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## What Matters: Preparing Teachers of Reading

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### Abstract

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A descriptive study was employed to determine differences in knowledge of literacy instruction and perceived preparedness to teach literacy between two groups of teacher candidates enrolled in two different teacher preparation programs at one university. This study investigated which components – coursework, field experience, and collaboration – candidates perceived as best preparing them to teach literacy while enrolled in their program. Data collection instruments included the Survey of Perceptions and the Knowledge Inventory. Both groups of candidates, regardless of program and amount of time in the field, viewed both coursework and field experience as important. Few significant differences were found between candidates in knowledge of literacy instruction. And, while they perceived themselves as prepared to teach literacy, candidates did identify areas of further instructional need.

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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 its report titled *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... 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) and that “for new teachers, [improvement] begins with teacher preparation” (p. 31).

Anders, Hoffman, and Duffy (2000) noted that over the past 30 years, the number of studies focusing on pre-service reading education has greatly increased with 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)

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 teacher candidates.

The authors of this study proposed to continue what Anders et al. (2000) identified during their research as an important reading research opportunity: teacher education. The purpose of this study was twofold. First, the authors wanted to determine which elements of their teacher preparation program – coursework, field experience, and collaboration with others – teacher candidates’ perceived as most useful to their learning how to teach reading. Second, the authors sought to determine candidates’ knowledge of primary reading instruction and assessment. Participants in this study were enrolled in one of two graduate education programs at a large, urban university in the Mid-Atlantic region of the United States. The research questions guiding this study were:

1. How do teacher candidates enrolled in two different preparation programs – a Master’s of Arts in Teaching (MAT) program and a Professional Year (PY) program – perceive specific aspects of their program: coursework, field experience, and collaboration with others?
2. How do teacher candidates enrolled in the MAT and PY programs perform on a test that measures knowledge of primary reading instruction?

## Review of the Literature

A theme has emerged from a review of recent research regarding teacher preparation programs, showing that the most valuable elements of such programs for helping teacher candidates learn to teach literacy are coursework, including critical content knowledge (International Reading Association [IRA] Task Force, 2004; National Reading Panel [NRP], 2000), an integrated field component (Fang & Ashley, 2004; Levine, 2006; Massey, 2003; Nierstheimer, Hopkins, Dillon, & Schmitt, 2000; Sailors, Keehn, Martinez, & Harmon, 2005), and collaboration among teacher candidates, university instructors, and cooperating teachers (Frazier, Mencer, & Duchein, 1997; Le Cornu & Ewing, 2008; Sailors et al., 2005).

Coursework requiring participation in a field experience, with components such as small- or whole-group instruction or tutoring, is an effective learning tool that allows teacher candidates to apply the knowledge they acquire in the university classroom to work in the elementary or secondary classroom (Cox, Fang, Carriveau, Dillon, Hopkins, & Nierstheimer, 1998; Hedrick, McGee, & Mittag, 2000; Linek, Nelson, Sampson, Zeek, Mohr, & Hughes, 1999; Massey, 2003). Having the opportunity to practice these newly acquired skills helps boost teacher candidates' confidence as teachers of literacy (Commeyras, Reinking, Heubach, & Pagnucco, 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). Levine (2006) calls for curricular balance stating "the curriculum integrates the theory and practice of teaching, balancing study in university classrooms and work in schools with successful practitioners" (p. 20).

Cochran-Smith and Powers (2010) take the notion of an integrated field experience a step further by asserting that mentored teaching experiences should be at the center of teacher preparation programs; Ball and Forzano (2009) agree, referring to this as a practice-focused curriculum, in which the emphasis would be on "repeated opportunities for [teacher candidates] to practice carrying out the interactive work of teaching and not just to talk about that work" (p. 503). Wold, Farnan, Grisham, and Lenski (2008) state, in their analysis of research on literacy teacher education, that,

Quality teacher preparation requires the development of a strong literacy knowledge base coupled with practical literacy teaching opportunities. This balance of research-based teaching and practice generates knowledgeable teachers who know literacy, can explain how to engage students effectively, and are secure in what they know and are able to do. (p. 14)

Further, recent research and theory have led various groups to specific concepts and ideas about the content knowledge teacher candidates need to know in order to become effective literacy teachers. An IRA Task Force (2004) developed standards, based on professional expertise and research in literacy instruction, that have been set forth strongly suggesting all teacher candidates know and demonstrate their understanding of foundational knowledge, instructional strategies, curriculum materials, and assessment, among other areas. The NRP (2000) identified, through extensive research, five critical areas of knowledge for instructing students – phonemic awareness, phonics, fluency, vocabulary, and comprehension. Certainly teacher preparation programs must, at a minimum, include theory and practice in these five areas.

