Literacy Coaching: Middle School Academic Achievement and Teacher Perceptions Regarding Content Area Literacy Strategy Instruction

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This study examined differences in perceptions of content area teachers receiving literacy coaching and teachers receiving no literacy coaching regarding implementation of literacy instruction. It also examined student achievement on standardized tests relative to literacy coaching. A survey measured teachers' perceptions regarding their implementation of content area literacy strategy instruction. The null hypotheses were tested using an independent t-test and a factorial ANOVA. Results of the t-test indicated no statistically significant difference in perceptions of Title I middle school teachers regarding implementation of content area literacy strategy instruction. The factorial ANOVA indicated a statistically significant difference in students' test scores, but minimal to no effect size.

Key Words: content area teachers, literacy coaching, literacy instruction, content area literacy, literacy strategy

Introduction

Secondary teachers often find themselves coddling students during instruction because of students' inability to read and comprehend grade-level material (Gibbs, 2009). According to the U.S. Department of Education, reading is a primary indicator of academic success across content areas and the "global information economy requires today's American youth to have far more advanced literacy skills than those required by any previous generation" (Kamil, Borman, Dole, Kral, Salinger, & Torgesen, 2008, p. 1). By the time students reach middle school, many are skillful in the mechanics of reading, but lack the ability to strategically read and interpret meaning from text (Vacca, 2002). Students have a limited view of writing and seldom use writing to demonstrate understanding of information gleaned from textbooks and classroom discussions. In-depth learning across content areas requires advanced literacy skills, and the use of literacy and language strategies to comprehend subject-area concepts (Snow & Moje, 2010).

Emphasis is placed upon reading instruction in kindergarten through third grade. However, students who appear to be on target academically begin to struggle when they encounter complex texts in upper grades (Salinger, 2003). The traditional focus upon skill building in early grades is not sufficient for helping students master difficult vocabulary, composition, and concepts they encounter as they advance in school (Gewertz, 2009; Biancarosa, 2012). According to Biancarosa (2012), in addition to more complex vocabulary, composition, and concepts, adolescents must learn to glean information from tables, graphs, pictures, and figures presented in far more complex ways than they are in books students encounter in earlier grades.

Beginning in fourth grade, effective reading instruction makes a shift from teaching students to learn to read and focuses upon helping students use reading skills to learn curriculum content (Burns & Gibbons, 2008). This shift focuses upon students' ability to comprehend material and lasts throughout high school where the focus is upon helping students apply comprehension strategies that help them master information across content areas. Many students struggle with this shift in focus, finding it difficult to manipulate skills and strategies necessary for independent learning (Salinger, 2003). According to Robb (2000), struggles adolescent students face may be a result of the lack of support they receive as they move from fluently decoding textbooks to strategically reading textbooks.

Well-skilled teachers who incorporate content literacy practices into their instruction improve students' reading capacity, vocabulary, and content knowledge (Brozo, 2010). However, secondary teachers need help understanding how to manage the dual task of teaching content knowledge and increasing student literacy (International Reading Association, 2006). Even content teachers who understand that building literacy capacity in students is their responsibility have limited notions of how to put their beliefs into practice (Sturtevant, 2003). Teachers must receive consistent guidance and assistance as they learn to manage the dual role of delivering content and teaching literacy to secondary students.

Nationally, school districts have begun implementing professional development models that incorporate the use of literacy coaches. The belief is coaching can improve teachers' instructional practices, leading to increased academic achievement among students (Elmore & Rothman, 2000). Coaches help teachers combat challenges

associated with adhering to curriculum requirements while teaching literacy skills (Shanklin, 2007).

According to Toll (2007), literacy coaching makes it more likely that teachers will make better decisions regarding student learning. Coaches challenge teachers to think differently about student learning, encourage teachers to reflect upon instructional practices, and provide support with developing and implementing interventions for struggling learners (Walker, 2008). On-going support of literacy specialists is instrumental in helping teachers improve academic achievement of struggling readers (Vernon-Feagans, Kainz, Amendum, Ginsberg, Wood, & Bock, 2012). According to Walker (2008) literacy coaches ignite changes in practices, beliefs, and values about literacy instruction.

