductory screen; click on the "Let's Get Started" button when you are ready to proceed
- On the next screen, you are asked to type your username (username is first and last initial followed by your date of birth); when you have done this, answer the rest of the questions and click on the "next" button when you are ready
- Continue answering the questions, clicking on the "next" button to move to the next screen
- If you are interested in participating in a follow-up telephone interview, please include your contact information where asked on the survey
- When you reach the end of the survey, click the "Submit" button once to end your session
- **Please respond by January 27, 2007**

Your participation is greatly appreciated; each participant will be entered to win a $25 Barnes & Noble gift certificate!

Thank you for your time; the information you provide will help to improve the graduate education programs for future University of Pittsburgh students!

Sara R. Helfrich
University of Pittsburgh, Doctoral Candidate

Rita M. Bean, Ph.D.
University of Pittsburgh

APPENDIX I

IRB PERMISSION

University of Pittsburgh
Institutional Review Board

Exempt and Expedited Reviews

University of Pittsburgh FWA: 00006790
University of Pittsburgh Medical Center: FWA 00006735
Children's Hospital of Pittsburgh: FWA 00000600

3500 Fifth Avenue
Suite 100
Pittsburgh, PA 15213
Phone: 412.383.1480
Fax: 412.383.1508

TO: Sara Helfrich

FROM: Christopher M. Ryan, PhD, Vice Chair

DATE: February 27, 2007

PROTOCOL: A Comparative Analysis of Two Teacher Preparation Programs

IRB Number: 0611072

The above-referenced protocol has been reviewed by the University of Pittsburgh Institutional Review Board. Based on the information provided in the IRB protocol, this project meets all the necessary criteria for an exemption, and is hereby designated as "exempt" under section 45 CFR 46.101(b)(2).

- If any modifications are made to this project, please submit an 'exempt modification' form to the IRB.
- Please advise the IRB when your project has been completed so that it may be officially terminated in the IRB database.
- This research study may be audited by the University of Pittsburgh Research Conduct and Compliance Office.

Approval Date: February 27, 2007

CR:dj

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