Another essential component of a comprehensive teacher preparation program is the relationship between teacher candidates, university instructors, and cooperating teachers – all members of the field experience triad (Frazier et al., 1997). Collaboration among all three members helps create an excellent environment in which teacher candidates can learn and work (Frazier et al., 1997; Harlin, 1999). But there must also be careful oversight of student teaching experiences (National Academy of Education, 2009) as university instructors need to strive for congruence between coursework and the field placement (Levine, 2006), or in the very least, help teacher candidates cope with a possible disparity (Dowhower, 1990). He and Levin (2008) contend that if matches or mismatches in beliefs among teacher educators, cooperating teachers, and teacher candidates could be identified, all parties could better understand each other's perspectives and be better able to work together to maximize learning for everyone. In addition, collaboration between teacher candidates and cooperating teachers needs to increase (Bean, 2001; Le Cornu & Ewing, 2008; Sturtevant & Spor, 1990; Wham, 1993), as there is much that can be learned by both partners in this relationship. Likewise, teacher candidates must be encouraged to talk with each other and share their experiences (Nierstheimer et al., 2000; Wedman, Kuhlman, & Guenther, 1996).

Although recent research supports each of these three elements – coursework, field experience, and collaboration – there are limitations in these areas. Risko, Roller, Cummins, Bean, Block, Anders, and Flood (2008), in their analysis of 82 studies focused on reading teacher education, found that while recent research supports the implementation of coursework with an integrated field component, it also brings to mind some questions. They found that when analyzing findings from the 36 studies focused on teacher candidates' knowledge development, "prolonged engagement with [students] in field-placements is viewed as the catalyst for

reconstructing prior beliefs and refining pedagogical knowledge” (p. 267); however in some cases, teacher candidates “expressed a need for additional professional development in teaching methods associated with identified areas where they felt less knowledgeable” (p. 270). The authors found that teacher candidates were taught specific skills in their coursework and in the field, but they were unable to determine:

what knowledge about teaching [itself] was constructed during this instruction. [Were teacher candidates] learning a technical view of teaching over one that emphasizes decision-making and problem solving and that allows for different applications of the pedagogical knowledge they were developing? (Risko et al., 2008, p. 273)

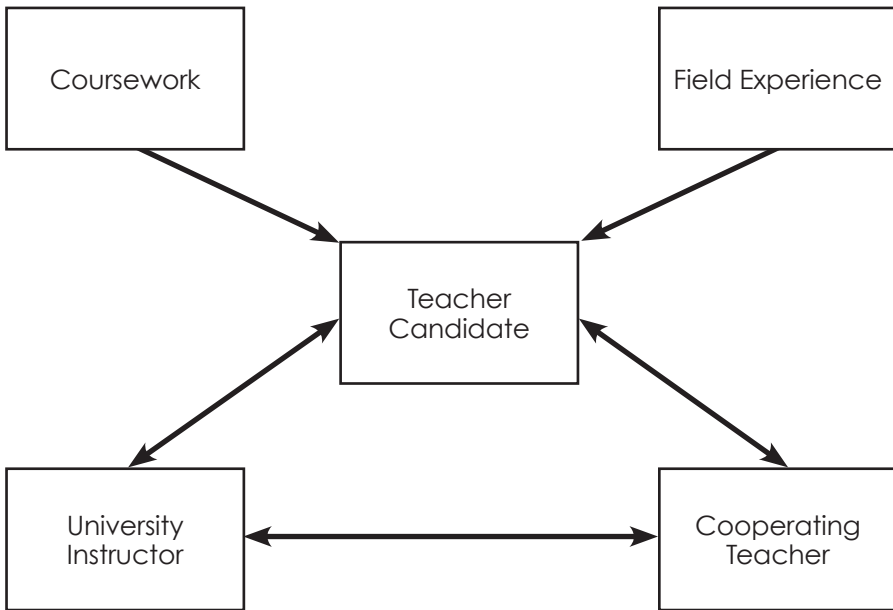
While, in general, research shows that teacher candidates gain knowledge through coursework and use the field component to practice their newly acquired skills, not all studies show that teacher candidates’ beliefs change (Morgan, Gustafson, Hudson, & Salzberg, 1992; Worthy & Patterson, 2001).

While recent research supports the inclusion of field placements and close collaboration between teacher candidates, cooperating teachers, and university instructors, the research also points to possible discontinuity in these relationships. For example, teacher candidates may learn a reading strategy in the university classroom, but because it is not supported or is unfamiliar to their cooperating teacher, they will not use it in their work in the elementary classroom (Bean, 2001; Dowhower, 1990; Sturtevant & Spor, 1990). Bean (2001) found that teacher candidates’ use of reading strategies was most influenced by their cooperating teachers and was “regulated and sometimes minimized by [their] perceived understanding of their cooperating teachers’ desires” (pp. 161-162). Dowhower (1990) determined that there exists a discrepancy between what is taught in the university classroom and what teacher candidates experience in the field. To alleviate this program-to-field inconsistency, she suggests that university instructors can: explore cooperating teacher constraints; prepare teacher candidates for the dilemmas they may encounter in the classroom and give them alternatives to inappropriate literacy practices; and provide models within methods courses.

