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# Teacher Candidate Self-Efficacy and Ability to Teach Literacy: A Comparison of Residency and Traditional Teacher Preparation Models

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## Abstract

This comparative study explored self-efficacy and ability for scientifically-based literacy instruction between a traditional and residency model of teacher preparation. Pre-/post-survey data was collected using the Teachers' Sense of Efficacy for Literacy Scale. Mentor teachers completed a modified version of the survey on candidates' abilities. Data were analyzed using paired sample *t*-tests, independent sample *t*-tests, and a trend analysis. Results revealed that candidates in the Residency Model held higher levels of self-efficacy for literacy instruction than in the Traditional Model. Mentor teachers rated candidates in the Residency Model as more able to teach literacy than those in the Traditional Model. There was alignment amongst the mentor rating and the resident perception of ability. In the Traditional Model, the mentor and student teacher were not as aligned in their perspectives of student teacher ability to teach literacy. Teacher preparation programs should consider the potential of teacher Residency Models to prepare pre-service teachers for the use of the Science of Reading for teaching literacy.

**Keywords:** teacher residency, student teaching, Science of Reading, literacy, self-efficacy, mentoring

## Introduction

The National Assessment of Educational Progress (2019) reported that only 35% of Grade 4 students scored at the *Proficient Level* in reading in the United States. Other English-speaking countries demonstrate similar difficulties with students learning to read proficiently by the Grade 4 mark (Department for Education, 2015; National Center for Educational Statistics, 2018). This is an international cause for concern and examination of current literacy practices. Although historic meta-analyses and research reviews in scientific reading research (National Institute of Child Health and Human Development, 2000; Rose, 2006; Snow et al., 1998; Stanovich, 1998), also known as the *Science of Reading*, (Solari et al., 2020; The Reading League [TRL], n.d.) have

delineated five crucial areas of reading: phonemic awareness, phonics, fluency, vocabulary, and reading comprehension; students are not often taught these components using practices that align with this research in schools internationally (Castles et al., 2018; Hanford, 2019; Hempenstall, 2014; Kilpatrick, 2015; McNeill, 2018; Seidenberg, 2017). In addition to reading, writing is also an essential element of literacy that should be taught explicitly (Berninger et al., 2002; Hochman & Wexler, 2017a; Spear-Swerling & Zibulsky, 2014). These essential elements of literacy should be taught in alignment with evidence-based practices using systematic, explicit, cumulative, and diagnostic instructional methods (Kilpatrick et al., 2019; Moats, 2019; National Institute of Child Health and Human Development, 2000). Examples of these practices include training in phonological awareness (Torgesen et al., 1999; Vellutino et al., 2004) to advanced levels (Kilpatrick, 2015), explicit and systematic phonics instruction (Blachman et al., 2014; Ehri, 2020; Martínez, 2011), extensive practice reading decodable text connected to newly learned phonics skills (Mesmer, 2010; Murray et al., 2014) instruction in oral language and vocabulary development (Beck et al., 2013; Konza, 2014; Language and Reading Research Consortium, 2015), comprehension instruction that includes the examination of genre, syntax, discourse, and intentional building of background knowledge (Language and Reading Research Consortium, 2015; Oakhill & Cain, 2012; Palincsar & Brown, 1984), and explicit instruction in writing (Berninger et al., 2002; Hochman & Wexler, 2017b). Research suggests gaps in teacher knowledge surrounding these literacy teaching approaches (Cohen et al., 2017; Joshi & Wijekumar, 2019; Kilpatrick, 2015; Seidenberg, 2017). These gaps may be derived from teacher preparation programs, where there is often a lack of coverage of the aforementioned literacy concepts (Drake & Walsh, 2020; Durrance, 2017; International Literacy Association, 2015; Washburn et al., 2011; Willingham, 2018) or field placements that provide limited opportunities to apply key literacy concepts to practice with corrective feedback (Ciampa & Gallagher, 2018; Cunningham & Zibulsky, 2009; Spear-Swerling & Zibulsky, 2014).

Furthermore, research demonstrates the necessity of effective and competent teacher preparation for reading teachers (Kilpatrick, 2015; Moats, 2020; Washburn et al., 2016) which includes a strong link between theory and practice. However, disconnects between educational theory and practice have been reported across countries and remain a conundrum for teacher educators. (Broekkamp & Van Hout-Wolters 2007; Imanuel-Noy & Wagner, 2016). Across the globe, teacher preparation programs have been working to remedy this by increasing candidate time in clinical experiences, building stronger school-universities connections, and deepening coursework around evidence-based instruction and diverse student populations (Darling-Hammond & Lieberman, 2012). Linek et al. (2006) stated, “to become reflective practitioners who intertwine literacy theory and practice, university and public-school partnerships that provide hands-on practice in public school classrooms and university experiences must become a priority for preparation programs for reading teachers” (p. 185). Research is clear about the critical role teachers possess in teaching children to read. For children with reading difficulties, a highly knowledgeable and well-trained educator is especially indispensable for reading acquisition (Snow et al., 2005; Taylor et al., 2000; Torgesen, 2005).

