

# **Relation Between the Reading Instruction of Cooperating and Student Teachers**

Doug Hamman, Kathryn Button, Arturo Olivárez, Jr.,  
Mellinee Lesley, Yoke-Meng Chan, Robin Griffith,  
and Katy Woods

College of Education, Texas Tech University

## **ABSTRACT**

This investigation examined how cooperating teachers (CTs) influence the behaviors and quality of student teachers' (STs) reading instruction. Improving the reading achievement of early elementary students and enhancing teacher quality are two education reform priorities for Title I schools that have important implications for teacher education. The extent to which new teachers are able to provide effective reading instruction is likely to depend, at least in part, on the quality of reading instruction provided by their cooperating teachers. Eighteen pairs of early elementary CTs and STs were videotaped providing guided reading instruction. Highly qualified observers examined the instructional support behaviors and judged the quality of instructional support provided by CTs during the introductory portion of reading lessons.

Correlation analysis revealed a moderate association between the occurrence of specific reading instruction behaviors and observers' ratings of instructional quality. No differences were found between CTs and STs for the frequency of reading instruction behaviors (e.g., support for fluency and phrasing). CTs, however, seemed to provide a higher quality of meaning support, but no other differences in behavior or quality were found. CTs' instructional behaviors were predictive of ST instructional behaviors, but STs' quality was unrelated to either CT instructional support behaviors or quality of instructional support. These findings seem to suggest that additional measures, beyond exposure to a cooperating teacher, should be undertaken to improve the quality of reading instruction provided by student teachers. Discussion focuses on implications for teacher preparation and earlier career teachers, and for partnerships between school districts and universities.

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## INTRODUCTION

This study examines the impact of cooperating teachers (CTs) on student teachers' (STs) reading instruction. Specifically, we were interested in examining whether and how STs were similar to, or different from, their CTs, and in determining whether CTs influenced the quality of STs' reading instruction.

### **In the Context of Education Reform**

This research is framed by two national education reform agendas. The first agenda reflects a renewed interest in using empirical evidence to evaluate the effectiveness of reading curricula and instructional methods (NIH, 2000). Effective instruction, informed by scientifically based research, is at the core of current efforts to boost students' reading achievement (No Child Left Behind Act of 2001, 1201, p. 111). The second agenda is the pressing need for highly qualified teachers. There is a growing consensus that one reason for the nation's alarming gap in achievement between wealthy and poor students may be that the least-experienced and least-qualified teachers are often assigned to the academically lowest-performing schools serving children in the poorest schools and districts across the nation (Goe, 2002; Guin, 2004; Hamman & Schenck, 2002; Laczko-Kerr & Berlinger, 2002). In order to boost students' achievement, these schools must attract and keep qualified teachers. Overall, these agendas indicate progress in the thinking about education reform at the national level (Elmore, 2000), but neither agenda can be moved forward independent of the other. Highly qualified teachers using ineffective methods of reading instruction are as unlikely to narrow the achievement gap as are inexperienced teachers poorly implementing the most effective instructional strategies.

In response to the renewed focus on reading instruction based on scientific reading research and on the need for highly qualified teachers, there has been a growing interest in teacher education, especially as it pertains to preparing teachers to provide effective literacy instruction (Anders, Hoffman, & Duffy, 2000; Hoffman & Pearson, 2000; International Reading Association, 2003; No Child Left Behind Act of 2001, 1202(d)(3)(A-C), p. 116; Strickland & Snow, 2002). As policymakers and researchers focus on the role of teacher preparation, there appears to be an urgent need for careful examination of the roles played by the cooperating teacher in helping preservice teachers provide effective literacy instruction.

### **Effects of Cooperating Teachers on Student Teachers' Beliefs and Instruction**

CTs are typically portrayed as having a considerable influence on the STs (Hollingsworth, 1989; Lortie, 1975), but the effect of this influence on the

instructional effectiveness of STs has received only limited attention. Reviews of learning-to-teach (LTT) literature reveal that researchers have focused primarily on factors that may influence STs' beliefs about teaching such as context variables, program design, and activities during preparation (Brouwer & Korthagen, 2005; Darling-Hammond & Bransford, 2005; Wideen, Mayer-Smith, & Moon, 1998; Wilson, Floden, & Ferrini-Mundy, 2001). In a recent review, Anders et al. (2000) found that the literature in learning to teach reading (LTR) has followed a similar line of inquiry focusing on programs, preservice training, and teacher beliefs.