## **Framework of the Study**

This study was framed using research that has been identified as crucial to the development of a successful teacher preparation program: coursework (content knowledge); field experiences closely related to coursework and content knowledge; and collaboration among members of the “triad” (Frazier et al., 1997) – teacher candidate, university supervisor or instructor, and cooperating teacher. This overall

construct of teacher preparation and reading education frames this research study. Figure 1 illustrates this concept portraying the relationship among the areas.



**Figure 1.** A comprehensive teacher preparation program.

In this article, the authors concentrate on an examination of two teacher preparation programs at one university, focusing on the literacy component of the programs and analyzing (a) differences in teacher candidates' perceptions of aspects of their specific program upon completion of the program and (b) differences in the primary literacy knowledge base of teacher candidates in both programs.

## Method

### Sample

Teacher candidates from two graduate programs at a large, urban university were asked to participate in this study: 53 from the Master's of Arts in Teaching (MAT) and 50 from the Professional Year (PY) programs (N=103). Candidates in both programs are new to teaching; that is, none have previously obtained their teaching license or taught in a classroom. These programs differ primarily in length of time spent both in the university classroom and in the field working with K-6 students, as well as with the final degree candidates obtain upon completion of their

studies. While all graduates, regardless of program, receive their teaching license, only those candidates in the MAT program receive their master’s degree. Given the time commitment of the MAT program, the PY program may serve as a good option for those that want to become certified to teach but are not yet ready to pursue a master’s degree. Graduates of the PY program may, however, use a portion of their credits toward the pursuit of a master’s degree at a later date, if they so choose.

Teacher candidates enrolled in both programs were predominantly female (72.8%) and Caucasian (91.5%), but they differed in background, specifically in age, previous education, and program entry requirements such as undergraduate grade point average and PRAXIS reading and writing scores. MAT teacher candidates were typically older than their PY peers (27.4 years versus 23.4 years; range for MAT, 21-39; range for PY, 20-49). While all teacher candidates in both programs had obtained their bachelor’s degree, three PY teacher candidates held Master’s degrees in non-education related fields. Teacher candidates from the MAT program had, on average, a higher undergraduate GPA than those enrolled in the PY program. Conversely, PY teacher candidates had a higher average score on both the PRAXIS Reading and PRAXIS Writing exams than their MAT peers (see Table 1). It should be noted that the findings are not based on the complete group because data were not available for all candidates.

**Table 1.** *Comparison of MAT and PY Teacher Candidates’ Program Education Entry Requirements*

Entry Requirement	MAT (n = 50)		PY (n = 26)		t	p
	Mean	SD	Mean	SD		
Undergraduate GPA	3.34	0.34	3.19	0.33	1.813	0.074
PRAXIS Reading	180.92	3.76	181.15	3.09	-0.268	0.789
PRAXIS Writing	177.32	3.46	177.19	3.41	0.156	0.876

\*p<0.05

### Programs

The admission process for both the MAT and PY programs are similar as all prospective candidates apply to their chosen program by submitting their academic transcripts illustrating a minimum undergraduate GPA of 3.0, PRAXIS test scores, and a completed application. They were also required to submit three letters of recommendation, a resume highlighting their work with school-age children, and a personal goal statement. Each prospective candidate’s file was then reviewed



by a member of the program faculty and rated on an overall scale of one (poor) to four (excellent).

Upon acceptance to the university, MAT teacher candidates spent one calendar year enrolled in courses and working in the field while PY teacher candidates spent an academic year (two 16-week semesters plus one intense mid-year three-week session) enrolled in courses plus working in the field. Upon completion of the MAT program, graduates would have both a Master's degree and be certified to teach in grades K-6, while PY graduates would be certified to teach in grades K-6.

While, due to program length, the course sequence was different across the two programs, course content was identical. All 103 teacher candidates completed two literacy-related courses: one focused on teaching reading and writing in the primary grades and the other on teaching reading and writing at the intermediate level. Both programs had the same instructors and textbooks, and completed the same assignments. Aside from time spent to complete the programs, the major difference was the amount of fieldwork assigned. MAT teacher candidates spent 4½ days per week in an elementary classroom from August through June. PY teacher candidates followed a more traditional internship/student teaching schedule, spending one day per week in an elementary classroom during the first 1½ semesters of their program, then moving into full-time student teaching (five days per week) for the second half of the second semester. In other words, the average MAT student spent 1,200 hours in the field during his or her program, whereas the average PY student spent only 400 hours. Teacher candidates from each program worked in urban, suburban, and private schools in the neighborhoods surrounding the university and at least one teacher candidate from each program was placed at each grade level (K-6). Teacher candidates were observed in the field at least twice by their university supervisor and their supervisor and mentor teacher collaborated to evaluate them at midterm and again at the end of the semester.