## Literature Review

### *Literacy Instruction and Self-Efficacy*

The body of literature on the Science of Reading is clear about how the brain is wired to read (Dehaene, 2009; Gentry & Ouellette, 2019; TRL, n.d.). Reading acquisition progresses from a speech-to-print process requiring that educators begin instruction with attention to speech sounds and progress to teaching students to map those sounds to letters and letter combinations. Therefore, knowledge of highly effective literacy instructional practices anchored on this research is paramount (Moats, 2014; Spear-Swerling & Zibulsky, 2014). For childhood educators, this body of knowledge often begins to develop in teacher preparation programs, which hold an essential role in the selection and communication of literacy content knowledge (International Dyslexia Association, 2018). A synergy exists between pre-service teacher ability for literacy instruction and self-efficacy about literacy instruction (Barr et al., 2016; Knoblauch & Hoy, 2008). Self-efficacy is a self-assessment of one's competency in a specific endeavor to achieve a particular outcome (Bandura, 1977). The focus in this case is pre-service teacher self-efficacy for literacy instruction. Often when student teachers (ST) acquire a strong sense of self-efficacy in literacy instruction, they are more diligent and persevering in their efforts to help students learn to read and write (Reynolds et al., 2016). Nonetheless, self-efficacy is a *self-perception* of ability, rather than *actual competence*. To be clearly demonstrated, actual competence demands an observed perspective or measurement (Bostock & Boon, 2012), as observer perspectives provide insight to actual competence, rather than only perception of one's ability. This distinction is noteworthy because individuals could under- or over-perceive their ability to teach literacy; however, the self-perception of their ability begets increased or reduced effort and effectiveness in teaching (Bostock & Boon, 2012; Cunningham et al., 2004; Tschannen-Moran et al., 1998). An overestimate of one's abilities can reduce the effort to improve (Kruger & Dunning, 1999). Therefore, the closer self-efficacy reflects actual competence, the better. Self-efficacy for literacy instruction in teachers is conducive to the development of skills to apply highly effective literacy pedagogy in teachers (Helfrich & Clark, 2016). The RAND research (Armor et al., 1976) initiated an investigation of teacher self-efficacy. Since then, research around self-efficacy for literacy instruction has continued to demonstrate strong implications for teacher motivation, behaviors, and student learning outcomes (Knoblauch & Hoy, 2008; Reynolds, et al., 2016; Tschannen-Moran & Johnson, 2011). In fact, strong teacher self-efficacy has been linked to positive student achievement outcomes (Helfrich & Clark, 2016; Stein & Wang, 1988).

Teacher preparation programs require field placements and provide opportunities for pre-service teachers to enact their newly acquired pedagogical knowledge in literacy. These field placement experiences have an active role in the development of self-efficacy for pre-service teachers (Ciampa & Gallagher, 2018; Mazzye & Duffy, 2021). Preparation programs that provide a combination of extensive and comprehensive field placements, concurrent literacy coursework, and opportunities for mastery experiences tend to result in increased levels of preservice teacher self-efficacy for teaching reading (Ciampa & Gallagher, 2018; Helfrich & Clark, 2016). Additionally, high quality mentor teachers and mentor interactions with STs have been shown to impact the development of ST self-efficacy (Knoblauch & Hoy, 2008). The *Teachers' Sense of Efficacy for Literacy Instruction Scale* (TSELS) was developed and used by Tschannen-Moran & Johnson (2011) for data collection that examined self-efficacy beliefs of teachers in literacy instruction. Their work implored future research to explore specific facets of teacher preparation

programs that may lead to heightened self-efficacy in literacy instruction (Tschannen-Moran & Johnson, 2011). Ciampa & Gallagher (2018) collected data with an updated version of the TSELS to explore the self-efficacy of preservice teachers for teaching literacy prior to and following a course in literacy methods in two North American universities. They recommend that future research studies investigate self-efficacy in comparison to *actualization* of outcomes (competence). Other studies have examined the development of self-efficacy for teaching reading (Kyungsim & Szabo, 2011); however, no studies were found where measures of enactment of effective literacy practices were employed to determine actualization of self-efficacy for literacy instruction.

### ***Teacher Residency Model***

To address the concerns regarding teacher preparation in content knowledge and pedagogy, innovative models of teacher preparation, such as a residency model (RM), are increasingly being explored (American Association of Colleges for Teacher Education, 2018). In the teacher residency program, residents (pre-service teachers) are immersed in a K-12 school for one full year alongside a mentor teacher, while concurrently completing integrated, aligned academic coursework (Gatti, 2016; Guha et al., 2017; Kretchmar et al., 2018). The development of residents occurs over the extended time in the RM. Residents co-teach with *mentor teachers* who have a more invested role in developing the residents than the traditional *cooperating teachers*. The resident and mentor engage in a respectful and mutually beneficial relationship in which they learn from one another as residency co-teachers and co-partners in instruction, planning, assessment, and other facets of teacher responsibilities (Garza & Werner, 2014). Mentors also engage in professional development around either specific content, such as literacy instruction, or mentoring within a residency and applying concepts of residency co-teaching (Chu, 2019; Every Student Succeeds Act, 2015; Garza et al., 2019). For further discussion about the role of mentoring in teacher residencies see Mazzye and Duffy (2021). The RM affords a unique opportunity for deep connection and alignment amongst residents, mentors, and university faculty leading to a deeper link between theory and practice, stronger understanding of diverse settings, and better preparation of pre-service teachers (Mazzye et al., 2022).

Foundational to the RM is the mutually beneficial partnership between the university and the K-12 public school. From the intentional communication and alignment in this strong, connected partnership comes potential to foster the development of new teachers with strong knowledge of highly effective literacy instructional practices described above. Acknowledging concerns in the field of teacher preparation about dissonance between theory and practice (Cochran-Smith & Lytle, 2009; Darling-Hammond, 2006; Darling-Hammond & Oakes, 2019; Feiman-Nemser & Buchman, 1985), many teacher preparation programs have looked to innovative models of preparation with increased clinical practice time and better alignment between university courses and field pedagogy (Mazzye et al., 2022). Additionally, there is a complexity to today's classrooms as they address diversity, including a wide range of student learning needs which require teachers who are well-prepared to differentiate instruction (Aceves, & Orosco, 2014; Cochran-Smith & Villegas, 2014). New teaching conditions require reconceptualizing what it means to student teach, mentor STs, co-teach within classroom contexts, collect and analyze data for instructional decisions, supervise STs, construct university literacy coursework, and most importantly provide effective instruction for students (P-12).

