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Learning Reading Strategies while Writing: A Qualitative Study

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One of the benefits of the No Child Left Behind Act (2002) is that the reading comprehension needs of struggling readers have been made public. As a result, reading progress is being made, but slowly, with students in the 10th percentile rising three points in five years, from 193 to 196, on the National Association of Educational Progress Assessment (2007) and students in the 25th percentile rising four points, from 170 to 174. In comparison, students at the

The National Reading Panel (2000) asserted that it reviewed scientifically based reading research and found the reading skills students need to master in order to make progress. However, their findings remain contentious, with the Pressley (2001) insisting that the National Reading Panel (2000) did not emphasize "higher-order literacy competencies" (p. 5) and Allington (2002) contending that the National Reading Panel (2000) developed a "political" rather than a "professional consensus" (p. 265). Nevertheless, many do agree that there is one element of the teaching of reading that must take place: teaching struggling readers the reading comprehension strategies that proficient readers use (Calkins, 2001; Keene & Zimmerman, 1997; Pressley, 2000). Surprisingly, although these higher order reading comprehension strategies are known (Pearson, Roehler, Dole, and Duffy, 1992; Duke and Pearson, 2002), teachers rarely teach them (Allington, 2001; Raphael & Au, 2005); rather, they give assignments then monitor that students stay on task (National Reading Panel, 2000).

The reading comprehension strategies that studies have found successful include the following: (a) comprehension monitoring or "noting of one's successes and failures in developing or attaining meaning" then learning how to restate what was read and/or look

back or forward to resolve a problem; (b) instruction in question generation, prediction, clarification, and summarization in the content areas; (c) "mental imagery" where students "constructed visual images to represent a text as they read it" (p. 4-75); and (d) multiple strategy instruction that taught students to predict, summarize, and monitor comprehension (National Reading Panel, 2000, pp. 4-69—4-75).

In a comparable investigation Pressley (2000) reviewed studies that taught the use of one reading comprehension strategy at a time and studies that taught the use of multiple strategies together and noted that in classrooms where teachers modeled then guided students' practice students produced better test scores and better interpreted texts (p. 555). Snow, Burns, and Griffin (1998) similarly emphasized the importance of teacher modeling of comprehension strategies to make "normally hidden processes" visible (p. 221). In light of this discussion, this study sought to answer two questions:

1. What happens when students are explicitly taught reading comprehension strategies in the content area through teacher modeling and guided practice?
2. What happens when some students are exposed to reading comprehension strategies more often than other students?

Research Method

This study was conducted using participant observation methods (Spradley, 1979). The researcher taught reading comprehension strategies once a week for seven months in five fourth grade urban classrooms, interviewed selected students, and met weekly with the five fourth grade classroom teachers to discuss their perceptions of the teaching and learning. The teachers helped to select the easy-to-difficult order in which reading comprehension strategies would be taught, starting with question generation

about the rainforest, a topic they selected, and ending with synthesizing ideas into a letter to next year's fourth graders. Through synthesizing, students would be required to use the other comprehension strategies to be demonstrated: determining importance to select ideas to include in the letter, monitoring understanding to explain ideas correctly, inferring readers' questions to answer them in the letter, making connections to depict material in a compelling way, and visualizing to engage the interest of the reader.

Five fourth grade classrooms in "Striving Elementary School," a high poverty urban elementary school in which 75.1 percent of students qualified for free and reduced lunch and 50 percent of fourth grade students achieved "basic" or "below basic" on the state standardized test served as the setting. Striving Elementary School was in its third year as "a school in need of improvement," as identified by the state's measure of Adequate Yearly Progress (No Child Left Behind, 2002). That is, 57 percent of students in the 2004-05 school year and 68 percent in the 2005-06 school year were required to but did not achieve proficiency in reading (Connecticut Department of Education, 2007).

