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Reading Content Knowledge: What Do Teachers Need to Know  
And How Can We Assess Their Knowledge?

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Paper Presented at the Northern Rocky Mountain Educational Research Association

Annual Conference at Lake Tahoe, Nevada, October 9-11, 2008

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### Abstract

The purpose of this study was to investigate preservice teachers' reading content knowledge, to develop a definition of reading, and to develop an informal test of teachers' reading content knowledge. A content analysis of two contemporary reading textbooks used in university reading courses was the source of a six-tier, hierarchical definition of reading to organize and explain reading content knowledge. In this definition, reading content knowledge consists of theories, methods, topics, concepts, strategies, and skills related to reading. This definition and the content analysis of the reading textbooks became the foundation for a 100 item pilot test. The final Test of Reading Content Knowledge (TORCK) contains 40 items.

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*Purpose of the Study*

Because the ability to read is so important to learning, and since everyone, including the general public, has varying levels of knowledge about reading, everyone has an opinion, some very deeply held, about what reading is and how it should be taught. One only has to listen to political debate about schools and reading to understand how important reading is and yet how confused people are about it.

Reading has often been defined in the past by the specific beliefs or philosophy of individual researchers and practitioners, by the methods used in the classroom to teach reading, or by the reading program prevalent in a specific school or district. For example, the emphasis on either phonics or whole language during *The Reading Wars* was indicative of individual researcher's conceptions of reading (Chall, 1967; Goodman, 1986; Afflerbach, Pearson, & Paris, 2008; Kim, 2008). Likewise, convictions that reading should be taught as a hierarchy of skills; through an emphasis on phonics; through a language experience method; with a literature-based method; or by means of a specific, published basal reading program imply other examples of *what reading is*. Additionally, rather than stating his or her own beliefs about reading, how many of us have heard a teacher refer to a specific basal reader publisher when asked about how he or she teaches reading?

Most contemporary researchers consider reading to be both decoding and comprehending the written word, not one or the other, hence the theory of the interactive model of reading (Rumelhart, 1985, 1994) and the philosophy of balanced instruction (Fitzgerald, 1999). They recognize that readers use both a top-down processing approach and a bottom-up processing approach as needed to comprehend and decode the written word.

However, there is still a general lack of consensus about reading. Mosenthal and Kamil (1991) reviewed numerous researcher's definitions of reading and suggested that definitions for reading fall into two main categories—descriptive or operational—but this still does not provide teachers or researchers with a definition of reading content knowledge. What is reading really? What do we mean when we talk about reading content knowledge?

Furthermore, in this age of accountability, how can we assess teachers' reading content knowledge if the field lacks a clear definition of what reading content knowledge is? The purpose of this study was to develop a definition of reading and to use that definition as the basis for the development of an informal test designed to assess teachers' reading content knowledge.

### *Literature Review*

Reading content knowledge has different meanings and interpretations, depending on the time period involved (Artley, 1969; Gray, 1961; International Reading Association, 2000; Shulman, 1986, 1987). Although there is little research concerning teachers' reading content knowledge, per se, researcher discussions of teacher "competencies" (Artley, 1969; Gray, 1961) can be found as far back as the 1960s and the 1970s. Researchers such as Gray (1961) realized the importance of reading content knowledge, stating that reading teachers should know their content as well as subject-matter teachers of math or science know their content. A teacher cannot teach what he or she does not know.