### **Influence on affective outcomes for student teachers**

Kremer-Hayon and Wubbels (1993) examined the influence of the interpersonal behaviors of CTs on STs' satisfaction during semester-long practicum experiences. Student teacher satisfaction, as indicated by responses to an interaction questionnaire, was positively correlated with CTs' interpersonal behaviors characterized as showing leadership, being helpful and friendly, being understanding. Satisfaction was also correlated negatively with behaviors characterized as exhibiting uncertainty and being dissatisfied with the student teacher. This research found a clear connection between the behaviors of the cooperating teacher and the affective experience of the student teacher, but the manner in which this relationship bears on STs' instruction was not investigated.

Borko and Mayfield (1995) examined characteristics of follow-up conferences between middle-level mathematics CTs and their STs that took place at three intervals over the course of a year-long teaching practicum. Borko and Mayfield reported that the content, duration, and depth of discussions during the follow-up conferences varied greatly. In most of the conferences, CTs made specific suggestions about STs' lessons and classroom management, discussed the behavior of specific students, and offered suggestions for content-specific teaching strategies. The link between the follow-up conferences and STs' affect or instructional effectiveness, however, was not examined.

### **Influence on instructional behaviors of student teachers**

Fewer studies have examined the relationship between the instruction of CTs and the instruction of STs, and none have been conducted in the field of reading. Copeland (1977) examined factors influencing whether elementary-level STs exhibit instructional behaviors learned during microteaching training. STs ( $n = 72$ ) were randomly assigned to microteaching training where they learned the target teaching behavior (i.e., asking probing questions) or another teaching behavior. Then STs were randomly assigned to classrooms with CTs who frequently or infrequently used the target instructional behavior. Copeland found that STs tended to use the target teaching behavior more often when they were placed in classrooms where the CTs also used the target teaching behavior.

Another study, by Seperson and Joyce (1973), compared the behaviors of cooperating and STs ( $n = 19$  pairs) at early and later phases of the practicum experience. Overall they found positive, significant correlations between the teaching behaviors of STs and the teaching behaviors of CTs. At the earlier phase of the teaching practicum, student teacher behaviors were most strongly correlated with cooperating teacher behaviors in the areas of classroom management (e.g., rewarding or punishing students, giving corrective feedback) and information handling (e.g., questioning students, providing direct instruction to students). In the later phases of the teaching practicum, these relationships remained constant. The authors commented, “It may well be that the entire setting of student teaching influences the behavior of the student teacher almost immediately on his contact with the cooperating teacher” (p. 151).

These early findings suggest that assumptions about the influence of CTs on the instructional behaviors of STs are well-founded. They also represent a challenge to current efforts aimed at improving the quality of teacher preparation, and specifically to efforts aimed at improving the quality of reading instruction in early elementary-level classrooms.

### **Research questions**

The present research is a cross-sectional, predictive study (Johnson, 2001) intended to address two research questions that reflect shortcomings in earlier research in LTT literature. First, in what ways are the instructional quality and occurrence of instructional support behaviors exhibited by STs different from the instructional quality and occurrence of instructional support behaviors exhibited by CTs during reading instruction? Second, how does the instructional quality and occurrence of instructional support behaviors exhibited by CTs relate to the instructional quality and occurrence of instructional support behaviors exhibited by STs? These questions are of growing significance since they are positioned at the intersection between current national reform efforts in reading achievement, and in teacher education.

## **METHODS**

### **Context**

This study took place in seven Title I schools located in a large district in the southwestern United States. All the campuses had previously been participants in the state-level rollout of the Reading Excellence Act, and had used grant funding to support teacher professional development in literacy instruction that was consistent with the philosophical and instructional approach advocated by Lyons and Pinnell (2001) (see also Fountas & Pinnell, 1996). Faculty at a local university served as professional development providers for the participating schools.