### **Data Collection**

Data collection occurred at the time of program completion when teacher candidates responded to the Survey of Perceptions and a Knowledge Inventory. Fifty MAT and 45 PY teacher candidates completed the Survey of Perceptions; 50 MAT and 43 PY teacher candidates completed the Knowledge Inventory. This discrepancy in PY candidate participation was due to incomplete or incorrectly coded data on the survey instruments.

### *Survey of Perceptions*

The Survey of Perceptions was developed by the first author and reviewed by three experts in the field of reading at the participating university. Items in the survey were based on the components of reading teacher education that research pointed to as necessary for the development of effective teachers of reading (Fang & Ashley, 2004; Fazio, 2000; Frazier et al., 1997; Hedrick et al., 2000; IRA Task Force, 2004; Massey, 2003; NRP, 2000; Nierstheimer et al., 2000) as well as components that this university established as important in the teaching of reading. The survey consisted of several Likert-scale and multiple-choice questions that were organized into three major categories: coursework, field placement, and collaboration with others.

#### *Coursework*

In the area of coursework, teacher candidates were first asked to indicate on a four-point scale (0-3) their perceived level of preparedness to deliver a specified form of literacy instruction or assessment. Topics addressed in this area included: elements of reading; conducting lessons, discussions, and activities from basal reading programs and trade books; administering assessments; differentiating instruction based on assessment data; and motivating students to read.

#### *Field placement*

Likert-scale questions in this section of the survey were labeled with descriptors such as extremely useful, somewhat useful, or not at all useful. Questions included the following: Looking specifically at instruction in literacy, how closely related were your experiences in the field to what you were learning in class? When you learned something in one of your literacy courses, were you able to directly apply it to your field experience? Were your cooperating teacher's beliefs about literacy instruction and approaches to teaching literacy closely related to those of your university literacy instructors? Overall, how useful was your field experience as related to teaching literacy?

#### *Collaboration with others*

Questions regarding their collaboration with their university supervisor and cooperating teacher were included in this section of the survey. They were asked to indicate the frequency with which they were observed by their university supervisor (two or more times, at least once, never) and how often they spoke with their

cooperating teacher specifically about literacy instruction (daily, weekly, monthly, never). Candidates were also asked if their cooperating teacher ever clarified or demonstrated teaching concepts about literacy instruction the candidate was struggling to master and if they, their cooperating teacher, and university supervisor ever met as a group; candidates were to respond to these questions with yes or no answers.

### *Knowledge Inventory*

The Knowledge Inventory is a 50-question multiple-choice test created by and used with the permission of researchers at the Florida Center for Reading Research. This measure was originally designed to assess the knowledge of K-3 teachers that attended a four-day Just Read, Florida! Reading First Teacher Academy in July 2005 in the areas of phonemic awareness, phonics, vocabulary, fluency, comprehension, literacy instruction, and assessment. A technical analysis of the Knowledge Inventory based on pre- and post-academy data indicated that the assessment was valid and well grounded. Questions from each of these seven topical areas were presented in random order; each question had four answer choices and was formatted so that respondents either answered a direct question or gave a response based on information presented in a brief scenario.

It should be noted that this assessment included a larger number of phonemic awareness and phonics questions than questions relating to comprehension, vocabulary, fluency, instruction, and assessment; however, because of the importance of knowledge of primary reading instruction for all elementary teacher candidates, we decided to use this instrument as a means of determining their understanding of this aspect of reading instruction. It should also be noted that the Knowledge Inventory was administered to the participating teacher candidates upon completion of their respective programs; a pre-test of knowledge was not administered to the teacher candidates prior to the start of their academic program. Given this, there was no way of knowing or comparing what the teacher candidates knew about teaching reading prior to the administration of this assessment.

## **Findings**

### **Survey of Perceptions**

What follows are the results from the Survey of Perceptions, highlighting findings from each of the three sections: coursework, field experience, and collaboration with others.

Coursework

The coursework component of the Survey of Perceptions included topics in several areas: elements of reading; conducting lessons, discussions, and activities from basal reading programs and trade books; administering assessments; differentiating instruction based on assessment data; and motivating students to read. Using a four-point Likert scale, teacher candidates indicated their perceived level of preparedness by giving themselves a score ranging from zero (I am definitely not prepared) to three (I am definitely prepared). A paired sample *t* test was conducted on these data, indicating that MAT candidates perceived themselves as being more prepared than their PY peers in all but three areas – vocabulary instruction; delivering a sequence of lessons from a basal reader; and conducting activities related to a trade book, chapter book, or novel – with statistically significant results indicating that MAT candidates perceived themselves as being more prepared than their PY peers to administer formal assessments and differentiate instruction based on assessment data (see Table 2).