A transformed model of teacher preparation may be required for STs to negotiate the complexities of instruction, specifically literacy instruction (Alter & Naiditch, 2012; Garza et al., 2019). The integrated, connected teacher RM holds promise and potential to enact such transformations (American Association of Colleges for Teacher Education, 2018; Guha et al., 2017).

### ***Traditional Student Teaching Model***

The traditional model (TM) of teacher preparation has come under scrutiny regarding its capacity to train pre-service teachers for the complexity of teaching. (Alter & Naiditch, 2012; Peercy & Troyan, 2017). In this model, pre-service teachers historically spend a short time shadowing a mentor teacher and then increasingly take over the responsibilities of the classroom over the next several weeks, finally assuming the leading role in a classroom (Fraser & Watson, 2014). In this model, the ST “exchanges places with the cooperating teacher who then exits to the staffroom” (Clarke et al., 2014, p. 8). This model has an expedited transition to teaching, whether the candidate has sufficient knowledge of student assets and learning context or not, due to time constraints (Wasburn-Moses, 2017). Additionally, the TM often has limited mentoring opportunities or intentionally created margins for candidates, mentors, and supervisors to meet prior to the candidate delivering independent instruction (Hoffman et al., 2015). In fact, in the TM, the mentor teacher holds more of an evaluative and supervisory role, rather than that of mentoring (Guise et al., 2017). Lesson preparation and delivery is implemented by the ST with minimal support or supervision. Typically, STs have completed their university courses before student teaching and have minimal interactions with course professors during the student teaching experience (Fraser & Watson, 2014). In this TM, teaching theory is presented before extensive practice.

The TM of preparation have time and structure constraints that limit opportunities for mentor teachers to receive professional development around mentoring. As is typical in educational contexts, mentor teachers participate in professional development offered by their districts; however, time is rarely allocated for mentors to share knowledge or participate in professional development specifically designed for mentor development that focuses on candidate preparation or mentor understanding of program goals and structures (Hoffman et al., 2015). Time constraints also limit communication between mentors and STs in the TM, which in turn stifles opportunities to establish collaborative relationships. Due to the brief placements, candidates and mentors may lack the occasion to reflect deeply together about lesson preparation, delivery, student responses, and feedback during the placement (Hoffman et al., 2015). Within the TM, the challenges of limited time and mentoring sometimes place an ST in a sink-or-swim experience that could undermine pre-service teaching confidence and competence that amateur teachers require to progress toward proficiency (Fraser & Watson, 2014; Heck & Bacharach, 2015)

### ***Literature Gap***

While the literature on teacher residencies is growing, there is a paucity of literature investigating how teacher residents develop literacy education skills and experience. An extensive search was done using keywords: *teacher residence* and *literacy instruction* yielding no results in peer reviewed articles in EBSCO and ERIC databases. A literature review by Mazzye et al. (2022) found that only 9% of the recent research on teacher residencies used a quantitative design. While qualitative designs effectively examine individual experiences and programs, quantitative research is needed to make decisions regarding comparisons of effectiveness and outcomes. This fostered

a need for more comparative studies investing resident proficiency in teaching in content areas, including literacy (Beck, 2018). In addition, Ciampa and Gallagher (2018) called for studies that explore self-efficacy with a measure of actual competence, such as self-efficacy measures with observer perspectives as used in this study. This study responds with an examination of how the RM compares to the TM of teacher preparation in the development of self-efficacy and ability for effective literacy instruction in pre-service teachers. Additionally, this study reports on the quantitative data from a two-phase study. Phase one included mixed methods data from only one semester of findings and can be examined here (Mazzye & Duffy, 2021).

## Methods

### *Research Questions*

There are important under-explored questions around constructs of self-efficacy in literacy instruction for STs in traditional and residency models of teacher preparation. In addition, observer perspectives are needed to determine actualization of ST ability in different models of preparation. This lack of exploration suggests the following research questions:

- Do STs' perceptions about their ability to teach literacy have different rates of change across the student teaching quarter when comparing the RM to the TM?
- Do mentor teachers rate STs as more effective at teaching literacy in the RM or TM?
- What alignment exists among mentor teachers' and STs' perceptions of STs' ability to teach literacy in each model (RM and TM)?

### *Models of Preparation*

*Traditional Model.* In the TM of the teacher preparation program, pre-service teachers at the undergraduate level began their field experiences in a scaffolded approach with one day a week in their junior year and then they began their senior year in a practicum setting. They spend 1.5 days a week in a Fall practicum and continued with the same mentor for the beginning of the Spring semester, which is entitled *quarter three* (Q3) of student teaching (7 weeks). These pre-service teachers began their student teaching in a rural setting with a professor acting as a liaison between the university and school. The data for this study is gathered from the final quarter (Q4) of student teaching with a new seven-week experience in an urban context with a new mentor teacher.

*Residency Model.* In the RM, the pre-service teachers were placed in an urban setting where they were immersed in a five-day-a-week experience during the Fall and Spring semesters. The residents transitioned to a different grade level and school each semester. Coursework was completed concurrently with the field placements in a cohort model with innovative instructional practices and designs. At the beginning of the school year, the pre-service teachers participated in school-based professional development with their mentors and continued in the same placement for the semester. Most pre-service teachers in the RM were seeking initial certification in Childhood Education, but were at the graduate level; though two were undergraduate. Although the graduate candidates held a bachelor's degree in another field, they were novice to the field of education. The data gathered for this study is from the final quarter (final seven weeks) of the RM. Table 1 presents basic features of both models.