Conducting the research in a setting where reading instruction would be consistent across all schools and classrooms was perceived to be a strength for this initial study of the process of learning to teach reading because there were clear expectations for teachers' instructional behavior. Having these expectations allowed observers to quantify instructional behaviors and make comparisons between CTs and STs. In addition to the instructional approach found in the participating schools, preservice teachers were also oriented toward the very same instructional approach in their undergraduate, college-level coursework related to literacy development and instruction.

### Participants

Eighteen pairs of CTs and STs participated in this research study. CTs (Anglo = 80%; Hispanic = 20%) were identified by consulting with the literacy coach at each campus about teachers who provided high-quality reading instruction, and who did so in a manner consistent with the approach advocated by Lyons and Pinnell (2001). These teachers were then approached and invited to participate in this project. All the teachers who were approached agreed to participate. These teachers ranged in age from 26 years to 54 years of age (Female = 17; Male = 1). ST (Anglo = 95%; Hispanic 5%) were elementary level teacher candidates (Female = 18) from a large state university located within the boundaries of the district of the participating schools. All STs had completed their undergraduate coursework and were performing their teaching practicum as their final graduation requirement.

Eligible participants agreed to spend the entire semester-long teaching practicum in a single placement, in one grade (i.e., Grade 1, 2, or 3), and to do so in a Title I school. A total of 27 STs volunteered to participate in the study, but due to the smaller number of CTs, only 18 were finally selected. STs were randomly assigned by the university's director of student teaching to the participating CTs in the Title I schools.

### Instruments

For this study, data were collected concerning both the occurrence of specific types of instructional support provided by teachers during guided reading instruction, and the appropriateness or quality of that support. To do this, we adapted Lyons and Pinnell's (2001) Detailed Guided Reading Scale because the instructional behaviors and approach outlined in this scale were consistent with the professional development teachers in these Title I schools had been receiving during the past 3 years. Due to the fact that this instrument is intended for a professional development setting, no information is available concerning inter-rater reliability or validity of the measure.

### **Adaptation of an existing instrument for judging teachers' support behaviors**

The Detailed Guided Reading Scale (Lyons & Pinnell, 2001) was adapted to gather data concerning teachers' instructional behavior aimed at supporting students' literacy development. Adaptations to the instrument were needed primarily because the instrument had previously been used only to provide holistic feedback to teachers in a professional development setting. The result of our changes was a 17-category observation instrument intended solely for analysis of the text introduction portion of guided reading sessions.<sup>1</sup>

We adapted the original instrument in two ways. First, we prepared the professional development instrument for research purposes by defining each of the teacher action categories, identifying areas of overlap, and then collapsing descriptors into mutually exclusive categories. We also modified the instrument so that the duration of the text introduction could be calculated in 30-second segments, and we included a category that pertained to the number of times teachers directed student attention or behavior to the reading task.

Second, we required raters to code teacher behaviors in 30-second increments, rather than make holistic judgments, in order to gather data concerning the occurrence of instructional behavior. Scores in each of the categories, therefore, represent the number of 30-second time segments during which a teacher behavior occurred rather than the frequency, or number of times an instructional behavior occurred. Our decision to code behavior occurring during a time segment was based on the difficulty associated with identifying and quantifying the extent to which a specific teacher behavior represented a separate instance of, for example, "activating prior knowledge," versus a continuation of a behavior that occurred at an earlier time.

### **Inter-rater reliability of teacher instructional support behaviors**

At the end of extensive pilot testing, the inter-rater reliability of the coding system was examined. Results from this analysis indicated that inter-rater reliability for each of the 17 categories was very high (overall average of Cohen's Kappa for meaning behaviors = .92; fluency and phrasing behaviors = .99; word-solving behaviors = .94; other behaviors = .91). For analysis purposes, global variables of reading instruction behaviors were also created by summing frequencies of behaviors across subcategories to create three broader groupings: (a) teacher supports reader's construction of meaning of text, (b) teacher supports reader's maintenance of fluency and phrasing while reading continuous text, and (c) teacher supports reader's problem solving of words on the run while reading continuous text.

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<sup>1</sup>Upon request of the reader, the authors will provide a full description and examples of the modifications made to the Detailed Guided Reading Scale (Lyons & Pinnell, 2001) for purposes of the present study.