The impact literacy coaches have on improving reading achievement depends on the support coaches receive from principals and district administrators (Wren & Reed, 2005). Staff members meet the introduction of coaches into established school cultures with suspicion (Toll, 2004). Secondary literacy coaches struggle to validate themselves with teachers who do not believe reading and writing activities increase students' content knowledge (Blamey, Meyer & Walpole, 2008). Collaborative relationships between principals and coaches prevent derailment of coaches' work and help principals lead academic success of students (Wren & Reed, 2005).

Purpose

The purpose of this study was to: 1) determine if there was a statistically significant difference in the perceptions of teachers receiving content area literacy strategy training and teachers receiving no content area literacy strategy training regarding their implementation of the strategies and 2) determine if a relationship exists between the academic achievement of middle school students and literacy coaching based upon student achievement on standardized tests.

Limitations

The researcher recognized the following limitations in this study:

1. The researcher made no attempt to control for teacher fidelity regarding implementation of content literacy strategy instruction.
2. Other factors such as prior instruction and students' cognitive abilities were outside of the scope of this study.
3. The researcher made no attempt to control for the quality of professional development provided by literacy coaches.
4. The researcher made no attempt to control for teacher knowledge of content area strategy instruction prior to professional development by literacy coaches.
5. The researcher made no attempt to control for the frequency of coaching and the professional development provided by literacy coaches.

Significance of the Study

This study may provide valuable information to school administrators when evaluating the need to staff Title I middle schools with literacy coaches. The study may also serve as a resource in creating school-wide literacy programs aimed at improving student reading achievement across content areas.

Methodology

The researcher chose an independent t-test and a factorial Analysis of Variance (ANOVA) to test the null hypotheses. The level of significance was set at (.05) for both.

A total of 15 Title I middle schools from a southern state were identified as having literacy coaches. Five Title I middle schools with literacy coaches (Group 1) and four Title I middle schools without literacy coaches (Group 2) were randomly selected as the sample population for this study. Seventh grade content area teachers from the sample population were surveyed because those teachers were responsible for teaching the standards that are assessed on the EXPLORE Test taken by 8th grade students each fall. The EXPLORE test is developed by the ACT Board and measures students' aptitude in English, math, reading and science. It consists of four multiple-choice tests in each of the four subject areas. The assessment measures the knowledge and skills needed for success. Fifty teachers were surveyed.

Additionally, two schools from the sample of non-coached schools and two schools from the sample of coached schools were randomly selected to ascertain EXPLORE testing data. The additional random sample was selected to reduce the number of student test scores used in the study. EXPLORE test data was obtained from each of the four randomly selected schools. A total of 1,592 EXPLORE test scores were used in the study because EXPLORE provided student achievement data across content areas. The archival data included three consecutive years of test scores, 2011-2012, 2012-2013, and 2013-2014.

A 13-question, researcher-developed survey designed to measure the levels of teacher implementation of content area literacy strategy instruction and the quality of professional development provided by literacy coaches was used. Experts in the field of education established content validity and questions were developed from the review of literature (Radhakrishna, 2007). Experts reviewed items for readability, clarity, and comprehensiveness and agreed upon items included in the final instrument (Miller, 2012, p. 8). The next section will outline the results of the tested null hypotheses.

Results

Null Hypothesis 1: (1) There will be no statistically significant difference in teachers' perceptions of the implementation of content area literacy strategy instruction between teachers in schools with a literacy coach and teachers in schools without a literacy coach.

The analysis revealed that Group 1 (M = 3.08, SD = .45) was not significantly different from Group 2 (M = 2.97, SD =.28), $t(40)$ = .84, p = .41. Levene's test of equality of variance indicated that the homogeneity of variance assumption was not

violated, $F = 2.21$, $p = .15$. The researcher failed to reject the null hypothesis of no statistically significant difference in teachers' perceptions. Since the total number of participants was 42, but one group had 13 participants, interpret the results with caution. Creswell (2012) recommends a minimum of 15 participants in each group.