**Table 1.** Features of Residency Model and Traditional Model

<b>Residency Model</b>	<b>Tradition Model</b>
Two semester-long placements	Two 7-week placements
Residency co-teaching throughout the experience	Gradual release from observation to teaching
Cohort model of placements	Placements are isolated
Professional development for mentors around literacy and mentoring	No professional development for mentors
Extensive mentoring	Limited mentoring
University support from supervisors	University support from supervisors
University support from faculty	Limited support from faculty
Coursework is concurrent	Coursework is complete

### *Participants*

The study participants included pre-service STs in a northeastern university in the United States ( $N = 53$ ) and their mentor teachers ( $N = 49$ ). All of these pre-service STs were preparing for initial childhood (Grades 1-6) education certification in either the teacher residency ( $N = 25$ ) or traditional ( $N = 28$ ) teacher preparation pathways and were enrolled in the same university. In the United States, initial certification refers to a provisional teaching certificate which is probationary and earned prior to a later-attained permanent teaching certificate. The researchers invited all STs enrolled in these programs to participate in the study. The STs were taking part in their final student teaching placement (Q4) in the final semester of their programs. All STs received literacy instruction with similar experiences. In addition, all STs received their more advanced literacy course in alignment with perspectives based on the Science of Reading (TRL, n.d.). In the TM, all STs were at the undergraduate level; in the RM, most were at the graduate level; however, 2 were undergraduates. Table 2 provides more demographic information for participants in each model.

**Table 2.** Demographics of Student Teachers in Residency Model and Traditional Model

<b>Demographic</b>	<b>Residency Model STs</b>	<b>Traditional Model STs</b>
<b>Ethnicity</b>		
White	18	22
Black/ African American	4	1
Hispanic/ Latino	1	2
Asian/ Pacific Islander	0	2
Other	2	1
<b>Gender</b>		
Female	21	23
Male	4	3
<b>Age</b>		
20-29	18	28
30-39	5	
40-49	1	
<b>Urban School</b>	25	28

Mentors for both models were employed in urban schools in Grades 1-6. They were selected by building principals as leaders and capable teachers. In the RM, mentors participated in professional development in reading instruction from university faculty based on the Science of Reading (TRL, n.d.) along with their residents. This was an ongoing and recursive professional development based on the contextual needs of each classroom, and involved presentations, lesson modeling, and consultation with a university faculty liaison. In the TM, mentors did not receive this training from university faculty. In addition, the RM consisted of cohorts of residents in each school (6-8 residents). In the TM, there may or may not have been other STs placed in the school.



### **Data Collection**

Data were collected during the Spring semesters of 2018 and 2019 over the final quarter of student teaching placements. To determine ST self-efficacy for teaching a wide range of literacy practices (Shaw et al., 2007), this study used the TSELS developed by Johnson & Tschannen-Moran (2003).

*Student teacher TSELS.* TSELS makes use of a 9-point Likert scale with 1 labeled *None at All*, through 9 labeled *A Great Deal*. The scale has 22 items examining ST self-perceptions of their ability to teach literacy. Question constructs included specific literacy practices about teaching foundational reading skills, providing feedback, differentiating instruction, writing instruction, assessment, and literacy strategies. Example questions follow:

- To what extent can you help your students figure out unknown words when they are reading?
- To what extent can you use a variety of informal and formal reading assessment strategies?
- To what extent can you implement word study strategies to teach spelling?

STs completed the questionnaire at the beginning and conclusion of their Q4 fieldwork.

The TSELS instrument is reliable, with an overall Cronbach's Alpha coefficient of .96. A reliability analysis of the various subscales for sense of efficacy for integrating the language arts produced an alpha coefficient of .93 and for differentiating instruction an alpha coefficient of .91 (Valadez, 2006). A Cronbach's Alpha coefficient with a value above .90 indicates excellent internal consistency (George & Mallery, 2003).

*Mentor teacher modified TSELS.* Mentor teachers completed a modified version of the TSELS to report on their ST's ability to teach literacy (actualization). The TSELS were modified to gain the perspectives of observers (mentor teachers) regarding the ability of the ST by slightly changing the questionnaire stem, e.g., *To what extent can the student teacher. . . .*

A reliability analysis of the modified TSELS instrument was conducted, producing a Cronbach's Alpha coefficient of .99, demonstrating that the stem added to the TSELS to gain mentor observation perspectives did not impact the measure.

### **Data Analysis**

Data were downloaded into Excel from electronic surveys and cleaned. Seven participants were eliminated because they checked *Do not give permission to participate in the study* on their participant release form. Data were cleaned and prepared for SPSS 26 for analysis. Descriptive statistics were examined, and histograms were developed to ensure assumptions of normality and homogeneity of variance were met using Levene tests. An independent sample *t*-test was conducted to determine if there was parity between groups at pre-questionnaire. Especially since some of the residents were in a graduate program, this was a concern; the differences were not significant ( $t(51) = -1.303$ ;  $p > .05$ ). Interestingly, the mean of the TM ( $n = 28$ ,  $M = 6.56$ ,  $SD = 1.16$ ) was greater than the mean of the RM ( $n = 25$ ,  $M = 6.17$ ,  $SD = .96$ ) at the pre-questionnaire. Data collected from TSELS were analyzed using SPSS 26. Inferential statistics included paired-sample *t*-tests, independent sample *t*-tests, and a trend analysis.

