

An Evaluation of the Impact of the Kentucky Reading Project on Teacher and Student Growth 2005-06

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Purpose

The Kentucky Reading Project (KRP) is a fully developed educational intervention, which has been replicated with seven cadres of teachers since its inception in 1998. The purpose of this study was to evaluate the impact of the Kentucky Reading Project, more specifically, this study sought to: (a) evaluate the impact of the Kentucky Reading Project on teacher growth and development, and (b) evaluate the impact of the Kentucky Reading Project on student achievement in reading.

Background

The Kentucky Reading Project is an educational intervention developed by the Collaborative Center for Literacy Development (CCLD). Created by Kentucky Senate Bill 186 in 1998, CCLD is a consortium of the eight public universities in the Commonwealth of Kentucky and the National Center for Family Literacy. The goal of the KRP is to increase student achievement in literacy by improving knowledge and instructional practices of K-5 teachers through the design and implementation of a comprehensive literacy program in classroom settings. The KRP is a year long, graduate-level reading course, which consists of a two-week summer institute, four follow-up sessions during the year, and at least one coaching visit to each teacher. Faculty members from the eight public universities serve as directors and instructional leaders for the KRP. Reading First coaches from the Kentucky Department of Education work in collaboration with these directors, and training specialists from the National Center for Family Literacy also work with the KRP to provide information, resources, and support regarding family involvement in literacy.

Teachers who participate in the KRP learn how to: (a) apply theory and research to meet the literacy needs of all students; (b) address equity and diversity issues as they pertain to literacy instruction; (c) use phonemic awareness, phonics, and word recognition strategies to develop fluency; (d) identify processes and strategies for teaching reading comprehension; (e) integrate reading and writing; (f) teach reading and writing across the curriculum using narrative and expository texts; (g) use assessment to inform instruction; (h) emphasize family involvement in literacy; (i) provide support for struggling readers; (j) design and manage instruction; and (k) use state curriculum guides. Teams of teachers who participate in the KRP also develop and implement a Literacy Action Plan (LAP) focused on improving student achievement in literacy, teachers' knowledge, and instructional practices in literacy.

Overview of Evaluation

Two studies were conducted as part of this evaluation. The first examined the impact of the Kentucky Reading Project on teacher growth and student reading achievement. The second took a closer look at one of the Kentucky Reading Project sites to examine how the knowledge, skills, and strategies presented during the KRP transfer to classroom practice and investigate what elements of the KRP were conducive to this transfer.

Study 1: An Evaluation of the Impact of the Kentucky Reading Project on Teacher Growth and Student Achievement

Purpose/Research Questions

The goals of this investigation were to determine the impact of the KRP on teacher growth and student achievement in reading. More specifically, research questions include:

1. What is the impact of the KRP on teachers' content knowledge related to teaching reading?
 - (a) What is the impact of the KRP on teachers' content knowledge of comprehension?
 - (b) What is the impact of the KRP on teachers' content knowledge of word analysis?
 - (c) What is the impact of the KRP on teachers' understanding of reading pedagogy?
2. What is the impact of the KRP on students' reading achievement?
 - (a) What is the impact of the KRP on students' highest oral reading level?
 - (b) What is the impact of the KRP on students' comprehension?
 - (c) What is the impact of the KRP on students' strategies for decoding unknown words?

Methodology

Research design. A pretest-posttest one-group design was used to evaluate the impact of the KRP on teacher growth and student reading achievement.

Participants. Two hundred three teachers participated in KRP during the 2005-06 academic year. The participants taught a variety of grade levels ranging from preschool through seventh grade. However, the largest percentage of participants taught kindergarten (n = 26 or 12.8%), first grade (n = 27 or 13.3%), second grade (n = 25 or 12.3%), and third grade (n = 26 or 12.8%). Most of the participants were classroom teachers (n = 177 or 87.2%). Other participants taught Special Education and Title I/Remedial Reading. Of these participants, most were in the beginning stages of their teaching careers: 67% of the participants had been teaching for five years or less, 45% had been teaching for three years or less, and 27% had been teaching for two years or less. However, the range of experience varied from one year to 33 years.

Teachers were asked to randomly select ten students from their classroom from whom they would gather reading achievement data in the fall of 2005 and the spring of 2006. While data should have been gathered for 2,030 students in all, only 81 teachers (39.9%) actually turned in complete data sets for their students. Thus, complete data were gathered from a total of 530 students from kindergarten through sixth grade. Of those students, most were in kindergarten (n = 77 or 14.5%) and grade one (n = 89 or 16.8%).

