

Rachel Wraley

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Content Literacy Rationale

The article *But I Teach Math! The Journey of Middle School Mathematics Teachers and Literacy coaches learning to integrate literacy strategies into the Math Instruction* by Kester Phillips talks about “the need for literacy instruction to permeate every grade and classroom” (467-8). The article starts off saying that once upon a time teachers were allowed to get by with just knowing their content area well. Nowadays teachers need to be equipped with the knowledge to not only teach the basics of their content area but the “language” skills that come with that content area. Right in the beginning it emphasizes the importance of remembering that math is its own language and should be taught as such. It states that at its roots math is very different from the other subjects being taught. Words in math, though they are written the same in English, have different meanings and textbooks are not always helpful to students. The author talks about how the layout and the design of the textbooks are not even helpful to students trying to decipher the unknown or confusing words. This is where literacy and math start integrating. The rest of the article talks about how teachers take a new look on math and literacy and try to mend their broken ways. It gives examples of strategies that they teachers tried and had success with.

The second article *From Resistance to Advocacy for Math Literacy: One Teacher’s Literacy Identity Transformation* chronicles the journey of one secondary math

education major from resisting the idea of content literacy to a teacher promoting math literacy in his classroom. While taking a literacy course in college the student was resentful that he was forced to take a course that he felt he would never use as a high school math teacher. By the end of the course he had changed his mind and saw the connections between math and content literacy. As a first year teacher he decided that he would promote the math literacy he had just grasped acceptance of. The author talks about his use of literacy with his students and how he tries to relate the math to the student's own lives. He did a project where the students expressed the relationships between equations and their graphs and then had the students use those same relationship ideas to analyze relationships in their own lives. They then had to decide what equations/graphs fit a relationship in their life and then explain why. This is his way of taking content literacy and completely integrating it into a math course. He is doing, in a successful way, what every Education professor tells students they must do as teachers.

The third article, *Teaching Disciplinary Literacy to Adolescents: Rethinking Content-Area Literacy* is about two college professors who made a study for seeing how secondary teachers and students taught or learned literacy skills in content area classes. It also talks about the differences in funding and attention paid to literacy for secondary schools versus elementary schools. It's staggering how much the importance of literacy changes from elementary to secondary schools. The Federal Government spends \$5 billion on elementary literacy initiatives, but only \$30 million on secondary programs (47). After conducting the study for two years, the authors concluded that math

educators need to treat math as a new language (which it truly is). They need to think about the vocabulary differences that occur between English and the language of mathematics.

Some of the strategies I found in my articles in the field of secondary math education including the following.

Read aloud/think aloud is a strategy that Kester mentions one of the math teachers trying in her class and having success with it. It takes the idea of reading through a problem and instead of asking students to solve it on their own making them “think aloud” and help solve it.

Another strategy is using different pre-reading strategies to help students make more meaning of the textbooks. Teachers can have students read something quickly for a few minutes in class pinpointing words they don’t understand and the teacher can address those definition/meaning issues for everyone. Another take on this strategy is having students read over night and make a list of problem words, phrases, or concepts that confused them, lost them, or they just simply didn’t understand.

A third strategy is taking some knowledge that students have from English and having them try to decipher the words using known prefixes and suffixes. They can look at words that confuse them and see if the words start or end with a prefix or suffix that they do know. This also allows students to learn that the skills/information they learned in English is not only for English or English related classes. It shows them that students can transfer skills from subject to subject and from school to the real world.

Content Literacy is the idea of making sure that everyone is literate in the content areas taught in secondary schools today. This is the definition of Content Literacy that I have created after reading articles about Content Literacy, having some serious discussions with one of my education professors, talking with a friend who has completely divorced math with no hope of reconciliation, and looking at what a high school math student is supposed to understand from math classes that I will teach in the future.

At the beginning of ED 228 it was hard for me to think about math class as a reading instruction class. It was difficult for my brain to integrate reading instruction into a math class. My professor “made fun of me” numerous times for my apparent lack of wanting to understand math and literacy and until quite recently I didn’t get it. I now understand that math contains just as much content literacy needs as any other class. When I first started learning about content literacy I thought it had a lot to do with reading, not the biggest idea in mathematics. Recently I realized that I have to look at math for what it is. Math is a language all its own. No it’s not a typical language, but a language none the less. Going off of this idea, that math is a language; you have teach it like a language. When I’m a teacher I will have to put emphasis on the decoding and deciphering aspect of math. I will have to teach the language of math to students. Though it is a universal language, it’s not the most natural or anyone’s first language. Everyone has to learn the language of math in order to understand it and be able to answer problems about math. It’s also my job as a math educator to make sure I’m

teaching the students the connection math has to the real world, other content areas, and their lives.

Now I just want to know how to properly integrate the reading instruction into my math classes. My biggest concern is knowing whether or not I'm being effective for my students. How can I be sure that I'm properly teaching math literacy to every student? This is my biggest question as well as my biggest concern for when I'm a teacher in a high school.

Works Cited

- Kester Philips D. 'But I Teach Math!' The Journey of Middle School Mathematics Teachers and Literacy coaches learning to integrate literacy strategies into the math instruction". *Education*[serial online]. Spring 2009;123(3):467-472. Available from: Teacher Reference Center, Ipswich, MA. Accessed January 30, 2013.
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