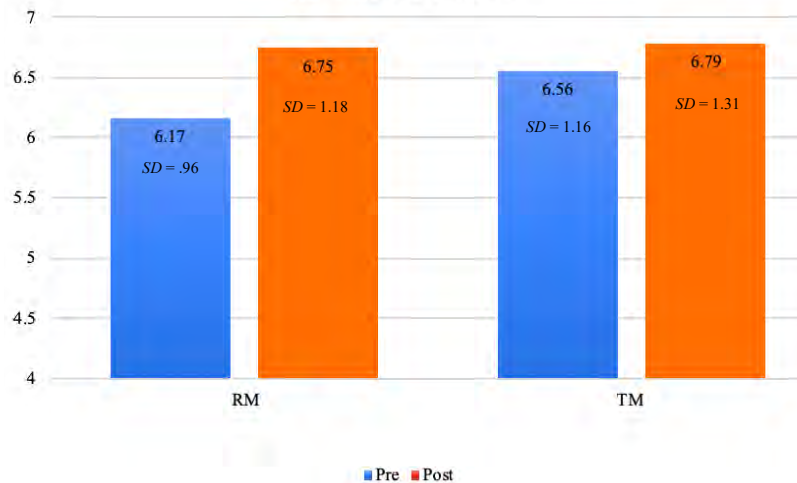
## Results

To examine the results of question 1: *Do STs' perceptions about their ability to teach literacy have different rates of change across the student teaching quarter when comparing the RM to the TM?*, a paired sample *t*-test indicated a significant difference in total TSELS scores in the RM from the pre- to post-test Quarter 4 student teaching experience, ( $t(24) = .009$ ;  $p = .014$ ). The effect size for this analysis ( $d = .54$ ) exceeded Cohen's (1988) convention for a medium effect ( $d = .5$ ). This difference was significant suggesting that on average, the STs in the RM significantly improved in their perception of their ability to teach literacy from pre-test ( $n = 25$ ,  $M = 6.17$ ,  $SD = .96$ ) with 95% bootstrap *CI* (5.79-6.51) to post-test ( $n = 25$ ,  $M = 6.75$ ,  $SD = 1.18$ ) with 95% bootstrap *CI* (6.29-7.21). A bootstrap confidence interval of 95% is standard in a paired sample *t*-test with this sample size (DiCiccio & Efron, 1996).

A paired sample *t*-test showed no significant difference on TSELS in the TM from the pre-to post-test Quarter 4 student teaching experience, ( $t(27) = -.914$ ;  $p = .369$ ). This suggests that on average, the STs in the TM did not significantly improve in their perception of their ability to teach literacy from pre-test ( $n = 28$ ,  $M = 6.56$ ,  $SD = 1.16$ ) with 95% bootstrap *CI* (6.13-6.99) to post-test ( $n = 28$ ,  $M = 6.79$ ,  $SD = 1.31$ ) with a 95% bootstrap *CI* (6.3-7.2).

In the RM, ST perceptions about their ability to teach literacy revealed significant growth from pre- to post-test across the final student teaching quarter (see Figure 1). In contrast, the TM did not show significant growth. The RM and TM STs perceived their final ability as similar, with the TM (6.79) having a slightly higher perception of their ability than the residents (6.75), however, the STs in the TM rated themselves higher on the pre-questionnaire measure than those in the RM. Figure 1. displays the pre-post TSELS means in the RM and TM.

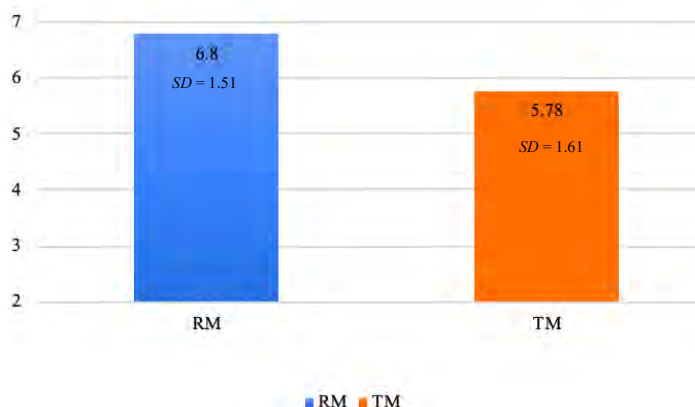
**Figure 1.** Pre-Post- TSELS Means (Question 1)



To address Question 2: *Do mentor teachers rate STs as more effective at teaching literacy in the RM or TM?*, an independent sample *t*-test was conducted on mentor teachers' modified TSELS in both models. Results showed that mentors rated their STs with greater ability to teach literacy at the conclusion of their student teaching in the RM ( $n = 23$ ,  $M = 6.80$ ,  $SD = 1.51$ ) than mentors in the TM ( $n = 26$ ,  $M = 5.78$ ,  $SD = 1.61$ );  $t(47) = 2.26$ ,  $p = .029$ , 95% *CI* [0.11, 1.92]. The effect size for this analysis ( $d = .65$ ) exceeded Cohen's (1988) convention for a medium effect ( $d = .5$ ). This difference was significant suggesting that mentors in the RM perceived residents better able to

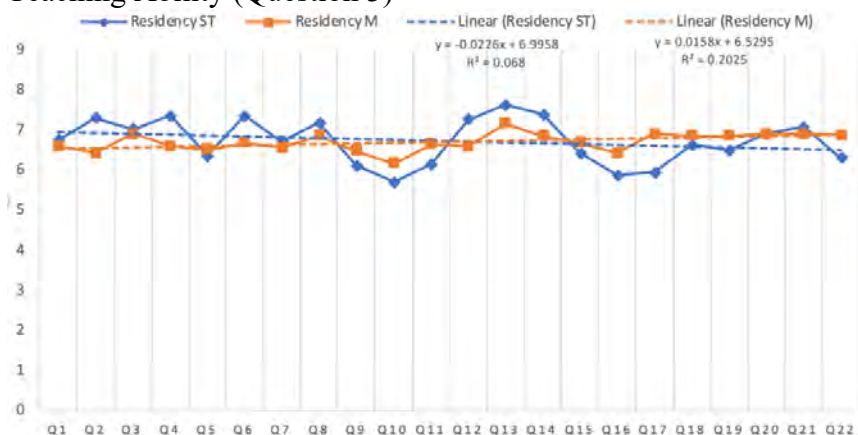
teach literacy at the end of the experience than TM STs. Figure 2. displays the mean of ratings provided by the Mentor Teacher of actual ability to teach reading in the RM and TM.