Measures and procedures. Two measures were used to determine growth and development. Teacher growth and development was measured using the Content Knowledge for Teaching Reading (CKTR) assessment (Ball, Phelps, Rowan, & Schilling, 2003). The CKTR was administered prior to the start of the two-week summer institute in the summer of 2005 and at the culmination of the KRP experience in the spring of 2006. The CKTR was designed to measure teacher content knowledge of reading and the effects of this knowledge on instruction. It consists of 48 multiple-choice items representing three domains: (a) Content knowledge of comprehension (13 items), (b) Content knowledge of word analysis (18 items), and (c) Comprehension/knowledge of teaching and content (17 items). Each item is embedded within an authentic classroom scenario. Items pertaining to content knowledge (comprehension and word analysis) require teachers to use their knowledge of reading in the context of teaching situations. Items pertaining to teaching require teachers to use their knowledge of reading pedagogy to select the best teaching actions or moves in each scenario.

Each subscale of the CKTR has adequate reliability (Ball, Phelps, Rowan, & Schilling, 2004). The Comprehension Content Knowledge subscale had the lowest reliability ($\alpha = 0.5984$) while the Word Analysis Content Knowledge subscale had the highest reliability ($\alpha = 0.7291$). The Comprehension/Knowledge of Teaching and Content had a reliability of $\alpha = 0.6678$. Overall, the full scale of the CKTR had high reliability as well ($\alpha = 0.8031$). Thus, the CKTR is a fairly reliable measure of teacher content knowledge for teaching reading.

Student reading achievement was measured using the Qualitative Reading Inventory-3 (QRI-3), which is an informal reading inventory developed by Lauren Leslie and Joanne Caldwell (2001). The purpose of the QRI-3, like any other informal reading inventory, is to provide graded word lists and passages to assess a student's oral reading, silent reading, and listening comprehension. Diagnostically the QRI-3 can be used to: (a) estimate reading levels, (b) group students effectively for instruction, (c) choose appropriate textbooks for guided instruction, (d) suggest directions for instructional intervention, (e) compile a profile of a student's reading ability, or (f) suggest student growth over time. Each user chooses different components of the QRI-3 to administer based on his/her desired use. For this study the evaluation team used the QRI-3 to understand how the KRP intervention may have influenced student growth over time. The teachers were to use the data gathered from the QRI-3 to inform and guide their instruction (i.e., estimate reading levels, group students, choose appropriate textbooks for guided instruction, and to inform them about how to help students become better readers). Thus, the QRI-3 is a measure that not only provides performance-based data related to students' growth in reading, but is also of practical use to teachers to help them design instruction to meet the needs of individual students in their classrooms, which is a goal of the KRP intervention.

Each teacher in the 7th Cadre (2005-06) received a QRI-3 manual (Leslie & Caldwell, 2001) and was trained to administer the QRI during the summer of 2005. Teachers were required to use the QRI-3 to assess ten students who were randomly selected from their classroom. Assessments included measures of oral reading level, word recognition, and comprehension ability (including explicit and implicit comprehension of text). Students read a series of graded passages aloud to determine their highest oral reading instructional level. Analyses of oral reading miscues and comprehension were performed at each student's highest oral reading instructional level to

determine the strategies they used during authentic reading to identify words and make sense of text.

Teachers administered the QRI-3 to the same students twice during the school year, once in the fall of 2005 and once in the spring of 2006. Teachers were to use this information to determine progress in students' reading achievement and identify areas of improvement as well as students needing more instruction. More specifically, the QRI-3 was intended to provide educators with a means of identifying a student's reading level, word recognition ability, comprehension ability, and strategy use.

Technical development of the QRI focused on inter-scorer reliability, alternate-form reliability, internal consistency reliability, and criterion-related validity. Leslie and Caldwell (2001) reported high inter-scorer reliability for total miscues ($\alpha = 0.93$) and comprehension questions ($\alpha = 0.98$). The reliability of the QRI to provide accurate instructional reading levels was measured using alternate-form reliability. Livingston's K^2 ranged from 0.71 to 0.84 across all readability levels, which is quite acceptable. Because the QRI-3 has restricted variability, Standard Error of Measurement (SEM) was used to establish the internal consistency reliability. SEM ranged from .13 to .22 across all passages. Concurrent validity was used to establish the criterion-related validity of the QRI to other measures of reading. Students' instructional reading levels in familiar reading material on the QRI-3 were correlated with students' normal curve equivalent scores for total reading on either the California Achievement Test or the Iowa Test of Basic Skills. Correlations were significant at all grade levels, ranging from .48 in third grade to .86 in first grade. Word recognition scores from the QRI correlated .90 with a combined Word-Identification and Word-Attack scale score from the Woodcock Reading Mastery Test-Revised (WRMT-R). Weighted comprehension scores from the QRI correlated .75 with Passage Comprehension scores of the WRMT-R. Based on this information, the QRI-3 is a reliable and valid measure of oral reading fluency, word recognition, and comprehension ability for students in this evaluation.