Researchers also recognized that knowledgeable teachers are the key to student learning (Bond & Dykstra, 1967, 1997). As a result, period researchers from the 1960s to the early 1980s (Artley & Hardin, 1975; Narang, 1977; Rude, 1981) attempted to measure teacher reading content knowledge in various studies; however, the focus of these studies was generally on narrow definitions of reading, particularly sound/symbol relationships, instead of broader conceptions of reading that included reading theories, methods, topics, concepts, strategies, and skills. Two exceptions were the Artley and Hardin (1975) *Inventory of Teacher Knowledge of Reading* and the *Knowledge Test of Reading for Elementary School Teachers* (Rude, 1981). The developers of these two informal reading tests did attempt to measure teachers' reading content knowledge from a broader viewpoint than researchers of previous tests. Following the development of these two tests, the emphasis in research shifted from measures of teacher competencies toward a focus on teacher theoretical orientations and beliefs about reading (De Ford, 1985). At the same time, there was a research change from a focus on reading skills to whole language (Goodman, 1986).

A strong emphasis on teacher content knowledge in teacher research did not appear until the late 1980s when Shulman (1986, 1987) focused researchers' attention away from pedagogical knowledge to content knowledge with his influential works on teachers' content knowledge. More recently, the Directors of the International Reading Association (2000) identified strong reading content knowledge as a characteristic of excellent reading teachers. They specified that excellent reading teachers must possess knowledge of "a variety of ways to teach reading, when to use each method, and how to combine methods into an effective instructional program" (p. 235).

If we view reading as a discipline or field, what is the content? What should teachers know about reading to have a *thorough* understanding of the subject? Early researchers (Artley & Hardin, 1975; Gray, 1961) examined teachers' conceptions about reading. De Ford (1985) reviewed theoretical orientations. Directors of the International Reading Association (2000) identified the importance of teachers who are knowledgeable about many methods for teaching reading.

However, some recent researchers seem to have again returned to a narrower focus on *what reading is* (Afflerbach, Pearson, & Paris, 2008; Moats, 1999; Moats and Foorman, 2003). As Afflerbach, Pearson, and Paris observed,

By the turn of the century, however, an enthusiasm for reading skills reemerged. With the advent of policies derived from No Child Left Behind and a strong emphasis on standards to guide instruction and tests to measure the impact of programs and interventions, reading skills have reached a status equal to their influence in the 1970s and 1980s (p. 367).

Reading researchers and teachers need to advocate for a broader view of what reading is. They should be careful not to narrow their focus to just one theory of how children learn to read, nor should they consider it appropriate to use only one method or approach to teach reading. As Duffy and Hoffman (1999) so aptly stated, teachers should be “thoughtfully adaptive” and should consider the learning needs of individual children in their classrooms.

### *Method*

The researcher conducted a content analysis of two contemporary reading textbooks (Tompkins, 2003; Vacca, Vacca, Gove, Burkey, Lenhart, & McKeon, 2003) used in university reading methods courses. From this content analysis, she developed a topic outline for the pilot

test instrument (Ary, Jacobs, & Razavieh, 1996). The final outline consisted of 15 reading topics found in both textbooks. During the process of the content analysis of the two textbooks, the researcher developed a six-tier, hierarchical definition of reading content knowledge that delineates reading content knowledge as consisting of theories, methods, topics, concepts, strategies, and skills related to reading. This definition and the content analysis of the reading textbooks became the foundation for the development of a 100 item pilot test.

During the 1970s and 1980s, researchers (Artley & Hardin, 1975; Rude, 1981) developed informal test instruments to measure teachers' reading content knowledge. Although these tests were appropriate for the time, new reading theories, methods, topics, concepts, strategies, and skills have been developed by researchers since that time. Thus, there was a need for an informal test of reading content knowledge based on contemporary reading knowledge.

Three university reading experts reviewed the pilot test. The researcher then conducted a field test of the pilot instrument and used frequencies data to develop a more reliable final test instrument. The final test instrument, the *Test of Reading Content Knowledge* (Lilienthal, 2006/2007), contains 40 items. Because the researcher hoped to find subscales within the test, questions for the final test were determined using statistics for kurtosis, skewness, and mean. However, after running a factor analysis of the scores, all subscales had low reliability coefficients. Therefore, subscales, such as phonics subscales, were not useful and were not identified.