The study involved five fourth grade teachers in whose classrooms the study was conducted: Mr. Brown (teachers' names are pseudonyms), a teacher for nine years; Mr. Greene, a teacher for three years; and Mrs. Black, Mr. Blue, and Miss White, teachers for four years. Each participant observation followed the pattern: The researcher provided demonstration lessons (Dall'Alba & Sandburg, 2006) of the reading comprehension strategy under study, reinforced strategies previously learned, and asked students to apply the strategies to rainforest materials downloaded from the Internet and complemented by class sets of five trade books.

Because the study was qualitative but also because the teaching of reading comprehension strategies is a proven reading scaffold (National Reading Panel, 2000), the researcher and teachers elected not to withhold the teaching of reading comprehension strategies from one group in order to compare the effects on other groups. In any event, according to Kamberelis & Dimitriadis (2005), the use of a control group would have been impossible since the basal reading program used in the fourth grade included reading comprehension strategies as part of its scope and sequence (Harcourt Brace, 1997). The difference between this study's procedures and the reading program's protocol was that this study dwelled on one reading comprehension strategy for an extended period of time (Keene & Zimmerman, 1997), four to six sessions over four to six weeks, instead of introducing a reading comprehension strategy then moving on to another, as the basal reading program did. Another important difference was that the strategies were taught as part of instruction in science (Guthrie, 2006).

Data Sources

Data sources incorporated observational, interview, and archival data (Kamberelis and Dimitridis, 2006). Observational data consisted of field notes written after participant observation. Interview data included students' responses to interview questions and teachers' responses to questions during lunch. Archival data contained lesson plans and anchor charts created during demonstration lessons (Harvey & Goudvis, 2007). Student artifacts included: (a) surveys to determine knowledge of comprehension strategies before and on the last day of instruction, (b) students' lists of questions during introduction to and subsequent reading about the topic, (c) thought bubbles where students recorded inferences about people mentioned in texts

(Clyde, et. al. 2006), (d) reading comprehension strategy graphic organizers created by the researcher when teachers requested graphic organizers that were student-friendly, (e) sticky notes used to literally apply comprehension strategies to text (Fiene & McMahon, 2007), (f) note cards and folded-in-fourths sheets of paper on which students practiced comprehension strategies, (g) drafts and final copies of "I Am" poems in which students adopted the persona of the rainforest (Kucan, 2007), (h) drafts from all students and final copies from students who revised "letters to fourth graders" telling next year's class what this year's class had learned; and (i) drafts from all students and final copies from students who revised letters to President DaSilva of Brazil persuading him to protect the rainforest (Rohter, 2007).

Interview Protocol

Students who could articulate their use of comprehension strategies were selected to be interviewed from among students identified by teachers as representing the range of students' reading levels (Agar, 1980). The following interview protocol was used: (a) Can you tell me what it means and why it is important "to visualize" ("monitor comprehension," "ask questions," "make an inference," "determine importance," "monitor comprehension," "synthesize")? (b) Can you tell me a time this week that you have "visualized" ("asked questions," "made an inference," "determined importance," "monitored comprehension," "synthesized")? (c) Can you read this page and tell me what you "visualize" ("what questions you ask," "what inferences you make," "what ideas you think are important," "where you were confused about what the text means," "what you did when you were confused," "what you synthesize?") Follow up questions were asked when warranted. For example, Carrie (students' names are pseudonyms), a student in Mr.

Browne's low middle reading class, responded to questions designed to elicit what she knew about the rainforest and what she remembered about comprehension strategies:

Researcher: Do you remember any of the reading strategies we've been using?

Carrie: Good readers ask lots of questions and they have a big mind and imagination. Some readers want to visit the place that they are daydreaming about, and they feel like they are really there.

Researcher: Do you remember any more? Do you remember when we used thought bubbles to help us infer what other people are thinking?

Carrie: We drew pictures of what we think about it and yourself asking questions.

Researcher: What did you draw?