Data analysis. The teacher growth data were analyzed using descriptive statistics, paired samples t -tests, and Analysis of Covariance procedures.

The QRI-3 is intended to provide insight into a student's independent, instructional, and frustrational oral and silent reading levels with narrative and expository text. However, the measure was only used to determine each student's highest instructional oral reading level, oral reading accuracy at that level, the types of miscues made at that level, and comprehension at that level. Therefore, each individual student's data reflected information about how the child was reading at the level at which instruction should occur. To streamline the data gathering process, and to keep it relevant for teachers, data related to their independent and frustrational levels was not obtained. QRI-3 data were analyzed and interpreted using descriptive statistics and t -test procedures. A paired samples t -test was used to evaluate hypotheses regarding students' oral reading accuracy from pretest to posttest.

Findings

Teacher Growth. Table 1 displays the means and standard deviations for teachers' scores on each subscale and the full scale of the Content Knowledge for Teaching Reading (CKTR) measure at the time of pretest and posttest.

Table 1. Teacher Pretest and Posttest Means and Standard Deviations for the Content Knowledge for Teaching Reading Subscales and Full Scale

	Content Knowledge for Teaching Reading Subscales							
	Comprehension Content Knowledge		Word Analysis Content Knowledge		Knowledge of Teaching Content		CKTR Total	
	Pretest (n=203)	Posttest (n=190)	Pretest (n=203)	Posttest (n=190)	Pretest (n=203)	Posttest (n=190)	Pretest (n=203)	Posttest (n=190)
Mean	9.36	9.45	12.55	13.35**	10.01	10.55*	31.93	33.35**
Standard Deviation	1.71	1.70	2.36	1.80	1.91	2.26	4.07	3.87

* denotes statistically significant differences ($p \leq .01$)

** denotes statistically significant differences ($p \leq .001$)

Paired samples *t*-tests were used to compare the pretest and posttest means for each subscale and the full scale of the CKTR. Teachers participating in the KRP demonstrated statistically significant growth from pretest to posttest in word analysis content knowledge ($t = -4.94$, $df = 189$, $p \leq .001$, two-tailed), knowledge of teaching content ($t = -2.97$, $df = 189$, $p \leq .003$, two-tailed), and the CKTR full scale ($t = -4.95$, $df = 189$, $p \leq .001$, two-tailed). No significant differences were found from pretest to posttest for the comprehension content knowledge subscale ($t = -0.59$, $df = 189$, $p \leq 0.555$, two-tailed).

These findings suggest that teachers who participated in the KRP made significant growth throughout the year related to their content knowledge of word analysis (i.e., knowledge related to decoding and recognizing words) and their knowledge and understanding of teaching (i.e., knowledge of reading pedagogy), which led to statistically significant gains on the full scale of the CKTR.

Student Growth. Teachers administered reading passages from the QRI-3 to determine the difference between students' highest oral reading level at the time of pretest and their highest oral reading level at the time of posttest. Of the 530 students for whom data were gathered, 295 (55.7%) experienced increases in oral reading level, 216 (40.7%) remained at the same level, and 19 (3.6%) experienced decreases in oral reading level over the year.

Table 2 displays the means and standard deviations of oral reading level changes by grade. Students receiving special education and remedial reading services grew one grade level, students in grades K-5 grew nearly one grade level, and students in upper grades made less

progress across the academic year. Paired sample *t*-tests were used to determine whether changes in oral reading level from pretest to posttest were significant. The mean change in oral reading level was statistically significant for students in special education and remedial reading ($t = 5.302, df = 22, p \leq .01$, two-tailed) and students in grades K-5 ($t = 17.857, df = 497, p \leq .01$, two-tailed). However, there was no significant difference in oral reading level for students in grades six and seven.