Analyses were carried out to compare average scores per question respective to whether or not the questions were answered by teachers from coached or non-coached schools. The analysis revealed the top three response items for teachers in coached schools were questions 5, 6, 7 and 11 with mean response scores of: M = 3.24, M = 3.48, M = 3.24, and M = 3.27, respectively. The top three response items for teachers in non-coached schools were questions 5, 6, 7, 11 and 13 with mean scores of: M = 3.54, M = 3.54, M = 3.15, M = 3.15, and M = 3.08, respectively. In general, teachers from coached and non-coached schools had similar perceptions regarding their implementation of literacy strategy instruction across content areas. The highest and lowest mean scores by question relative to school type are presented in Tables 1 and 2.

Table 1
Highest Mean Scores by Question Relative to School Type

Question	School Type	Mean	Question	School Type	Mean
Q6	Coached	3.48	Q6	Non-Coached	3.54
Q11	Coached	3.28	Q11	Non-Coached	3.15
Q5	Coached	3.24	Q5	Non-Coached	3.54
Q7	Coached	3.24	Q7	Non-Coached	3.15

Table 2
Lowest Mean Scores by Question relative to school Type

Question	School Type	Mean	Question	School Type	Mean
Q9	Coached	3.07	Q9	Non-Coached	2.69
Q13	Coached	3.07	Q13	Non-Coached	3.08
Q10	Coached	2.83	Q10	Non-Coached	2.23
Q12	Coached	2.56	Q12	Non-Coached	2.62
Q8	Coached	2.93	Q8	Non-Coached	2.69

A factorial ANOVA was used to analyze null hypotheses two, three, and four**.** Levene's test of equality of variance indicated the homogeneity of variance assumption was not violated, $F = .99$; $p = .42$. The results of each hypothesis are stated below.

Null Hypothesis 2: There will be no statistically significant difference in EXPLORE scores between Title I middle school students in coached schools and non-coached schools.

The results indicated a statistically significant difference between the composite test scores of students in schools staffed with literacy coaches and students in schools not staffed with literacy coaches, $F(1,1586) = 10.89$; $p = .001$, $\eta^2 = .007$. The EXPLORE scores for students in coached schools were significantly higher than the scores for students in non-coached schools. The use of η^2 indicated a minimal to no effect size (Creswell, 2012). A descriptive analysis of the data showed the means and standard deviations of test scores by school type per year. The results are presented in Table 3.

Table 3
Means and Standard Deviations by School Type per Year

School Type	Year of Test	Mean	Std. Deviation	N
Coached	2011	13.07	2.49	305
	2012	12.65	2.27	322
	2013	13.35	2.66	313
	Total	13.02	2.49	940
Non-Coached	2011	12.26	2.25	199
	2012	12.84	2.54	215
	2013	12.74	2.37	238
	Total	12.63	2.40	652

Null Hypothesis #3: There will be no statistically significant difference in overall EXPLORE test scores for year one, year two, and year three. The results indicated a statistically significant difference in scores between years, $F(2,1586) = 3.51$; $p = .03$, $\eta^2 = .004$. A Tukey's HSD post hoc test revealed that year three EXPLORE scores were significantly higher than EXPLORE scores in year two. See Table 4 for the summary. According to (Creswell, 2012) eta square indicated a minimal to no effect size.

Table 4
Tukey's HSD Summary for Hypothesis 3

	Year 1	Year 2	Year 3
Year 1	---------	.09	.39
Year 2		---------	.30*
Year 3			---------

*Indicates significance

Null Hypothesis #4: There will be no statistically significant interaction between EXPLORE scores for coached and non-coached schools and year tested. The results indicated a statistically significant interaction, $F(2,1586) = 5.96$; $p = .003$, $\eta^2 = .007$. EXPLORE scores rose significantly higher in year three for coached schools than they

did in non-coached schools. According to Creswell (2012) the use of η^2 indicated a minimal to no effect size. See Figure 1 for the results.
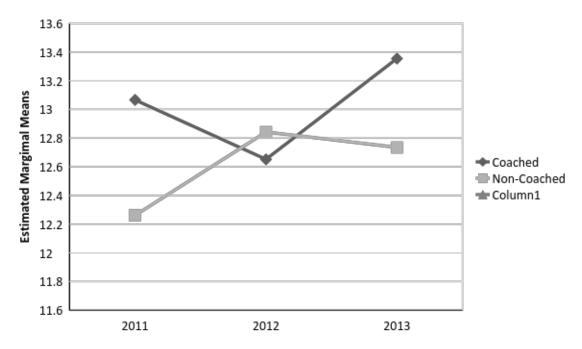

