

Stafford, T., Wilson, N. S., Sanabria, I. (2012) The role of *questioning as thinking* on readers' ability to interact with text. *American Reading Forum Annual Yearbook* [Online], Vol. 32.

The Role of *Questioning as Thinking* on Readers' Ability to Interact with Text

Tammy Stafford
Seminole County Public Schools

Nance S. Wilson
Lourdes University

Israel "Izzy" Sanabria
Florida Department of Education

Introduction

Adolescent literacy has become a major focus of educators in the United States. The Alliance for Excellent Education estimates that as many as 8 million middle and high school students read below grade level (Heller & Greenleaf, 2007). When 21st century skills that include learning and thinking skills are included, the number of at-risk adolescents further increases (Partnership for 21st Century Skills, 2006). There is a critical need for instruction of thinking skills in high schools today. Instruction in thinking skills requires transactional strategy instruction focused on metacognition. Transactional strategies instruction (Pressley, 2002) is when the teacher guides students to independently orchestrate many strategies during a single reading task. In order to assist students in doing this the teacher must also teach students to be metacognitive. Metacognition is the ability to monitor, assess, and repair understanding during the reading process. In this study high school students, thinking skills were enhanced through the transactional strategy of *Questioning as Thinking* (Wilson & Smetana, 2009).

Questioning as Thinking integrates student and teacher think-alouds, the Question-Answer Relationships (QAR) taxonomy (Raphael, 1986), and self-questioning in order to assist students in becoming more metacognitively aware and interacting with text. Students who learn with transactional instruction have the ability to orchestrate many strategies during a single reading task (Pressley, 2002). These students learn to be aware of their thinking as they read, understand the types of questions that they ask when reading, and monitor their understanding of

text by increasing text interaction by searching for answers to questions that arise during the reading process.

Literature Review

Transactional strategy instruction was coined by Pressley and colleagues (1992) and can be defined as the instruction of multiple strategies at one time (Pressley et. al, 1992). Research in elementary and secondary classrooms has suggested that the instruction of multiple strategies at one time can be more effective than conventional teaching (Brown, Pressley, Van Meter, & Schuder, 1996). Students who receive this type of instruction improve in word-level skills, performance on standardized reading comprehension tests, use more strategies during think-alouds, and can recall more information from text (Collins, 1991; Anderson, 1992; Brown, Pressley, Van Meter, & Schuder, 1996).

While the *Questioning as Thinking* (QAT) framework is a relatively new instructional method, the strategies under this umbrella are well-researched and practiced across all grade levels. The framework relies heavily on a metacognitively mature teacher. The heart of the instruction lies in the direct instruction of student and teacher think-alouds, as the teacher models her thinking throughout the reading process by using the language of QAR and the voice of self-questions.

Questioning as Thinking (QAT) instruction begins with the teacher think-aloud then transitions to the student think-aloud. Students need explicit instruction in think-aloud strategies in order to become thoughtful and purposeful readers (Duffy, 2003). Student think-alouds aid students in recall of information, detecting errors, comprehension monitoring, and in ability to answer comprehension questions (Loxterman, Beck, & McKeown, 1994; Baumann, Seifert-Kessel, & Jones, 1992). Think-alouds can be effective when taught as a sole strategy but are typically included as part of a package of comprehension strategies (Duke & Pearson, 2002).

The second phase of instruction under the *Question as Thinking* umbrella is the instruction of the QAR taxonomy. This taxonomy provides a common language for questions and categorizes questions based on where the answer may be found. The taxonomy includes categories of Right There, Think and Search, Author and Me, and On my Own. The Right There category of questions requires the reader to locate important information directly in the text. The Think and Search category of questions requires students to locate information across the text, including synthesis and summarizing. The Author and Me category of questions requires the reader to put his own thoughts together with parts of the text to develop and answer, with the final On my Own category requiring the reader to rely solely on his prior knowledge without the use of the text.

Research on this strategy has been conducted for over thirty years. Raphael (1981) and her colleagues initiated the research and many educators since have successfully utilized the taxonomy in various classrooms including elementary, middle, and secondary students (Raphael & McKinney, 1983; Raphael & Pearson, 1985; Raphael & Wonnacott, 1985; Kinniburgh & Prew, 2010; Ezell & Kohler, 1992; Graham & Wong, 1993; Ezell et al, 1997; Brabant, 2009 ;

Ezell et al, 1996; McIntosh & Draper, 1995; Kinniburgh & Shaw, 2009; Mesmer & Hutchins, 2002; Okebukola & Owolabi, 2007).