**Table 2.** Comparison of Survey of Perceptions Self-Scores Regarding Preparedness to Teach Reading

Area of Instruction	MAT (n=50)		PY (n=45)		<i>t</i>	<i>p</i>
	Mean	SD	Mean	SD		
Phonemic Awareness	2.34	0.66	2.18	0.61	1.308	0.198
Phonics	2.27	0.70	2.20	0.69	0.550	0.585
Vocabulary	2.48	0.65	2.62	0.61	-1.062	0.294
Fluency	2.43	0.58	2.41	0.69	0.000	1.000
Comprehension	2.66	0.56	2.57	0.62	0.628	0.533
Spelling	2.57	0.61	2.33	0.88	1.534	0.132
Writing	2.35	0.73	2.23	0.91	0.735	0.467
Sequence of lessons from a basal reader	2.47	0.82	2.57	0.82	-0.772	0.445
Discussion about a story from a basal reader	2.65	0.72	2.58	0.66	0.286	0.776
Discussion related to a trade/chapter book or novel	2.63	0.53	2.55	0.76	0.489	0.627
Activities related to a trade/chapter book or novel	2.53	0.82	2.55	0.76	-0.144	0.886
Formal assessments	2.59	0.67	2.20	0.76	2.325	0.025*
Informal assessments	2.69	0.55	2.40	0.79	1.736	0.089
Differentiating instruction based on assessment data	2.57	0.65	2.24	0.70	2.083	0.043*
Motivating students to read	2.57	0.61	2.51	0.70	0.573	0.569

\**p*<0.05

### *Field Experience*

Questions in this category of the survey were analyzed; the percentage of candidates responding in each of the Likert-scale categories (extremely, somewhat, or not at all) were recorded and analyzed. Despite the difference in amount of time spent in the field among those enrolled in the MAT and PY program, teacher candidates from each program, in general, valued their time spent in the field and believed it helped them to practice what they had learned in the university literacy classroom. Ninety percent of all teacher candidates responded that their field experience was somewhat or extremely useful as it related to teaching reading. Eighty percent of all candidates indicated there was a positive relationship between what was learned in the university classroom and what they saw in the field, and 95% responded that their cooperating teacher's beliefs were somewhat or extremely related to those of their university reading instructors. Regardless of amount of time in the field, both groups of candidates believed that the field experience was important as a means of helping them understand how to teach reading.

### *Collaboration*

As with the questions from the field experience category, questions in this category of the survey were analyzed; the percentage of candidates responding in each of the Likert-scale categories (extremely, somewhat, or not at all), as well as to yes/no questions, were recorded and analyzed. Eighty percent of all teacher candidates responded that they were observed in the field two or more times by their university supervisor. Teacher candidates responded that they had various opportunities to collaborate with their mentor teachers; 80% of all teacher candidates stated that they met on a daily or weekly basis to discuss reading instruction. Fifty-one percent of teacher candidates from both programs also responded that they collaborated with their university mentor to discuss and review literacy instruction. The majority (95%) of teacher candidates indicated that they met with both their cooperating teacher and university supervisor as a group; however, candidates noted that the value of these types of collaborative relationships was seen as existing purely out of necessity with little instructional or educational value, serving as "housekeeping" sessions in which introductions were made or midterm or final evaluations were conducted.

### *Knowledge Inventory*

On the 50-question Knowledge Inventory, teacher candidates enrolled in the MAT program obtained an average score of 30.24 ( $s = 5.29$ ), while those enrolled in

the PY program obtained a similar average score of 29.05 ( $s = 6.78$ ). Thus, regardless of program, teacher candidates demonstrated approximately equal understanding of the material; however, the scores also indicate that candidates could correctly answer, on average, 60% of the questions asked. There was no one area within the test – phonemic awareness, phonics, vocabulary, fluency, comprehension, instruction, or assessment – in which the differences between MAT and PY scores were statistically significant ( $p < 0.05$ ) (see Table 3). In fact, the teacher candidates’ scores were similar to those obtained by the in-service teachers participating in the Just Read, Florida! Teacher Academies, for whom the assessment was originally developed. Researchers at the Florida Center for Reading Research found that, prior to the academy, teachers scored an average of 27.21 points ( $s = 5.92$ ); after completing the academy, the average score was 35.03 ( $s = 5.86$ ). Looking specifically at the questions included in the Knowledge Inventory, while there were no categories in which all respondents answered each question correctly, all questions in the vocabulary, fluency, and assessment categories were answered correctly by over half of all candidates. Several questions in the areas of phonemic awareness, phonics, comprehension, and instruction were answered correctly by 40% or fewer of all MAT and PY respondents; these are discussed in detail in the following sections.