### *Results*

*Definition of reading.* The definition of reading developed during this study consists of a six-tier, hierarchical definition that is a viable and consummate definition of what reading is. The

definition includes the following aspects related to reading: theories, methods, topics, concepts, strategies, and skills. Each of the six components is further explained as follows:

1. Reading theories are researchers' explanations of how readers make sense of written language. For example, Rosenblatt (1978) explained the transaction between the reader and the text through reader response theory.
2. Reading methods are instructional approaches, such as the language experience method (Stauffer, 1971) in which the teacher records and uses the student's own language for reading instruction.
3. Reading topics, such as assessment and content area reading, are broad categories of reading content knowledge.
4. Concepts are the specific ideas or terms within the topics of reading, such as authentic assessment (Wiggins, 1990), the idea that teachers should evaluate student work in real-life reading and writing situations instead of in testing situations.
5. Reading strategies are reader-based, "problem-solving" (Tompkins, 2003) techniques. For example, the story map (Smith, 1990) is a strategy readers use to develop comprehension of a story's theme, plot, characters, setting, and mood.
6. Reading skills are text-based, "information-processing" (Tompkins, 2003) behaviors that readers use, such as recognizing the sound that a letter makes or finding the main idea in a written passage.

In order to teach all children to learn to read, teachers must first be knowledgeable of the many theories about how children learn to read; second, they must be aware of and must use many methods to teach reading; third, they must be cognizant of the many reading topics that exist within the field; fourth, they need to know the concepts or ideas associated with various



theories, methods, and topics; fifth, teachers should know many reading strategies that children can learn to utilize while reading; and sixth, teachers should be aware of the reading skills that children need to acquire in order to become proficient readers.

*Pilot test.* The pilot test was administered in a pretest and posttest format to 29 participants enrolled in a developmental reading course at a mountain state university. Using the Cronbach alpha measure of internal consistency, the scores on the pilot pretest had a reliability coefficient of 0.849, and the posttest scores had a reliability coefficient of 0.778. The results of a paired *t*-test to compare the means of the pretest and the posttest indicated that students significantly increased their reading content knowledge during the course,  $t = 8.035$ ,  $p < .01$ .

*Final test.* The final 40 item *Test of Reading Content Knowledge* (Lilienthal, 2006/ 2007) was administered to preservice teacher participants in four reading methods courses at the same university. Participants with missing gain scores were deleted from the data set, resulting in 94 participants. The pretest scores had a reliability coefficient of 0.688 and posttest scores had a reliability coefficient of 0.685. The results of a paired *t*-test indicated that pre-to-posttest increases in student scores were statistically significant  $t = -13.465$ ,  $p < .01$ , and scores were both valid and reliable.

### *Discussion*

The members of the National Reading Panel (2000) defined reading as consisting of phonemic awareness, phonics, fluency, comprehension, and vocabulary. They are correct, but reading content knowledge is more than this. Reading is a discipline that contains an immense variety and amount of information, like any other field of knowledge, such as science, law, or medicine. This study contributes to the field by suggesting a six-tier, interactive, hierarchical definition of reading to organize and explain reading content knowledge.

This definition of reading is the foundation of the informal test of reading content knowledge also developed during this study. The *Test of Reading Content Knowledge* (Lilienthal, 2006/2007) is an informal, multiple-choice test instrument based on contemporary reading research that is designed to measure teachers' reading content knowledge.

Although teacher certification requirements in most, if not all, states require preservice teachers to pass formal qualification tests for certification, no contemporary informal test of reading content knowledge existed. The test instrument developed in this study is based on contemporary educational reading theory as explained in current reading textbooks. It provides researchers and teacher educators with an inexpensive means for assessing preservice or inservice teachers' reading content knowledge. The test can be used by teacher educators in reading courses or during professional teacher reading inservice sessions to informally measure reading content knowledge. It can also be used by preservice or inservice teachers as an informal review or analysis of their own knowledge of reading.

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