### **Judging the quality of teacher support**

We used the summative rating scale from the original Lyons and Pinnell (2001) instrument to infer the quality of teachers' instructional support during the introductory portion of the guided reading lesson. Guidelines from Lyons and Pinnell make it clear that if readers are engaged with text that is at an appropriate level of difficulty, they will require support from the teacher in order to effectively and efficiently construct meaning, read with fluency, and utilize word-solving strategies. For this reason, the quality of teachers' support was inferred from holistic judgments by raters concerning the extent to which specific support behaviors were judged to be needed and were exhibited by teachers.

Using the original three items, raters made summative judgments about the quality of support teachers provided during the introduction for meaning, fluency and phrasing, and word solving. Raters recorded their judgments using a 6-point Likert-type scale with anchors used on the original version of the instrument (0 = no evidence of support; to 5 = model of excellence in support). Average inter-rater reliability for quality judgments was quite high (average Kappa = .94).

## **Procedures**

### **Conditions for data collection**

Data collection for this study took place during one spring semester. CTs and STs were each videotaped on two separate occasions while they provided guided reading instruction in their regular classrooms, and during the regularly scheduled time for reading instruction. For the purposes of this study, we requested that teachers work with the group of students who exhibited the lowest reading achievement in their classes. This request was made because we believed that teachers would be most likely to provide instructional support to students who might struggle during reading. We also requested that taping be done with the same level of students across time (i.e., lowest achieving), though not necessarily the same students, for all data collection sessions with cooperating and STs. This request was made so that the level of support needed by readers would be relatively constant, and also to prevent unnecessary restrictions on the regrouping of students that typically occurs during a semester.

Taping of CTs occurred in the early portion of the semester (January and February). Though not required to do so, both CT sessions were conducted with approximately the same readers. Group composition varied slightly in some instances when individual readers were reassigned to another group or were absent on the day of filming. STs were also videotaped on two separate occasions as they provided guided reading instruction. Taping of the STs

occurred later in the semester (i.e., late-March and April) in order to allow sufficient time for them to learn about guided reading instruction from their cooperating teacher. STs were filmed conducting guided reading instruction with the same group of students as the CTs. This condition allowed us to make comparisons between CTs and STs without concern that any differences we might find could have been attributed to the reading ability of the students.

### **Restriction of study scope**

At the outset of this project, our intention was to study the instructional behaviors and quality of support exhibited by teachers during the entire guided reading session. Difficulties associated with varying sound quality of recordings, and the sheer complexity of the scoring scheme for the entire session forced us to undertake a more modest analysis focusing instead on the introductory portion of the guided reading session. This modification may represent a limitation of the study, but it did not limit the opportunity to make comparisons between CT and ST reading instruction.

### **Procedures for training and scoring**

The introductory portion of CT and ST guided reading instruction was scored and rated using the modified version of Lyons and Pinnell's Detailed Guided Reading Scale. Scoring was done by six literacy coordinators from the same district in which this study took place. Coordinators underwent 8 hours of training and practice using videotapes of lessons in order to achieve an acceptable level of reliability in using the modified instrument. Training consisted of a comparison between the original professional development instrument, with which all coordinators were familiar, and the revised instrument to be used for scoring the observations. In addition, coordinators practiced using the revised instrument and worked out common operational definitions that would help them code reliably.

Coordinators observed and independently scored the introductory portion of the guided reading lesson and then rated the quality of support the teacher provided during the instruction. Raters did not personally know the teachers they observed, nor were they informed whether they were observing a CT or a ST, though the age of the teacher may have provided some indication.

## **RESULTS**

This research was undertaken to address two main questions: (a) In what ways are the instructional quality and occurrence of instructional support behaviors exhibited by STs different from the instructional quality and occurrence of instructional support behaviors exhibited by CTs during reading instruction? and (b) How does the instructional quality and occurrence of instructional

support behaviors exhibited by CTs influence the instructional quality and occurrence of instructional support behaviors exhibited by STs? Analyses of observations and raters' data were undertaken in two steps. First, we examined differences in the occurrence of instructional support behaviors, and in the quality of instructional support between CTs and STs. Second, we used CT instructional support behaviors and quality of instructional support to predict the quality and behaviors of STs.