**Table 3.** Means, Standard Deviations and *t* Tests Comparing MAT and PY Teacher Candidates on the Knowledge Inventory

Subtest	N of Item	MAT (n=50)		PY (n=43)		<i>t</i>	<i>p</i>
		Mean	SD	Mean	SD		
Phonemic Awareness	13	8.37	2.04	7.63	2.28	1.672	0.098
Phonics	14	7.20	2.02	7.21	2.76	-0.027	0.979
Vocabulary	6	4.20	1.13	3.93	1.37	1.031	0.305
Fluency	4	2.84	0.95	2.93	0.94	-0.447	0.656
Comprehension	10	6.08	1.65	5.91	1.97	0.459	0.647
Instruction	2	1.06	0.76	0.84	0.84	1.340	0.183
Assessment	1	0.51	0.51	0.56	0.50	-0.463	0.644
Total	50	30.25	5.29	29.00	6.93	0.994	0.323

$p < 0.05^*$

### Phonemic awareness

When asked to define the term phonological awareness, 12% of MAT candidates and 28% of PY candidates were able to correctly do so. Several questions addressed phonemes and many candidates struggled with this linguistic concept.

Forty percent of both MAT and PY candidates correctly identified words with the same beginning phoneme. In another question, 38% of MAT and 26% of PY candidates correctly identified four-phoneme word pairs. Finally, 26% of PY candidates correctly identified the number of phonemes in a given word. There were a total of thirteen phonemic awareness questions on the Knowledge Inventory; the remaining questions in this section were answered correctly by 41% to 96% of teacher candidates.

### *Phonics*

Two questions on the Knowledge Inventory addressed reading level (independent, instructional, and frustration). On the first question, 18% of MAT and 30% of PY candidates correctly identified a student's reading level; on the second question, 30% of MAT candidates correctly identified a student's instructional reading level when provided with the percentage of words read accurately. Fourteen percent of both MAT and PY candidates correctly identified the definition of the alphabetic principle. Finally, 38% of MAT candidates correctly identified specific words as sight words, while 40% of PY candidates correctly identified phonics and word study instruction given an instructional scenario. There were a total of fourteen phonics questions on the Knowledge Inventory; the remaining questions in this section were answered correctly by 42% to 74% of teacher candidates.

### *Comprehension*

Forty percent of MAT candidates correctly answered a question about read-aloud discussions. Thirty-three percent of PY candidates correctly identified the primary use of the KWL comprehension strategy (Ogle, 1986). There were a total of ten comprehension questions on the Knowledge Inventory; the remaining questions in this section were answered correctly by 42% to 92% of teacher candidates.

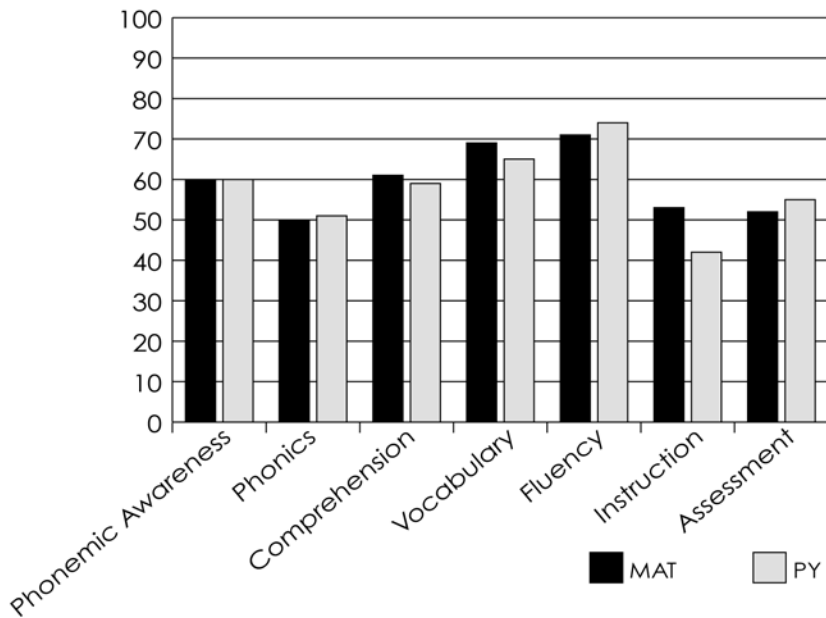
### *Instruction*

Thirty-eight percent of PY candidates correctly answered a question about a student's need for systematic instruction in word reading skills, vocabulary, and comprehension strategies to become a good reader by third grade. There were two instruction questions on the Knowledge Inventory; the remaining question in this section was answered correctly by 56% of MAT and 44% of PY teacher candidates.