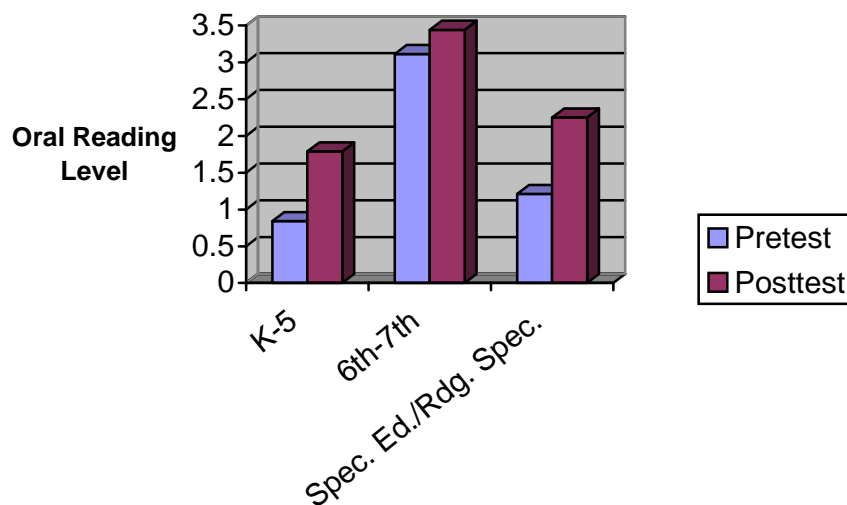
Table 2. Students' Oral Reading Level Change from Pretest to Posttest Means and Standard Deviations.

	Grade Level		
	Special Education and Remedial Reading (n = 23)	K-5 (n = 498)	6-7 (n = 9)
Mean Oral Reading Level Change from Pretest to Posttest	1.00*	0.96*	0.33
Standard Deviation	0.91	1.20	0.87

* denotes statistically significant differences ($p \leq .01$)

Figure 1 provides a visual depiction of growth in students' oral reading level by grade at the time of the pretest and posttest.

Figure 1. Gains in Oral Reading Level by Grade



As students read the texts at their highest oral reading level, teachers recorded the degree to which they read all of the words in the text accurately (oral reading accuracy) and asked students

to answer explicit (factual) and implicit (inferential) comprehension questions after they completed their reading. Table 3 displays the means and standard deviations for students' oral reading accuracy (i.e., the percentage of words read correctly at the highest instructional oral reading level), explicit comprehension (i.e., literal understanding of factual details), and implicit comprehension (i.e., ability to make inferences) at pretest and posttest by grade.

Table 3. Means and (Standard Deviations) for Oral Reading Accuracy, Explicit Comprehension, and Implicit Comprehension at Students' Highest Instructional Oral Reading Level at Pretest and Posttest.

Students	Oral Reading Accuracy		Explicit Comprehension		Implicit Comprehension		Total Comprehension	
	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
Special Ed/ Remedial Reading (n = 24)	93.4% (4.96)	94.7% (5.06)	90.6% (14.39)	81.3% (20.44)	74.0% (34.95)	69.8% (32.95)	87.9% (10.52)	79.9% (17.01)
K-5 (n = 488)	88.7% (15.41)	93.1%* (9.37)	66.2% (29.7)	75.1%* (24.62)	45.9% (35.07)	53.6%* (37.88)	71.6% (21.65)	72.4% (21.12)
6-7 (n = 9)	95.3% (2.55)	96.1% (2.62)	88.9% (18.16)	83.3% (17.68)	75.0% (25.00)	72.2% (15.02)	82.7% (15.17)	77.9% (5.73)
Total	89.1% (14.91)	93.2%** (9.08)	68.2% (29.58)	75.8%** (24.30)	48.2% (35.65)	54.9%** (37.33)	72.5% (21.41)	72.9% (20.69)

* denotes statistically significant differences ($p \leq .01$)

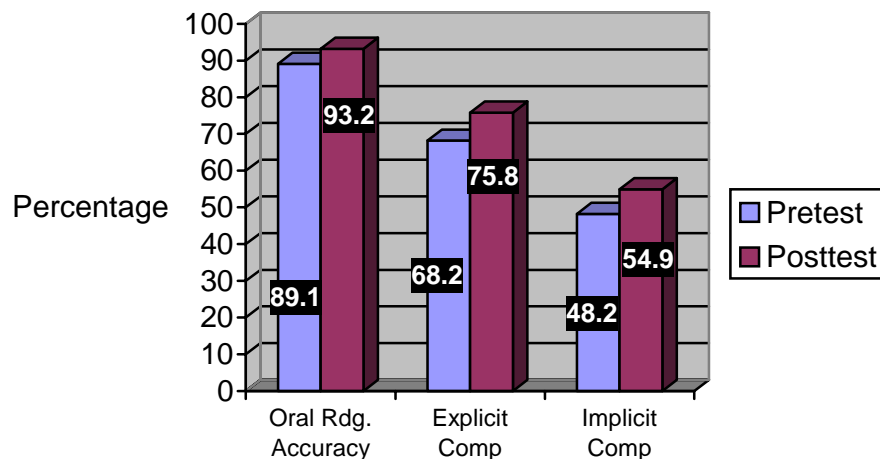
** denotes statistically significant differences ($p \leq .001$)