**Figure 2.** Mentor Rating (Mean) of Actual Ability on Modified TSELS (Question 2)



In addition, a trend analysis was used to answer Question 3: *What alignment exists among mentor teachers' and STs' perceptions of ST ability to teach literacy in the RM and TM.* In the RM, when the slopes of the lines were examined for the residents ( $y = -.0226x + 6.9958$ ,  $R^2 = .068$ ) and mentors ( $y = .0158x + 6.5295$ ,  $R^2 = .2025$ ), alignment was found between the mentor and the resident. The closest alignment existed between TSELS (Johnson & Tschannen-Moran, 2003) Items 1 (*adjust reading strategies based on ongoing informal assessment of your students*), 3 (*integrate the components of language arts*), 5 (*adjust writing strategies based on ongoing informal assessments*), 7 (*model effective writing strategies*), 20 (*provide children with writing opportunities in response to reading*), and 21 (*adjust your reading materials to the proper level for individual students*)—all with a mean difference of less than .2. Figure 3. displays a RM trend analysis of the TSELS from the mentor and resident perspectives of literacy teaching ability.

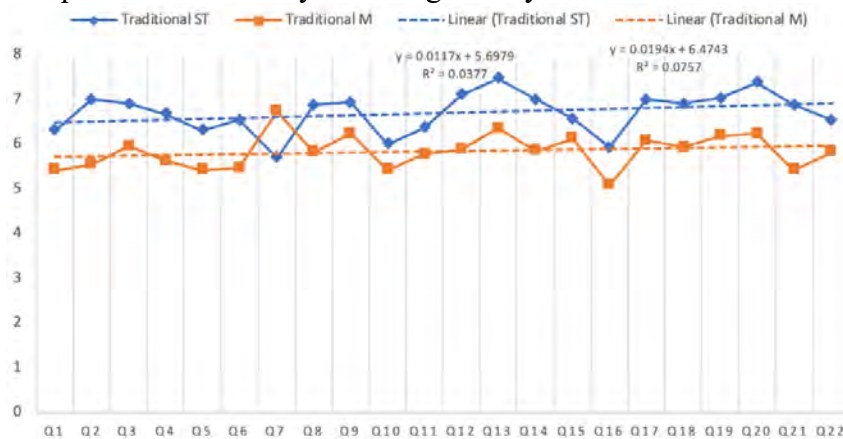
**Figure 3.** Residency Model Trend Analysis: Mentor and Resident Perspectives of Literacy Teaching Ability (Question 3)



In contrast, in the TM, the mentor and ST were not nearly as aligned in their perspectives of ST ability to teach literacy. When the slopes of the lines were examined for the STs ( $y = .0117x + 5.6979$ ,  $R^2 = .0377$ ) and mentors ( $y = .0194x + 6.4743$ ,  $R^2 = .0757$ ), there was little alignment found amongst mentors and TM STs, with the STs rating themselves higher than the mentors. The

greatest mean difference was in Item 2 ( $MD = 1.46$ ; *use a variety of informal and formal reading assessment strategies*), and the least mean difference was for Item 15 ( $MD = .45$ ; *get students to read fluently during oral reading*). In the TM, STs perceived themselves as better able to teach literacy than their mentors rated them. Figure 4. displays a TM trend analysis on the TSELS from the mentor and resident perspectives of literacy teaching ability.

**Figure 4.** Traditional Model Trend Analysis: Mentor and Traditional Student Teacher Perspectives of Literacy Teaching Ability



## Conclusions

Since there is an international concern about children reading at proficient levels (Department for Education, 2015; Nation's Report Card, 2020; National Center for Education Statistics, 2018), teacher preparation programs must examine the ability of their pre-service teachers to teach literacy effectively. This study suggests that residents experience a greater perception of growth than TM STs and that mentors in the RM evaluate the residents as more capable in teaching literacy (actualization) than traditional STs. A main finding in the present study was the much closer alignment in perspectives between mentors and candidates concerning the candidates' abilities to teach literacy in the RM compared to the TM.

## Self-Efficacy

There are aspects of the RM that facilitate increased levels of self-efficacy according to this study that are also supported by the literature. The first aspect is that there is more time for the resident to develop (Chu, 2019; Klein et al., 2016; Mazzye & Duffy, 2021). This increased time provides greater opportunity for mastery experiences in literacy instruction, assessment, and observation of student growth. Mastery experiences are known to provide increased levels of self-efficacy (Ciampa & Gallagher, 2018; Helfrich & Clark, 2016). An additional aspect is greater opportunity for in-depth mentoring in the RM (Chu, 2019; Vagi et al., 2019). Effective mentoring has been linked to novice teacher success and increased levels of self-efficacy (Callahan, 2016; Orland-Barak, 2014). The RM increases focus on mentor training (in our case, the Science of Reading) and investment due to the cohort and partnership nature of the RM compared to the more isolated experiences of the TM. Finally, in the RM, residents complete coursework simultaneously with their residency experience while in TMs, STs have typically completed coursework prior to their student teaching. The results of this study suggest that these key aspects of the RM not only

increase resident self-efficacy for teaching literacy, but also contribute to the residents' actualization of skills in this area.