Carrie: I printed a tree, a snake, some buggies on the floor, and I drew myself asking why it's so warm. Then I drew an Indian person that is worrying that I'm going to chop down the trees and take all the food. So I put in a question mark because to say I hope that she is going to leave no food.

Researcher: Do you remember anything else we've done?

Carrie: We asked some questions about the rainforest, and we did little strip things. We told the strips to each other. Then we stopped then and wrote a question about what we heard from the other person.

Researcher: When I'm here you do these things. When I'm not here, do you do these things?

Carrie: Yes, I do these things in my house. It's much quieter.

Researcher: Do you use the strategies in school?

Carrie: Only when there is silent reading.

This study used "theoretical sampling" to interview people who differed from each other to determine which reading comprehension strategies were easily acquired and which ones required more intensive instruction (Agar, 1980, p. 124). In addition, "event sampling" was used to query students' perception of a classroom event (Agar, 1980, p. 126). George, in the advanced reading group, and Luz and Monroe in two low-proficient reading classrooms, answered questions about the subtext strategy applied by drawing a picture of oneself and a person from the text then using thought bubbles to record an inference (Clyde, et. al, 2006):

Monroe: I use it in narrative writing. We write stories and I use a picture in my mind because it helps me decide what's going to happen next in my story.

Researcher: Do you imagine someone different and what they are thinking?

Monroe: I imagine what they are doing and what they feel, the expressions on their faces.

Researcher: What if the expression isn't happy, what do you do to your writing?

Monroe: I make it more exciting. I write more details.

Researcher: If you were writing about the rainforest, what would be the details?

Monroe: Kinds of animals, what they do, what a rainforest looks like.

Luz: I use them in reading. We do a lot of hard stuff, like writing. I would draw a picture before I start the paper. When you're in the

reading class I draw two pictures but when I'm in the room I can't draw one. At home I use it a lot.

George: I picture if the character is sad. I try to make the scene sad and not a happy day but I try to make matching parts. If he's happy I don't do a sad scene because it doesn't make sense.

Through coding interviews for reading comprehension strategies used and when, it was possible to analyze students' grasp of the strategies in isolation before examining whether or not they applied the strategies while writing.

Data Analysis

This study used the grounded theory method of "systematic discovery of the theory from the data" (Glaser & Strauss, 1967, p. 3). Data was collected, coded, and analyzed in a "dialectic" process that returned to previously analyzed data to consider it in light of new data (Agar, 1980, p. 9). In order to code the data, a Connecticut State Department of Education (n.d.) writing rubric was adapted to examine comprehension strategies that students used to elaborate their writing. The goal of analysis was to find data rich enough to make a "thick description" when it was used as an example of an event that illuminated a finding that answered a research question (Geertz, 1973, p. 6). As Geertz described, such an explication must portray the original event in enough detail "to bring us into touch with the lives of strangers" (Geertz, 1973, p. 16). Immersion in the data through rereading of interviews, field notes, and classroom and student artifacts to make a list of "cultural domains" was an important step in identifying themes in the data (Spradley, 1979, p. 191). A simultaneous process, componential analysis, searched for "folk terms," or

components of meaning as interpreted by the students and teachers in the study (Spradley, 1979, p. 174). Theme analysis of similarities and contrasts in the data was aided by writing reports to the university and the district in which Striving Elementary School is situated. The data yielded all the times that students applied comprehension strategies while reading and writing, and analysis examined students' reasons and perceived benefits for so doing.

Results

The first finding of this study is that students in the study applied and reinforced their understanding of comprehension strategies as they wrote. While Keene & Oliver (1997) posit the way readers determine importance: "…it's the purpose for the reading, along with personal beliefs, experiences, prior knowledge, and knowledge of the audience that govern our decisions about what is important in any given text" (92), the same focus on purpose was true for these student writers, perhaps because writing mirrors reading (Calkins, 1994). For example, Ramon, whose first language is Spanish, had been interested in the rainforest since first grade when an invited speaker told his class about the rainforest. He had more background knowledge than most because "whenever my mother has time, she takes me to the library where I read about the rainforest." In an unsent letter to President DaSilva of Brazil, Ramon accomplished his purpose, persuading the president to preserve the rain forest. To do so he used his background knowledge and insights from role playing an indigenous people's thoughts about allowing loggers into the rain forest:

Dear President DaSilva,

> I don't think you should allow anyone to cut down the logs in the rain forest because it is many (sic) home fore (sic) animals that are rare and you mait (might) run (ruin) plant (sic) that are cures frore (for) many people. Weh (When) you cut the trees down, dose (sic) the oxygen go away?