Paired samples *t*-tests were used to determine whether differences from pretest to posttest were significant. Changes from pretest to posttest were significantly higher for students in grades K-5 for oral reading accuracy ($t = 10.615$, $df = 497$, $p \leq .01$, two-tailed), explicit comprehension ($t = 6.190$, $df = 497$, $p \leq .01$, two-tailed), and implicit comprehension ($t = 4.355$, $df = 497$, $p \leq .01$, two-tailed). Students receiving special education/remedial reading services and students in grades six and seven did not experience statistically significant changes from pretest to posttest in terms of oral reading accuracy, explicit comprehension, implicit comprehension, or total comprehension.

When all students were considered in the analyses, there were statistically significant increases from pretest to posttest in terms of oral reading accuracy ($t = -10.322$, $df = 529$, $p \leq .001$, two-tailed), explicit comprehension ($t = -5.622$, $df = 529$, $p \leq .001$, two-tailed), and implicit comprehension ($t = -4.056$, $df = 529$, $p \leq .001$, two-tailed) (see Table 3). Figure 2 depicts these differences visually.

Thus, students, particularly in grades K-5 experienced significant gains in their ability read orally with accuracy and in their explicit and implicit comprehension over time.

Figure 2. Gains in Oral Reading Accuracy and Comprehension in All Grades



At the highest instructional oral reading level, teachers were also asked to record the types of miscues students made as they read orally. They recorded six different types of miscues: (a) substitutions (replacing one word for another), (b) mispronunciation (replacing a word with a non-word), (c) insertions (inserting a word where one does not belong), (d) self-corrections (correcting an error on one's own), (e) omissions (failing to read a word in the text), and (f) reversals (transposing two words). Typically, educators hope that over time students decrease the percentage of miscues that are substitutions because this type of miscue tends to be highly correlated with lower levels of comprehension. Alternatively, educators hope that, instead students are able to recognize their oral reading miscues and self-correct them. Thus, educators typically endeavor to decrease the proportion of substitutions while increasing the proportion of self-corrections.

Table 4 displays the means and standard deviations for changes in percentages of each type of miscue made while reading texts at the highest oral reading level at pretest and posttest.

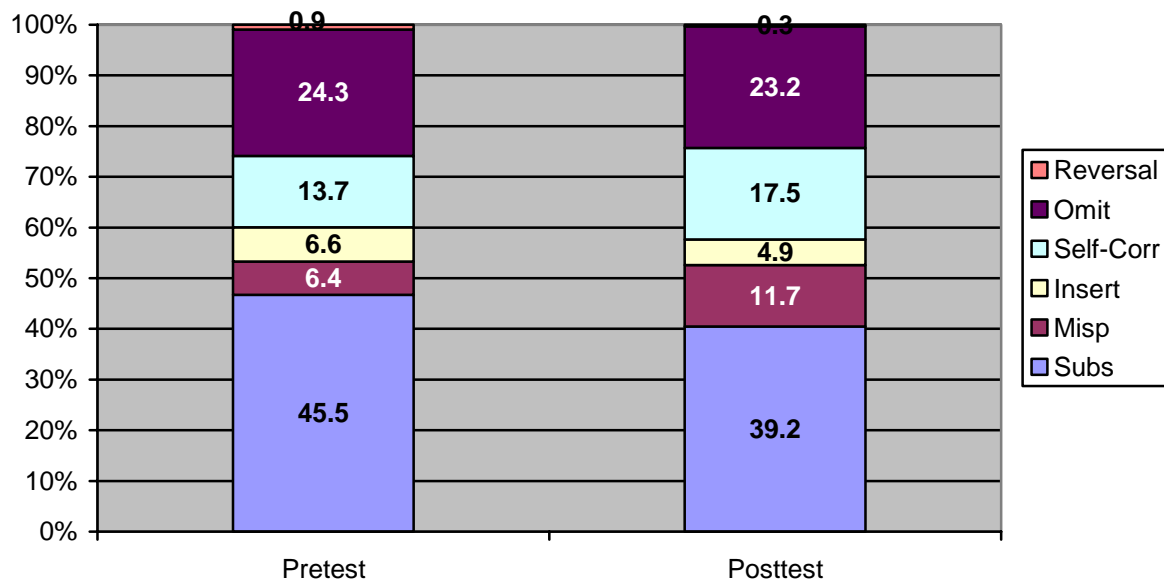
Table 4. Mean and Standard Deviation for Percentage of Miscues Made at Students' Highest Oral Reading Level at Pretest and Posttest.