A description of how the same project (Literacy Assessment and Intervention Project) took form in both models will illustrate this point. In both models, there is nearly identical instructional content and assessments in the advanced literacy course. A main focus during the course for both models is a project that requires students to assess and develop an intervention for a struggling reader. Residents and TM STs first perform four informal diagnostic assessments (an oral reading fluency measure, an alphabetic assessment, a nonsense word screener, and the Phonological Awareness Screening Test) on students in their classroom, and then follow a specific intervention process based on *Equipped for Reading Success* (Kilpatrick, 2016) and *Road to Reading* (Blachman & Tangel, 2008). However, at this point, the similarities diverge. Time provided to put literacy instruction into practice in the classroom is not equivalent.

Since residents remain in their placements for two full, five-day-a-week semesters, they have substantial opportunities to create and implement many more literacy lessons during the extensive residency time frame. Residents have ample time to learn and implement the intervention. They have greater opportunity to analyze lesson progress and assessment data to determine areas of deficit and plan for targeted instruction for specific skills (e.g., phoneme substitution, knowledge of vowel teams, etc.). Within this experience, the residents have the time to implement at least 15 intervention lessons, and in some cases more. Additionally, the residents can re-assess students using the previously used measures and chart the specific growth of students they instructed. Residents reflect on the effectiveness or lack of growth after they monitor progress. They can present data to their mentor teachers and are often asked to present at school-based data meetings. During this time, residents work closely with their mentors as they put these interventions into practice.

In addition, since residents are in a classroom for an extended period, they have opportunities to observe and teach students in other facets of literacy as well. For example, the additional time affords residents the ability to experience the differences in how students interact with fictional text, informational text, poetry, and writing. This additional time allows residents to learn a depth and breadth of knowledge for how to best teach literacy.

In contrast, although TM candidates completed the same coursework and had a similar assignment as the one described above, these candidates only had time to implement one intervention lesson. Additionally, these candidates do not get the opportunity to take ongoing anecdotal records of learning or adjust subsequent plans for intervention as the students grow. They also could not reassess their tutees over time to ascertain growth. Although they share what happened during the intervention lesson with their mentors, they have limited opportunity to co-plan and discuss decision-making with their mentors. Such in depth experiences that would promote mastery are not feasible due to time constraints in the TM. Further, the lack of time in this model negatively impacts STs opportunity to take part in other facets of literacy instruction beyond interventions as well, including instruction in comprehension, writing, and foundational skills.

### ***Alignment of Perspectives***

An alignment of mentor and candidate perspectives in terms of literacy instruction would indicate that a candidate has a reasonable assessment of their own teaching abilities. In the RM, mentors and residents consistently agreed on the ratings of teaching ability for the various elements of literacy instruction. In the TM, STs nearly always rated themselves higher than the mentor teacher rated them (Figures 3 & 4). These trends suggest that candidates in the RM are better able to assess their own teaching ability than candidates in the TM who consistently overestimate their abilities. One explanation for this finding could be differences in maturity due to level (graduate vs. undergraduate). However, this is unlikely due to the lack of difference between the groups at pre-test where no significant difference between groups was found. In fact, TM undergraduates already had school placement experiences in previous practicums while those in the RM generally did not. Therefore, one can assume that the differences are due to the preparation as opposed to student level. These trends also indicate that STs in the TM get neither the benefit of heightened self-efficacy, nor the benefit of having a strong competency for literacy teaching, as the residents outperform them on both measures. Their comparatively lower growth in a sense of self-efficacy may lead to decreased effort and reduced student outcomes (Reynolds et al., 2016). At the same time, their overestimation of actual ability may diminish their likelihood of seeking support and gaining new knowledge. If a candidate is cognizant of areas in need of improvement, this perspective promotes a *seeking out* of support, professional development, and consequently an increase of knowledge (Kruger & Dunning, 1999).

Although high levels of self-efficacy have the potential to increase student outcomes, an accurate assessment of ability to teach literacy is beneficial. The utilization of professional development to obtain new knowledge, especially during teacher induction years, brings true increases in ability (i.e., actualization of self-efficacy) which ultimately impacts student learning outcomes (Didion et al., 2020; Knoblauch & Hoy, 2008; Reynolds et al., 2016). Having a measure of actualization may be beneficial in that it has the potential to temper overestimates of one's ability and encourage novice teachers to seek new learning. In this study, actualization of self-efficacy was rated from the mentor perspective, however, other methods of gaining measures of actualization are possible (e.g., teaching observations, knowledge assessments, student outcome measures, etc. (Ciampa & Gallagher, 2018)).

### ***Theoretical Implications***

The increased time in the RM fosters an increased sense of self-efficacy and actualization through mastery experiences with literacy instruction, assessment, and intervention. Intentional mentoring within the RM is supported by professional development by university faculty for mentors, which fosters additional alignment between perspectives of effective literacy instructional practices. Connected coursework that occurs simultaneously during the residency fosters a direct link between content knowledge and instructional practice. RMs have the potential to more effectively prepare teachers for literacy instruction than TMs.

