Content Literacy Teaching: Literacy Autobiographies and Recommendations

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First-year teacher Sidney (a pseudonym) reviews a stack of handouts and overheads—and smiles hesitantly at the 7th graders entering their 3rd-period classroom. The students know the daily routine. They sit down and look for the assigned “bell work” to complete while their teacher takes roll and prepares to teach. Today’s bell work is to write the definitions, synonyms, and antonyms for the words enthusiastic and solemn. Most students simply write the words enthusiastic and solemn and then stare blankly at their empty page—not knowing where to go from there. After the tardy bell rings, Sidney says, “Today we are going to review strategies for making inferences. What do you know about inferences?” Students stare unknowingly at Sidney. Others remain engrossed in their bell work, even if they have not written much on their page. Despite their unfamiliarity with inferences and their difficulty completing the bell work, Sidney carries on with the lesson by saying, “We are going to read a passage and answer questions using the inference graphic organizer. We are going to use Stop and Jot [a literacy strategy] to note clues from the story. Who can remind me how to do Stop and Jot?”

Students in Sidney’s class are struggling with basic level knowledge and applying higher level literacy skills to stories they read. Sidney teachers in an urban school in the southern United States, in which 48 percent of the students are African American and 48 percent are Hispanic. Eighty-three percent of the students are eligible for free or reduced-price lunch. Students in Sidney’s school need a teacher who can motivate and engage them to learn—while connecting students’ prior background knowledge to the curriculum. More than anything, teachers in urban schools must ensure their students are taught to read and use higher level literacy skills when reading difficult expository texts.

This brief glimpse into Sidney’s reading class demonstrates the way in which many new teachers often approach teaching content literacy strategies when they have little background experience observing and teaching such strategies. Researchers typically define content literacy as the ability to read, write, and communicate effectively within each content area (Brozio & Simpson, 2007; Draper, Smith, Hall, & Siebert, 2005; Lacina & Watson, 2008; Sturtevant & Linek, 2004). The purpose of this article is to discuss future content area teachers’ literacy autobiographies and to make recommendations for more effective content literacy strategy integration at the middle school level.

Background
As children progress to upper elementary and middle school, their reading demands increase. Elementary teachers often read narrative texts to children; when faced with more complex expository texts in upper elementary and middle schools, students often struggle to read and understand them. Kamil (2000) notes that children must be able to comprehend content area textbooks in order to achieve academic success throughout middle and high school—and beyond. As the demands for reading and understanding difficult content area texts increase, the amount of time dedicated to explicit reading instruction diminishes (Ness, 2007). For example, through direct classroom observations...
What’s Good for the Teacher May Not Be Good for the Student

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Over the last four years, we have had the good fortune to participate in professional development workshops with middle school and high school science teachers across the state of Texas. In these workshops, we have focused on the “three legs” of good instruction: content knowledge, process skills, and nature of science (NOS), as proposed by Weinburgh (2003). Special importance has been placed on beginning our workshops with a lesson on NOS. This topic was emphasized after discovering that the past workshop participants lacked an informed understanding of this important facet of good science instruction (Bloom, Sawey, Holden & Weinburgh, 2007; Bloom & Weinburgh, 2007). Additionally, we have incorporated many opportunities to display and discuss pedagogical practices specific to science that tie together content knowledge, process skills, and NOS.

When choosing the content to include in our workshops, we keep the needs of our audience (classroom teachers) at the forefront of our minds. When determining what activities will best allow our teachers to acquire new pedagogical content knowledge (PCK) (Shulman, 1986, 1987) and a better understanding of nature of science (NOS), we consider the experience of the workshop participants as well as the level of content knowledge they most likely have prior to the professional development. By designing our workshops this way, we hope to ensure that our participants leave with more than they came with. We’ve heard of (and witnessed) far too many professional development workshops that accomplished no more than offering the participants an opportunity to finish reading their latest novel or catch up on lost sleep. When we look at
our evaluations (from participants) and observe them during the workshops, we tend to agree that we've accomplished our goals of providing quality professional development that enriches each teacher who participates in them.