	Types of Miscue											
	Substitution		Mispronunciation		Insertion		Self-correction		Omission		Reversal	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Mean	45.5	39.2*	6.4	11.7*	6.6	4.9*	13.7	17.5*	24.3	23.2	0.9	0.3*
SD	29.7	27.5	15.2	17.9	14.9	10.4	19.8	21.1	27.8	28.0	5.9	2.9

* denotes statistically significant differences ($p \leq .001$)

Paired samples *t*-tests were used to determine whether differences in percentages of miscues from pretest to posttest were statistically significant. Significant changes occurred in the percentage of substitutions ($t = 4.137$, $df = 529$, $p \leq .001$, two-tailed), mispronunciations ($t = -5.412$, $df = 529$, $p \leq .001$, two-tailed), insertions ($t = 2.294$, $df = 529$, $p \leq .001$, two-tailed), self-corrections ($t = -3.397$, $df = 529$, $p \leq .001$, two-tailed), and reversals ($t = 2.155$, $df = 529$, $p \leq .001$, two-tailed). Figure 3 represents a visual depiction of these changes over time. These findings suggest that students were making significantly fewer miscues that impede comprehension (i.e., substitutions) and significantly more miscues that enhance comprehension (i.e., self-corrections) over time.

Figure 3. Percentage of Oral Reading Miscues Over Time



Cautions

Caution should be used when interpreting the data related to student reading achievement presented above. The 203 participating KRP teachers administered the QRI-3 to 10 students selected randomly from their classes and entered that data on-line. In order to verify the QRI-3 data teachers entered on-line, our evaluation team requested that teachers submit hard copies of the QRI-3 assessments. Only 81 teachers (39.9%) of 203 submitted the requested data for the QRI-3 at the time of the pretest, and 75 teachers (39%) of 190 submitted the requested data for the QRI-3 at the time of the posttest.

In the process of verifying the data to make sure teachers had used the QRI-3 properly and had coded students' oral reading accurately, the evaluation team noted that teachers had made substantive errors in administering the QRI-3, coding students' oral reading miscues, and entering the QRI-3 data on-line. Given this amount of error, the evaluation team decided that the data entered by teachers online was not accurate, and we decided to drop any student data that could not be verified by hand. Thus, we included QRI-3 data in our analyses for which we had both pretest and posttest data ($n = 530$ students from 75 teachers) that we could verify with the hard copies of the data. This decision resulted in a manual re-coding of the hard copy data received for all 530 students. All teacher errors were recorded and the electronic database updated to reflect accurate coding.

In order to determine whether the teachers who submitted hard copies of student data may have differed in some way from those who did not submit hard copies of student data, Analysis of Covariance (ANCOVA) procedures were used to compare the Content Knowledge for Teaching Reading (CKTR) scores of those teachers who turned in the requested data to scores of those who did not turn in the requested data. The ANCOVA procedures revealed that teachers who turned in hard copies of QRI-3 data had significantly higher scores on the word analysis content knowledge subscale ($F = 5.973$, $df (1,187)$, $p \leq .015$) and the total score on the CKTR ($F = 7.604$, $df (1,187)$, $p \leq .006$). Teachers who turned the QRI-3 data in did not differ significantly from those who did not turn the data in on the comprehension content knowledge subscale ($F = 3.014$, $df (1,187)$, $p \leq .084$) and the knowledge of teaching subscale ($F = 3.526$, $df (1,187)$, $p \leq .062$).

Thus, the teachers who submitted the requested QRI-3 data had significantly greater growth in word analysis content knowledge than those teachers who did not submit QRI-3 data. This suggests that the student growth data analyzed above may reflect inflated rates of growth given that the data originated within classrooms being taught by teachers who had significantly greater content knowledge.

Conclusions

Keeping in mind the cautions discussed above, teachers participating in the KRP during 2005-06 experienced significant increases in word analysis content knowledge and knowledge of teaching. Those students who were in classes taught by these teachers also experienced substantive growth in terms of oral reading level, oral reading accuracy, explicit comprehension, and implicit comprehension. As well, the processes used by these students changed over time in

that they made significantly fewer oral reading errors that impeded comprehension and used significantly more behaviors that enhance comprehension.