### ***Practical Implications***

Due to the benefits provided by teacher residency programs for pre-service teacher development, teacher preparation programs should consider implementing teacher residencies. Teacher

preparation programs, both at the graduate and undergraduate levels, should consider the potential of teacher residencies to prepare pre-service teachers to apply teaching practices aligned with the Science of Reading. Acknowledging international concern about students' reading proficiency levels (Department for Education, 2015; Nation's Report Card, 2020; National Center for Education Statistics, 2018) and the bearing that teacher preparation programs have on preparing educators (Carver-Thomas & Darling-Hammond, 2019; Darling-Hammond, & Lieberman, 2012), teacher preparation programs should examine how they are preparing teachers to teach literacy. With course instruction around scientifically-based practices for teaching literacy (Kilpatrick et al., 2019; National Institute of Child Health and Human Development, 2000; TRL, n.d.), the RM provides increased opportunities for residents to grow in content (e.g., phonology, morphology, and comprehension) and pedagogical knowledge of literacy.

### ***Limitations and Future Research***

There are certain limitations that should be considered. This study was conducted within an individual university with a pilot teacher residency program. During the first year of the residency, the RM candidates and mentors received stipends through grant funding; however, this funding was not available for the second year of data collection. It is possible that this influenced the outcomes. In addition, to increase the generalizability of the results, future research could include additional institutional comparisons of traditional and RMs. In the TM, all STs were at the undergraduate level while most in the RM were at the graduate level, with only two at the undergraduate level. It is possible that these differences could have contributed to the differences seen in this study; however, an analysis conducted to examine differences between the groups prior to Q4 found no significant differences. While differences may exist between the graduate and undergraduate students, the measures utilized in this investigation do not appear to be sensitive to those characteristics. Therefore, it is unlikely that this difference affected the results of the study.

Future research may benefit from an additional observation tool and procedures that more specifically measure actualization in elements of scientifically-aligned literacy instruction, perhaps a disciplinary specific rubric that maps directly to standards for literacy instructional practices, such as *Knowledge and Practice Standards for Teachers of Reading* (International Dyslexia Association 2018) and a literacy content knowledge assessment to further ascertain differences in content and pedagogical knowledge between traditional and RMs.

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**Appendix A: Demographic Survey and TSELS (Johnson & Tschannen-Moran, 2003)**  
**Survey for the Literacy Classroom: Teachers and Pre-service Teachers**

1. Which describes you? (Please select and describe all that apply)

- a. Teacher resident:  undergraduate  graduate
- b. Student teacher:  undergraduate  learning community  graduate
- c. Classroom teacher:  grade: \_\_\_\_\_; Years employed as a teacher: \_\_\_\_\_
- d. Student teaching supervisor: \_\_\_\_\_
- e. Other: \_\_\_\_\_

2. Please specify your ethnicity.

- White  Hispanic or Latino  Black or African American  
 Native American  Asian/ Pacific Islander Other (Please Specify) \_\_\_\_\_

3. Gender \_\_\_\_\_

4. Age:

- 20-25  26-30  31-39  40-49  50-59  60+

5. Which best describes your school?

- urban  rural  suburban

PLEASE CONTINUE ON REVERSE SIDE →

## Teacher Beliefs - TSELS

This questionnaire is designed to help us gain a better understanding of the kinds of things that create challenges for teachers. Your answers are confidential.

**Directions:** Please indicate your opinion about each of the questions below by marking any one of the nine responses in the columns on the right side, ranging from (1) "None at all" to (9) "A Great Deal" as each represents a degree on the continuum.

**Please respond to each of the questions by considering the combination of your current ability, resources, and opportunity to do each of the following in your present position.**

	None at all	Very Little	Some Degree	Quite A Bit	A Great Deal				
1. To what extent can you adjust reading strategies based on ongoing informal assessments of your students?	1	2	3	4	5	6	7	8	9
2. To what extent can you use a variety of informal and formal reading assessment strategies?	1	2	3	4	5	6	7	8	9
3. To what extent can you integrate the components of language arts?	1	2	3	4	5	6	7	8	9
4. To what extent can you provide specific, targeted feedback to students during oral reading?	1	2	3	4	5	6	7	8	9
5. To what extent can you adjust writing strategies based on ongoing informal assessments of your students?	1	2	3	4	5	6	7	8	9
6. To what extent can you use a student's oral reading mistakes as an opportunity to teach effective reading strategies?	1	2	3	4	5	6	7	8	9
7. To what extent can you model effective writing strategies?	1	2	3	4	5	6	7	8	9
8. How much can you do to meet the needs of struggling readers?	1	2	3	4	5	6	7	8	9
9. How much can you do to get students to use independent reading time productively?	1	2	3	4	5	6	7	8	9
10. To what extent can you implement word study strategies to teach spelling?	1	2	3	4	5	6	7	8	9
11. To what extent can you get children to read a wide variety of genres?	1	2	3	4	5	6	7	8	9
12. To what extent can you help your students figure out unknown words when they are reading?	1	2	3	4	5	6	7	8	9
13. To what extent can you use flexible grouping to meet individual student needs for reading instruction?	1	2	3	4	5	6	7	8	9
14. To what extent can you model effective reading strategies?	1	2	3	4	5	6	7	8	9
15. To what extent can you get students to read fluently during oral reading?	1	2	3	4	5	6	7	8	9
16. To what extent can you use students' writing to teach grammar and spelling strategies?	1	2	3	4	5	6	7	8	9
17. How much can you do to get students to use independent writing time productively?	1	2	3	4	5	6	7	8	9
18. How much can you do to provide appropriate challenges for high ability readers?	1	2	3	4	5	6	7	8	9
19. To what extent can you get children to talk with each other in class about books they are reading?	1	2	3	4	5	6	7	8	9
20. To what extent can you provide children with writing opportunities in response to reading?	1	2	3	4	5	6	7	8	9
21. How much can you do to adjust your reading materials to the proper level for individual students?	1	2	3	4	5	6	7	8	9
22. How much can you do to get children to value reading?	1	2	3	4	5	6	7	8	9