Many of the questions that 40% or fewer of all MAT and PY teacher candidates answered correctly on the Knowledge Inventory were factual in nature. These questions asked respondents to define, identify, or apply a common literacy term

(i.e., alphabetic principle, reading level) or strategy (i.e., KWL, read-alouds); in other words, these questions did not call for teacher candidates to apply their knowledge of reading instruction to answer a scenario-based question. Some of these questions, however, focused on linguistics; teacher candidates in both groups had difficulty identifying the number of phonemes in words.

It is important to note that 12 of the 50 questions on the Knowledge Inventory were answered correctly by 40% or fewer MAT and/or PY candidates. When looking at all of the questions within each category, a higher percentage of correct responses was recorded. For example, though many MAT and PY candidates struggled with some of the questions related to phonemic awareness, many of the questions in this category were answered correctly by a high percentage of candidates in both programs. In general, candidates from both programs answered 60% of the phonemic awareness questions correctly. Candidates from both programs were able to answer correctly a similar percentage of questions within each topic area, as illustrated in Figure 2.



**Figure 2.** Average Percentage of Correctly Answered Questions by Candidate Group and Topic Area



## Discussion

### Value of Coursework and Field Experience

Our findings from the Survey of Perceptions indicate that both the coursework and field experience appeared to be critical elements of teacher preparation programs, allowing teacher candidates to gain knowledge of concepts and put into practice what they have learned, thus helping to prepare them to teach reading. This is supported by findings from research conducted by Cox et al. (1998), Hedrick et al. (2000), Linek et al. (1999), and Massey (2003). Teacher candidates must be able to put into practice in the field what they have learned in the university classroom. Through these experiences, teacher candidates are able to realize that the skills and strategies they are learning work with real readers, helping them gain confidence in their skills as future literacy teachers. Teacher candidates enrolled in the MAT program perceived themselves as being generally better prepared than their PY peers to teach reading, which one could infer to mean they perceived themselves as being more knowledgeable of the critical areas of literacy instruction, including phonemic awareness, phonics, fluency, vocabulary, and comprehension. Since coursework was the same for MAT and PY candidates, the MAT candidates' higher perceived level of preparedness — and thus perceived knowledge level — could be attributed to their extended time spent in the field working with students in the classroom alongside an experienced classroom teacher. This is certainly a strength of a program like the MAT; however, it is important to remember that it is the candidates' perception of preparedness and not a measure of their actual performance in the field. Though the MAT candidates perceived themselves as being better prepared to teach reading than their PY peers, scores on the Knowledge Inventory indicate that candidates gained similar literacy knowledge during the course of their respective programs.

It appears critical that the literacy strand of teacher education programs rely equally on both coursework and field experience, and perhaps look for ways to bridge what is happening across these two components. Regardless of time spent in the field and the nature of the program, teacher candidates valued the field experience. They believed it helped them gain insight into the process of teaching reading; these hands-on experiences were integral components of their professional development.

### Importance of Collaboration

Though collaboration among members of Frazier et al.'s (1997) triad — teacher candidate, cooperating teacher, and university supervisor — may exist, perceived usefulness of this experience may be varied.

As indicated by our findings from the Survey of Perceptions, teacher candidates did not always see the value in the collaborative relationship that existed among themselves, their cooperating teacher, and university supervisor. Consequently, this relationship must be made explicit and teacher candidates must know that there is a support system in place to help them put theory into practice (Bean, 2001; Harlin, 1999; Le Cornu & Ewing, 2008; Sturtevant & Spor, 1990; Wham, 1993). Likewise, collaboration must occur on both a formal and an informal basis. While it may be necessary to get formative information from all members of the triad at midterm (and again at the end of the program), it may be equally important to establish this relationship as a partnership with all members playing a critical role. Informal meetings and written communication are necessary on a regular basis so that daily concerns and questions can be addressed. If teacher candidates have positive, valuable experiences working collaboratively in a controlled environment such as student teaching, they can learn and practice new teaching strategies (Nierstheimer et al., 2000) and gain general knowledge regarding literacy instruction (Wedman et al., 1996) above and beyond what they could accomplish on their own.

### **Performance on the Knowledge Inventory**

Overall, there was very little difference between scores on the Knowledge Inventory obtained by teacher candidates from the two programs (refer to Table 3). Teacher candidates in the MAT program obtained an average score on the Knowledge Inventory of 30.24; teacher candidates in the PY program obtained an average score of 29.05. This would seem to indicate that teacher candidates, regardless of time spent in the field, internalized knowledge of reading instruction and assessment at roughly the same rate. This knowledge of the five essential components of reading instruction – phonemic awareness, phonics, vocabulary, fluency, and comprehension – is important for candidates' future work in the elementary classroom, as evidenced by the increased amount of time teachers spend delivering instruction in these areas in first and second grade classrooms as reported by Gamse, Bloom, Kemple, and Jacob (2008) in the recent Reading First Impact Study: Interim Report.