Ramon again matched his purpose to the reading comprehension strategies he applied when he wrote to a child who would be a fourth grader next year. This time he used the strategies of determining importance and question generation which matched his purpose of including information that would intrigue the student. (Original spelling is preserved):

> Dear Fourth Grade Student,
>
> The rain forest is a unushal place because if a children frome the rain forest gets got (caught) steling the punishment will be that they will wrap ther (sic) hands and put them in a fire for a fefw moments and if a chil is bad they will whrap a stick around ther heed and slap it whiff (with) a big long caboga in englesh that mins a spegil (special) plant that onlis gros (only grows) in the rain forest. And some people are destroying the raiforest.

The second finding of this study is that students who are exposed more often to comprehension strategies elaborate more on their ideas. Because some students who been taught a strategy in homeroom were in the reading class I visited during the reading block, the students were taught the same comprehension strategy. For example, asked to practice the reading comprehension strategy of visualizing by continuing a cartoon about a fire in the rain forest, Ramon created 20 frames. When he was exposed to the same

cartoon in a second class, he created 28 new frames. Similarly, when Ramon wrote a letter to fourth graders in January he included three ideas; by May he included eleven elaborated ideas.

This pattern did not always hold. Sometimes Ramon grew bored. When Ramon wrote a letter about the rainforest in homeroom class in the morning; he did not want to write another letter about the rainforest in reading class in the afternoon. In contrast, Chico, whose advanced reading class was writing about African American biographies while his homeroom class was writing about the rainforest, enjoyed writing a second letter because he had not "run out of ideas."

A third finding of this research concerns the research question, "What happens when students are explicitly taught reading comprehension strategies in the content area through teacher modeling and guided practice?" The answer is that students learn both the reading comprehension strategies and the content. For example, early in the study Nadia showed a limited understanding of the rainforest's production of oxygen in her unsent letter to President DaSilva. (Nadia's original spelling is preserved):

> I think you should allow the richest bidder to cut down trees in the rain forest because if you do people can live longer and because when people come to united state they will have a home and a school to go to live (like) us and we should only keep one tree just ankas (in case) all the oxygen goes away so we can have a emergence (emergency) oxygen tree.

However, by May Nadia knew the nature of oxygen, as she demonstrates in this letter to a friend who would be a fourth grader next year).

> Dear N...,

I wrote this letter to you to say that you shod (should) always study about the rainforest. There are so many new things to learn about the rainforest in many different ways. There are different animals to learn about and how trees give oxegen to the world but if people cut down all the trees we will not have enough oxegean to keep us alive. So what I am saying is that you shod not cut down trees….

Conclusions

The results of this research support the following conclusions:

1) Students in the study applied their understanding of comprehension strategies as they wrote;
2) Students who were exposed to comprehension strategies more frequently than other students elaborated on their ideas in their writing and in other work, unless they were bored with the task;
3) Students who were exposed to reading comprehension strategies in content areas learned both the reading comprehension strategies and the content.

It is significant that when comprehension strategies were taught over time and when reading focused on the same topic, the rainforest, struggling urban fourth grade readers in this study learned the reading comprehension strategies and comprehended the texts, as shown in their writing about the rainforest. It can be concluded from this study that the fourth grade urban students in Striving Elementary School were neither too young nor too academically challenged to learn and apply metacognitive reading comprehension strategies to learning about the rainforest.

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