Study 2: Transfer of Knowledge from the Kentucky Reading Project to Classroom Practice

Purpose

The purpose of this case study was to: (a) describe the knowledge, skills, and strategies presented during the KRP for the teaching of reading; (b) discover what knowledge, skills, or strategies transferred into classroom practice; and (c) investigate what elements of the institute were conducive to this transfer. For this study, transfer is defined as the knowledge, skills, or strategies presented during the teacher professional development institute that were implemented in the classroom reading instruction of participating teachers.

Methods

Setting. The setting for this study was the KRP at one of the eight public universities who participated in KRP in 2005-06. The particular university site investigated in this study was in a rural part of the state.

Participants. The participants were twelve practicing elementary school teachers, who enrolled in the KRP and the site leader. The site leader, who was a member of the literacy faculty at the university, conducted the professional development institute. Two of the twelve teacher participants, Jayla and Lina (pseudonyms), were selected for interviews and classroom observations because they taught at the only school in close proximity to the university. Lina was a first grade teacher in her second year of teaching and Jayla was a second grade teacher in her third year teaching.

Data sources. The primary data sources for this study were video tapes of the institute, follow up sessions, interviews, and teacher observations. Secondary data sources were initial field notes taken from observations and video tapes, interpretations of these field notes, expansions of these field notes, transcripts of interviews, documents collected during observations, a researcher journal, member checks, and observation protocols. The researchers developed the observation protocol as a classroom observation tool based on observable indicators of the eleven literacy standards common to the eight professional development institutes.

Data gathering procedures. One member of the research team observed the first and last two days of the summer institute. During these observations, the researcher video taped, took initial field notes, and collected documents distributed to the participants. For the remaining six days of the institute, the site leader video taped and collected any distributed documents. The same member of the research team then watched these video tapes while taking initial field notes, which were later interpreted, expanded, and condensed for member checking procedures. Throughout the project, the site leader verified the member checks. Follow-up sessions occurred approximately every two months after the summer institute. The same observation procedures were followed as described above. The day before the second follow up, the site leader was

interviewed with a pre-existing set of questions to gain information about how the institute was organized, planned, and conducted. This interview was video taped and later transcribed. Immediately prior to the second follow up, Lina was interviewed using a pre-existing set of questions to gain some information about her reflections on the summer institute and changes in her instruction. This interview was video taped and later transcribed. Immediately after the follow up, the same interview procedures were conducted with Jayla. The day before the third follow up, the researcher observed the literacy blocks of Jayla and Lina. During these observations, the researcher video taped, took field notes, and completed part of the observation protocol. Later, the researcher watched these video tapes to finish the observation protocols.

Data analysis. Inductive analysis was used to determine what main knowledge, skills, and strategies were taught during the summer institute and follow up sessions. This was conducted by coding all of the initial field notes and looking for patterns (Miles & Huberman, 1994). A folk taxonomy (Miles & Huberman, 1994), or hierarchical organization of data categories, was used to organize the emerging themes. Student growth and teacher growth were the two broadest themes. Each of these was broken down into five smaller categories, each of which also contained subcategories. An effects matrix (Miles & Huberman, 1994), or organizational chart to show relationships, was used to determine what knowledge, skills, and strategies transferred from the institute to the classroom. This procedure involved using the observation protocol to tabulate the percentage of time spent on the subcategories of each of the five categories of student growth. A causal network display (Miles & Huberman, 1994), or graphic representation of possible causes and effects, was formed to show factors from the professional development institute that may have contributed to the transfer of knowledge, skills, and strategies from professional development into classroom practice. This display was formed by connecting data from the interview transcripts to the effects displayed in the effects matrix.

Results/Conclusions

The results of the inductive analysis and folk taxonomy indicated that the knowledge, skills, and strategies taught were organized into two broad themes, Student Growth and Teacher Growth. Each of these broad themes was broken down into five subcategories. The Student Growth category included: communicating content, differentiating instruction, evaluating/assessing, creating a learning environment, and teaching/instructional practice. The Teacher Growth category included: evaluating, promoting change, supporting, teaching/instructional practice, and communicating values. These subcategories were broken down further into many subtopics.