As mentioned previously, however, teacher candidates, regardless of program, had difficulties on similar items. Participants in this study seemed to have difficulty with some of the terminology, especially that which was related to basic linguistic underpinnings of the reading process. However, given the brevity of this assessment, we acknowledge that the scores on this pencil-paper measure provide a limited view of what candidates understand about language, especially as related to teaching reading.

If teacher candidates cannot use reading-specific terminology correctly in their own learning and assessment, it cannot be expected that they would be able to use it correctly in their teaching. This supports Moats' (1999) belief that beginning teachers must have an understanding of the terminology used in reading instruction – phonemes, morphemes, etc. – if they are to teach effectively. She states that “few teachers are sufficiently well prepared to carry out such instruction because their preparation programs...have not asked them to understand language with any depth or specificity” (p. 20). Pearson (2001), while agreeing that there is a need for teacher candidates to have knowledge of such linguistic elements, asserts that this knowledge is more useful for understanding how the use of these elements affects students' learning. Additionally, Pearson (2001) believes that, by focusing on linguistics, language “has a static feel...as if it were a set of objects out there that one could accumulate” (p. 14). Rather, language should be thought of as being dynamic; when teaching, teachers should consider that language is learned within a social context of interacting with others, and that it is used to “achieve other ends – to inform, persuade, direct, entertain, control, subvert” (p. 16).

## Limitations

As noted earlier, one limitation of this study was that a pre-test using the Knowledge Inventory 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 reading prior to the administration of the Knowledge Inventory compared to what they knew upon completion of their coursework. Moreover, we acknowledge the limitations of using only one measure of teacher knowledge about teaching reading. A second limitation 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. Interpretations of the data and implications of this study, while valuable, should be viewed in this light.

## Implications

### Implications for Teacher Educators

To better help those they work with, teacher educators must determine their teacher candidates' perceptions regarding their readiness to teach reading. How well prepared to teach reading do candidates perceive themselves to be? Teacher

educators should build their instruction around these perceptions by building on the areas candidates perceive as strengths while improving upon those areas candidates indicate as weak. Using an instrument such as the one in this study would provide those who implement teacher education programs with a means of discerning what their candidates believe about the program and its components.

Likewise, the use of a knowledge test, given pre- and post-instruction, would help teacher educators plan for, implement, and evaluate their programs. The work in this study revealed the limitations of the Knowledge Inventory and suggested that additional work must be done to develop reliable and valid instruments to measure knowledge of teacher education candidates. Phelps' and Schilling's (2004) work toward creating a scenario-based assessment measure used to study teachers' content knowledge and the effects of that knowledge on not only instruction but on student learning as well will certainly contribute to this effort.

Teacher educators also need to perform long-term evaluations of their teaching, as well as of their existing teacher education programs. After one semester of coursework, teacher candidates should not be expected to know everything they need to about reading instruction; expectations can be high, but should ultimately be realistic. After candidates complete all reading coursework, their understanding of reading instruction and perceived readiness to teach reading should be markedly higher. By evaluating the preparation program as a whole, teacher educators may better draw conclusions as to the overall effectiveness of their instruction and program components, and make adjustments where necessary. One possible way of assessing candidate achievement and change in perception over time that could help teacher educators evaluate their own instruction and the preparation program in general is through portfolios. While tests and questionnaires give only a snapshot of what the candidate knows or is feeling at a certain point in time, portfolios can paint a picture of the candidate's development over time.

Also, it is critical that teacher educators examine candidates' perceptions over time, spanning well past the time spent at the university and into their time as teachers in their own classrooms. What teacher candidates identify as areas of strength and weakness during or immediately after completing a teacher education program may be very different than what they identify as areas of strength and weakness after teaching in their own classrooms for an extended period of time.

### **Implications for Further Research**

Incorporating observations of candidates' teaching in the field would help to clarify what knowledge they do, in fact, possess, and what skills they can

execute in the classroom. Teacher candidates may perceive themselves as being prepared to teach reading, but we have little knowledge about how they are able to use what they have learned when they work in the classroom with students. By conducting field observations, researchers would be able to identify a link between what teacher candidates think they can do and what they actually do regarding reading instruction.

Additionally, more longitudinal studies must be conducted in order to determine the long-term effectiveness of teacher preparation programs in regards to preparing candidates to teach reading. Only then will we know if what candidates learn at the university-level is having an effect in the elementary classroom. Further research on this topic must be conducted and it is critical that the findings be used to improve teacher preparation programs already in existence.



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