### Differences in Quality and Instructional Support

Table 1 on the following page contains results from an analysis of correlations among quality of instructional support and the occurrence of instructional support behaviors. These results seem to support the validity of the experts' ratings of the quality of instructional support, in as much as each was significantly related to the occurrence of this type of instructional support behaviors during the text introduction. Meaning support and word-solving support also seem to be closely related, both in terms of experts' ratings of the quality of teachers' instructional support, and in terms of the frequency at which these behaviors each occurred during the text introduction. Finally, composite variables for both quality of instructional support and occurrence of instructional support behaviors were constructed by combining data from individual dimensions (i.e., meaning, fluency, word solving). These composite variables were also significantly correlated.

A paired-sample MANOVA was computed to examine possible differences that might exist between CTs and STs in terms of quality of instructional support and occurrence of instructional support behaviors (see Table 2 on the following page). Results from this analysis suggest that overall differences do exist [Wilk's  $\lambda = .53$ ,  $F(6, 29) = 4.37$ ,  $p = .003$ , partial  $\eta^2 = .48$ ]. Examination of univariate results indicated that this overall difference was accounted for by differences in ratings of the quality of instructional support, with CTs receiving significantly higher ratings for their support of meaning, and for word solving. Differences approaching significance were also found for the quality of instructional support for fluency, and also for the occurrence of meaning-supporting instructional behaviors.

The findings from these two analyses indicate two important patterns. First, the quality of instructional support provided by STs was significantly lower than that of CTs, but there was not a significant difference related to the frequency of observation intervals during which instructional support behaviors were observed. This finding may point to a professional development issue in that STs are observing and then replicating the instructional behaviors of the cooperating teacher; but they are, at this early stage, unaware or unable to differentiate support that is appropriate from support that is inappropriate. This

**Table 1. Zero-Order Correlations and Descriptive Statistics for Instructional Quality and Instructional Support Behaviors**

Variables	1	2	3	4	5	6	7	8
1 Quality of meaning support	1.00	.17	.56*	.87*	.47*	.01	.01	.34*
2 Quality of fluency support		1.00	.22	.48*	.04	.79	.01	.09
3 Quality of word-solving support			1.00	.83*	.52*	.20	.51*	.59*
4 Composite quality rating				1.00	.51*	.31	.23	.48*
5 Meaning instruction					1.00	.03	.54*	.94*
6 Fluency instruction						1.00	.27	.18
7 Word-solving instruction							1.00	.79*
8 Composition instruction								1.00

Note: N = 36; \* =  $p \leq .05$

finding may also point to a more complex issue related to the manner in which cooperating and STs interact during the teaching practicum. Second, meaning-supporting instructional behaviors were, by far, the most likely to be exhibited by both cooperating and STs.

This result is not surprising given that meaning support contained many more subcategories for classifying behaviors than did the other categories (such as, fluency and word-solving support), but it also revealed that both CTs and STs were emphasizing meaning construction during text introduction. Teachers' emphasis on meaning construction was related to their support for word-solving support, but not to support provided for reading fluency. In the next series of analyses, we examine the extent to which the quality of instructional support and occurrence of instructional behaviors of CTs is related to the quality of support and the occurrence of instructional behaviors of STs.

**Table 2. Descriptive Statistics and Univariate Results for Instructional Quality and Instructional Support Behaviors**

Variables	CT	ST	F (1, 35)	<i>p</i>	Partial $\eta^2$
Quality of support					
Meaning					
Mean	2.91	1.63	18.15	.001	.35
Standard deviation	.81	.98			
Fluency					
Mean	.50	.19	3.15	.08	.09
Standard deviation	.66	.30			
Word-solving					
Mean	1.44	.89	4.39	.05	.11
Standard deviation	.64	.93			
Support behaviors					
Meaning					
Mean	20.42	15.33	2.96	.09	.08
Standard deviation	10.58	6.72			
Fluency					
Mean	.75	.50	.60	.45	.02
Standard deviation	1.07	.86			
Word-solving					
Mean	5.72	4.05	1.11	.30	.03
Standard deviation	5.02	4.47			