Figure 1. Estimated Marginal Means of EXPLORE Scores by Year and School Type

Discussion

The findings of this study are inconclusive regarding the need to staff Title I middle schools with literacy coaches. EXPLORE test scores for students attending schools staffed with literacy coaches were significantly higher than scores of students in schools not staffed with literacy coaches. However, the effect size was minimal. Additionally, teachers in coached and non-coached schools shared the opinion that literacy coaches are needed in schools. Although teachers agreed that literacy coaches are needed in Title I middle schools, the findings of the study also indicated a need for more specialized training of coaches. Teacher respondents indicated professional development provided by coaches needed to be more effective. School systems need to provide advanced training for coaches so they can better meet the needs of the teachers they serve. Building principals and district administrators must provide clear and consistent support to literacy coaches to maximize their effectiveness (Steiner & Kowal, 2007).

Ancillary data gleaned from the demographic responses of teachers indicated that Math teachers had the lowest level of implementation for strategy instruction. Further study could focus upon the knowledge and implementation of Math teachers regarding content area literacy and the academic achievement of students in Math.

Teacher perception was strong regarding the belief that forms of professional development other than literacy coaching can enhance teachers' knowledge of literacy strategy instruction. Future research may identify additional sources of professional development and explore how they impact teacher implementation of literacy strategy instruction.

Qualitative methodologies (e.g., case study) could also be used to further explore the relationship between literacy coaching and teacher implementation of literacy strategy instruction. This methodology would examine the self-efficacy, expertise, and training of literacy coaches and evaluate the extent to which they provide professional development that teachers deem effective.

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Teacher Survey: Literacy Coaching and Literacy Strategy Instruction

The 13-item questionnaire is designed to determine if a difference exists in the levels of implementation for teachers who have received professional development from instructional/literacy coaches and those who have received other forms of professional development. Your participation in the survey is voluntary. All data collected will remain confidential. Completion and submission of the survey will indicate your willingness to participate in this study.

Part I
Directions: Please read each question carefully. Circle one answer.

1. I teach 7th Grade:	a) Yes		b) No	
2. I have taught at this school: a) Less than 1 year	b) 1-3 years	c) 3-5 years	d) 5 years or more	
3. My subject area is:	a) science	b) math	c) English/language arts	d) history
4. My school has employed a literacy coach:	a) 1-3 years	b) 3 or more years	c) not applicable	

Part II
Directions: Circle the answer that best describes your opinion.

5. I believe a literacy coach is needed at my school
    a. Strongly agree   b. Agree   c. Strongly disagree   d. Disagree   e. No opinion

6. I believe professional development other than literacy coaching can enhance teacher knowledge of content literacy strategies
    a. Strongly agree   b. Agree   c. Strongly disagree   d. Disagree   e. No opinion

7. I participate in weekly professional development focusing upon content area literacy strategy instruction
    a. Strongly agree   b. Agree   c. Strongly disagree   d. Disagree   e. No opinion

8. Classroom demonstrations modeling literacy strategy instruction are provided at my school
    a. Strongly Agree b. Agree   c. Strongly Disagree d. Disagree   e. No opinion

9. Professional development workshops at my school emphasize literacy strategy instruction
    a. Strongly agree   b. Agree   c. Strongly disagree d. Disagree   e. No opinion

10. Classroom demonstrations modeling literacy strategy instruction are highly effective
    a.   Strongly agree b. Agree   c. Strongly disagree d. Disagree   e. No opinion

11. I completely understand and use literacy strategies such as: text coding, close reading, visualizing, graphic organizers, think-pair-share or reciprocal teaching
    a.   Strongly agree b. Agree   c. Strongly disagree d. Disagree   e. No opinion

12. I completely understand and use literacy strategies such as: below the line, save the last word for me, extract/react notes or magnet summaries
    a.   Strongly agree b. Agree   c. Strongly disagree d. Disagree   e. No opinion

13.   I implement literacy strategy instruction into my lessons daily
    a.   Strongly agree b. Agree   c. Strongly disagree d. Disagree   e. No opinion