Before we pat ourselves on the back too much, however, we want to point out a continuing phenomenon that we believe needs addressing. It seems that when our teachers become engaged in, and excited by, the activities we use in our workshops, they often believe that they would achieve the same results in their classrooms using the same activities. Many participants report back that they are using our activities in their classrooms. While we are glad to know that our teachers are leaving our workshops with valuable new knowledge, we want to take a minute to examine whether our activities (designed for adult learners) are truly serving the needs of the child audiences the teachers work with in their classrooms.

**A Good Activity for Teachers . . .**

A prime example of teachers taking a professional development activity from the workshop and using it in their classrooms is seen in the “Checks Lab” (Crue, 1982), which is designed to help demonstrate seven tenets of NOS. In the checks lab, the teachers are divided into groups and each group is given an identical set of 16 canceled bank checks and a data gathering form. Each group randomly pulls four checks from their set, makes observations, and records any evidence that they find. Once they have recorded the information from their checks, they make up a story that they believe adequately accounts for the data they collected. The checks all are signed by Paul Lambert, Mary Lambert, or Paul Lambert Senior. The stories are constructed using information such as who the checks were written to, the dates on the checks, the check numbers, any information in the memo section, as well as handwriting and names/addresses printed on the checks. After constructing their initial story, they draw another four checks and begin to use the new information to revise their story. Finally, they take four more checks and finish revising their story so that it accounts for all the data collected from their 12 checks (they never see all 16 checks, just as we never have collected all data related to a scientific question). Once all groups have a finished story, they share them out and discuss differences among them. Because none of the groups could view all 16 checks and because of the random drawing of the checks, each group potentially had information the other groups did not. Because of this, their stories varied quite dramatically. When one group found flaws in another group’s story, its members would use their data to contradict the story being presented and add to the body of knowledge shared by the whole class.

Finally, as a class, the groups shared all their information and came up with the most plausible story to fit the collective data. In a debriefing of this activity, we worked with the teachers to tease out how this activity exemplified the processes and nature of science.

. . . May Not Be Good for the Students

The teachers have consistently responded very well to this activity and it seems to get them re-thinking how science works as a discipline. Perhaps it is due to the popularity of this particular activity that a problem has emerged. Our teacher participants often tell us they plan to use the checks lab in their classrooms to teach the processes and nature of science. However, some teachers have reported some obvious problems using this activity with their young learners. Most students in a middle school classroom have never written a check, much less analyzed the information found on one. The information that is used to construct the story requires a level of sophistication not found in many middle school students. Because of this, the checks lab is an inappropriate activity for middle school students. What we observed was the students becoming so excited about how effective the activity was in addressing their understanding of the processes of and nature of science that they immediately wanted to use the same activity with their students and expected similar results. We are now working with these teachers to help them learn how to translate sophisticated activities to help adult learners into age-appropriate activities for their students.

**Appropriate Transfer of Activities**

The good news is that some teachers do recognize that the checks lab activity is an “adult only” activity to help them gain new understanding and that it must be translated to become age appropriate for their students. One such teacher, Mrs. Danell, appropriately changed the checks activity to be effective with her students. Rather than using checks, she opted to use puzzle pieces instead. She first had her students open an envelope that contained several pieces to a puzzle. The puzzle that she chose for the activity was a good one, as most pieces could be easily interpreted as several different things (one set of pieces easily could have belonged to a picture of a zebra, a butterfly, or any number of other objects). The students recorded whatever information they could gather from the puzzle pieces and then put forth ideas of what the picture would be if all pieces were present. She then allowed them to have another few pieces of the puzzle, and the students continued to add to their set of data and revise their ideas of what the picture actually was. The ultimate testimony to her understanding of the checks activity objectives and to her ability to translate

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those objectives to suit her classroom came at the end. After the students were given several sets of puzzle pieces, the activity was over. When the students asked to see the whole picture, Mrs. Danell asked them if ever had all the pieces to the answer of a scientific question. Since this was a science activity, they could never have all the answers, either. With that simple conclusion, she reminded the students that science never has all the answers and that it’s the desire to know more that keeps scientists pursuing the answers to their questions. With that simple conclusion, she had accomplished what we hope for with all the teachers who come to our workshops. She had translated a made-for-adults learning activity into an exceptional activity for young learners.

References