### Influence of Cooperating Teachers on the Quality and Instruction of Student Teachers

Two standard multiple regression analyses were performed in an attempt to predict student teacher instructional support behaviors and quality of support using cooperating teacher composite instruction and quality variables. The first regression was performed with STs' instructional support behaviors as the dependent variable, and CTs' instructional support behaviors and quality of instructional support as independent variables. Table 3 on the following page contains results from an analysis of correlations among the composite quality and instruction variables for cooperating and STs. Table 4 on the following page contains the unstandardized regression coefficients and intercept, the standardized regression coefficients ( $\beta$ ), and other indices of association. Only CT instructional support behaviors contributed significantly to the prediction

**Table 3. Zero-Order Correlations and Descriptive Statistics for Composite Measures of Instructional Quality and Instructional Support Behaviors**

Variables	1	2	3	4
CT composite quality	1.00	-.23	.09	-.15
CT composite instructional support		1.00	.09	.57*
ST composite quality			1.00	.38
ST composite instructional support				1.00
Mean	2.50	26.89	1.75	19.89
Standard deviation	.80	13.67	1.23	10.39

Note: N = 18; \* =  $p \leq .05$

of ST instructional support behaviors, predicting 32% of the variability in ST instructional support behaviors.

The second multiple regression was performed with STs' instructional quality as the dependent variable, and CTs' instructional support behaviors and quality of instructional support as independent variables. Table 5 contains the unstandardized regression coefficients and intercept, the standardized regression coefficients ( $\beta$ ), and other indices of association. Neither CT instructional support behaviors nor quality of CT support contributed significantly to the prediction of ST quality, sharing approximately 2% of the variability in ST quality.

Together, the results of these regression analyses seem to suggest that CT instructional support behaviors have the greatest influence on ST instructional support behaviors, but that factors influencing the quality of ST instructional

**Table 4. Standard Multiple Regression of CT Instructional Support Behaviors and Instructional Quality on ST Instructional Support Behaviors**

Variables	B	Std. Error	$\beta$	t	p
Intercept	9.169	9.427		.973	.346
CT composite instruction	.427	.166	.562	2.573	.021
ST composite quality	-.307	2.823	-.024	-.109	.915

Note:  $R^2 = .322$ ; Adjusted  $R^2 = .232$ ;  $R = .568$

support during reading instruction apparently fell outside of the current data collection efforts. That is, the quality of the ST reading instruction apparently is influenced by mechanisms beyond simply watching, and then imitating the actions of the CTs.

## DISCUSSION

The issue of teacher preparation is of particular importance as federal and state education agencies set guidelines and propose programs for improving the quality of classroom teachers and for boosting student reading achievement. The current project was undertaken for two purposes: (a) to examine whether there are differences in instructional quality and behaviors of STs compared to the instructional quality and behaviors exhibited by CTs during reading instruction; and (b) to examine how CTs influence the instructional quality and behaviors exhibited by STs. Our findings, overall, confirm previous assertions about the importance of the cooperating teacher in learning to teach and seem to have important implications for the preparation of preservice teachers to provide effective reading instruction.

First, we found that STs exhibited behaviors during reading instruction that were almost identical to those of their CTs. All CTs and STs working in schools in which this study was conducted were expected to provide reading instruction in a manner consistent with the balanced literacy framework described by Lyons and Pinnell (2001). Given this context, it is little wonder that CT and ST instruction appeared similar. Beyond the surface-level features of instruction mentioned by Seperson and Joyce (1973) (e.g., small groups, leveled text), however, STs were similar to their mentors in the frequency of intervals during which they supported students' meaning making, fluency, and word-solving activities. Moreover, the relative emphasis among CTs on meaning support during text introductions, and the limited attention given to fluency support was replicated by STs. This finding, in particular, is strikingly similar to earlier

**Table 5. Standard Multiple Regression of CT Instructional Support Behaviors and Instructional Quality on ST Instructional Quality**

Variables	B	Std. Error	$\beta$	<i>t</i>	<i>p</i>
Intercept	1.018	1.351		.754	.463
CT composite instruction	.001	.024	.118	.448	.660
CT composite quality	.178	.405	.116	.440	.666

Note:  $R^2 = .021$ ; Adjusted  $R^2 = -.110$ ;  $R = .145$

work carried out in more general instructional settings and suggests that the dynamics associated with learning to provide reading instruction are similar to those associated more generally with learning to teach in other content areas.