The effects matrix analysis revealed that common elements evident in the institute and classroom for Lina were creating expectations, providing equitable access, using graphic organizers, questioning, and including multiple perspectives. This shows that the knowledge, skills, and strategies presented during the institute about fostering high expectations, creating equitable access to learning for all students, using graphic organizers to promote comprehension, using questioning as a comprehension strategy, and presenting multiple perspectives to foster diversity transferred to her classroom instruction. For Jayla, the effects matrix showed the most common themes between the classroom and institute to be creating equitable access, addressing students' needs, establishing the purpose of reading as meaning making, engaging in culturally responsive pedagogy, and providing opportunity for student choice. This indicates that the knowledge,

skills, and strategies presented during the institute about creating equitable access to learning for all students, addressing the needs of all students, fostering reading as a process for meaning making, using culturally responsive pedagogy to provide appropriate instruction for all learners, and providing choice to give students ownership over their learning transferred to classroom practice for this participant.

The causal network display revealed that a possible contributing factor to the implementation of expectations, access, culturally responsive teaching, and multiple perspectives was the belief system of the site leader. Although the analysis was more thorough, this particular relationship was revealed in the representative quote: “I think probably for me, I’m very concerned about preparing teachers to teach students that come from a variety of backgrounds and really understanding issues of diversity as they relate to children of diverse racial, cultural, socioeconomic [backgrounds].”

Recommendations/Commendations

1. The Kentucky Reading Project is to be commended for continuing to make a positive difference in the lives of teachers and students within the Commonwealth of Kentucky. Within the past year the KRP has implemented several of the recommendations from the 2004-05 evaluation. The most recent evaluation uses measures that are able to measure student reading achievement and teacher content knowledge with greater reliability and validity than has ever been possible. As well, the most recent evaluation includes a small case study to provide more in depth insights as to how knowledge is transferred from the KRP into teachers’ classrooms. All personnel associated with the Kentucky Reading Project and CCLD should be commended for working together to implement these changes.
2. In order to verify that student data from Study 1 is administered and coded accurately in the future, it is essential that all teachers participating in the KRP submit hard copies of their QRI assessments. Without such information any conclusions regarding student reading achievement must be interpreted with caution. Thus, it is recommended that all teachers participating in the KRP submit hard copies of the pretest and posttest QRI data they gather.
3. Teachers had great difficulty administering, coding, and recording student data from the QRI-3 accurately. In fact, it may be that those teachers who did not submit hard copies of QRI-3 data had difficulty learning to administer and use the assessment to inform their instructional practice, and they were reluctant to submit their data because they suspected they had not administered and coded the assessment accurately.

Learning to administer an informal reading inventory of any type (not just the QRI-3) should be an essential component of every elementary teacher’s repertoire. The information gleaned from informal reading inventories such as the QRI-3 enable teachers to: (a) estimate reading levels, (b) group students effectively for instruction, (c) choose appropriate textbooks for guided instruction, (d) suggest directions for instructional intervention, (e) compile a profile of a student’s reading ability, and (f) depict student

growth over time. Without such information it is unclear how teachers were able to make instructional decisions to meet students' individual needs.

It is recommended that the KRP redesign portions of its curriculum to communicate the importance of using classroom-based assessments to inform instruction. As well, the curriculum should assist teachers in learning how to use the information gleaned from such assessments to modify instruction to meet students' individual needs.

4. It is recommended that more systematic evaluation occur for KRP related to teacher and student growth. Currently sufficient resources are not available to conduct a rigorous evaluation of KRP.

While the KRP evaluation in 2005-06 has benefited from the use of more reliable and valid measures of student reading achievement and teacher content knowledge, a more rigorous evaluation would enable causal relationships to be made between KRP and student achievement. An example of a more rigorous evaluation would involve a randomized controlled trial in which data would be gathered using a pretest-posttest control group design (Campbell & Stanley, 1966). Pre- and post-treatment data would be collected for students, parents/guardians, and teacher participants in treatment and control conditions. The effects of the KRP treatment condition would be studied by analyzing pretest and posttest scores of participants in treatment and control conditions to evaluate the impact of the KRP on students' reading achievement, students' motivation for reading, and family involvement in literacy. As well, the impact of the KRP on teacher self-efficacy and teacher adaptability could be evaluated. Thus, these design options would enable student achievement and motivation for reading to be analyzed with respect to changes in teacher behavior.

While the experimental design described above would provide KRP with data that would enable it to generalize its impact, a more rigorous evaluation should also include qualitative investigations of teacher growth and change using observations and interviews. Such rich data sources would provide KRP with a wealth of information about the impact of the program on specific individuals and how their classrooms and teaching were impacted by KRP.

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