Second, the fact that the quality of instructional support provided by ST during reading instruction tended to be lower than that provided by CT was no surprise due to the fact that each CT was identified as an effective reading teacher by the literacy coaches. What is surprising, however, is that the quality of instructional support provided by the CT had little bearing on the quality of instructional support provided by ST. Granted, STs are clearly novice reading teachers and will need some time before their instructional and pedagogical knowledge and skill are fully developed, but we did expect that STs paired with CTs who provided a higher quality of instructional support would likewise exhibit higher quality instructional support during reading instruction. Our analyses suggest, however, that the quality of CT instructional support had little bearing on the quality of STs' instructional support. Moreover, this last finding seems to suggest that even experienced and effective CTs have difficulty influencing the quality of STs' reading instruction. Together, these findings raise a number of interesting questions about how best to structure the teaching practicum in order to improve the instructional quality of new teachers, and how best to facilitate pedagogical interaction between CTs and STs in order to move them beyond simple imitation of instructional support behaviors (Hamman, et al., in press).

### **Limitations of the Present Study**

There are several limitations of the current study that likewise may suggest fruitful areas for continued research. First, the sample size of this study was relatively small, but consistent with other studies that examined instructional behaviors of teacher pairs (Copeland, 1977; Seperson & Joyce, 1973). Second, no measure of student teacher quality or instructional practice was available prior to their teaching practicum, which raises questions about how much the instruction of the student teacher was changed by the setting and context of the specific schools and classrooms. This question is especially salient given that the institution in which all STs were prepared consistently taught and advocated the balanced literacy approach described by Lyons and Pinnell (2001). Third, STs were studied only in classrooms where guided reading instruction was used. It is unclear what effect placement in a classroom using another approach to reading instruction (programs emphasizing primarily skills-based approaches, or those utilizing a more scripted approach to instruction) might have had on the STs. Finally, the data collected in this study dealt exclusively with the practicum experience. It is unclear what effect CTs might have on the literacy practices of the new teachers once they leave the practicum setting.

## Implications

Even with the limitations of the present study, it seems clear that the setting in which the student teacher learns to provide reading instruction has a tremendous bearing on her or his instructional practice exhibited during the teaching practicum. One obvious avenue for improving the literacy instruction in the primary grades is to selectively place STs in classrooms where CTs provide reading instruction that consistently results in greater student gains and that is also consistent with scientific reading research. Since STs are likely to imitate the instructional behaviors of CTs (Lesley, et al., 2004), such a strategy might increase the likelihood that new teachers will continue these practices in their own classroom.

This strategy also presents serious challenges to teacher education institutions that are responsible for hundreds of teacher candidates each academic year. Such a move would not only require access and use of school district data on student reading achievement, but would also involve a relatively high level of agreement between districts and teacher preparation institutions about what models of reading instruction are most effective. District administrators—especially those utilizing Title I funding for comprehensive reading programs—are operating under guidance from state and federal education agencies, whereas university faculty members have no such restrictions.

## Directions for Future Research

The findings reported in this study suggest a couple of fruitful areas for continued research that complement those identified by the International Reading Association (2003). First, the effects of CTs on STs' beliefs and instruction has been relatively well documented. What effects, however, do CTs have on the reading instructional behaviors of STs once they assume full teaching responsibilities? Does the quality of the teaching practicum experience, beyond the quality of the preparation program, carry over into the reading instruction practices of the early career teacher, or does the setting/context of teaching exert an overwhelming influence that eliminates earlier training effects?

Second, what effects on reading achievement might be realized for elementary-level students by a closer alignment of university-level preparation curricula, teaching practicum experiences, and the predominant instructional framework of campuses in districts to which new teachers are typically assigned? Current federal policy appears to favor such an alignment, but would doing so realize any gains for the reading achievement of K–3 students?

The success of current school reform efforts in literacy depends upon the training and deployment of high-quality teachers in schools with the

greatest need for improvement. The purpose of this research was to examine the relationship between CT and STs' quality of instructional support and the instructional support behaviors as a step toward contributing to this reform initiative.

### Author's Note

Correspondence may be directed to the first author, Doug Hamman, at [doug.hamman@ttu.edu](mailto:doug.hamman@ttu.edu), or by post to College of Education, Texas Tech University, Box 41071, Lubbock, TX 79409.

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