QAR instruction can be framed around the reading cycle (Raphael, 2006). *Before reading* students should activate prior knowledge, which can be prompted by Author and Me and On My Own questions. Students may reference the title, table of contents, pictures, etc. when answering Author and Me questions prior to reading. Questions that students encounter *during reading* rely heavily on the text. *During reading* questions include Right There, Think and Search, and Author and Me questions. *After reading* questions include Author and Me and Think and Search questions, as students think about what they learned and how it relates to them and the world around them.

The final phase of instruction under the *Questioning as Thinking* umbrella is self-questioning. Just as the think-aloud and QAR strategies are supported heavily by research, researchers have also suggested that self-questioning is a favorable strategy for enhancing reading comprehension (Taboada & Guthrie, 2006; Davey & McBride, 1986; Wong & Jones, 1982; Nolte & Singer, 1985; Cohen, 1983, King and Rosenshine, 1993). When taught under the QaT umbrella, self-questioning ties in the student think-aloud and QAR language in order to prompt students to interact with text. Students are prompted to ask questions before, during, and after reading by thinking aloud and using the QAR language. The use of the QAR language assists students in finding answers to their questions, thus allowing them to become more interactive with text.

The QaT framework sets up transactional strategy instruction based on previous research that engages students in thinking skills when reading texts. The integration of think alouds, QAR, and questioning during reading creates a classroom climate that encourages metacognition.

Purpose

In this study the Question-Answer Relationships taxonomy was manipulated under the larger *Questioning as Thinking* (QaT) umbrella. Under the QaT umbrella students learn to be metacognitive through think-alouds, QAR, and self-questioning. The purpose of the pilot study was to determine the effectiveness of the QAR strategy when taught in a summer transition program and using QaT. The study took place in two classrooms, one control (n=21) and one experimental (n=23), of rising ninth graders who were struggling academically.

Method

Quasi-experimental design was selected for this pilot quantitative study, as there was a control group in place as well as an experimental group. Selection of students was non-random because students were pre-enrolled in the program and divided into groups by the lead teacher. Quasi-experimental design allowed the researcher to adhere to scientific methods of research, although randomization was not possible in this educational setting.

The summer transition program requires students to rotate between three classes: Algebra, Biology, and English/Reading. This study took place in the students' English/Reading class. All class periods were approximately one hour and 15 minutes in length.

Instruments

Students in both the experimental and control group received a pre- and post-test that included assessment of their ability to *ask* and *answer* questions about text. Prior to both the pre- and post-tests, students were instructed to read a passage from FCAT 2.0 and write any questions that come to mind while reading. Using the same passage, students also answered comprehension questions. Comprehension questions included questions that were written by the state as well as a few additional questions that were written by the research team. Instructions were given by the teacher that explained that asking questions is a natural process that aids in comprehension of text. The researcher provided a script for the teacher to ensure that instructions for the pre- and post-tests were identical. The students in both groups also received a posttest that evaluated the instruction of the QaT umbrella of strategies based on the students' abilities to interact with text by asking questions during reading.

Instruction of the Question-Answer Relationships taxonomy was the independent variable in this pilot study. This variable was manipulated in the study by allowing only the experimental group to receive the instruction. Dependent variables included student ability to answer comprehension questions and student ability to ask text interactive questions.

In order to try and obtain a deeper understanding of student learning, toward the end of the study, the researcher assessed students' ability to interact with text through a think-aloud exercise. Five students from each group were randomly selected to perform silent think-alouds. The silent think-aloud required students to write out the questions that they generated during reading, then write why they had the questions, and finally the category of QAR that the question fell into. This was completed as an extension of the self-questioning posttest.

The researcher used two ninth-grade passages from FCAT 2.0 for pre- and posttest measures. The researcher worked with another expert in the field in order to balance the pre and post-tests, according to categories of question-answer relationships. Originally, the pretest consisted of 10 questions: two "right-there," five "think and search," and three "author and me," one of which was a literary device question. The posttest originally included eight questions: four "think and search" and four "author and me," one of which was a literary device question. Since the curriculum did not include literary device practice, these questions were removed from the test and replaced with questions created collaboratively by the researcher and expert. Questions developed for the pretest included one "author and me." Questions developed for the posttest included two "right there" and one "think and search." The purpose of this was to increase the number of pre- and posttest questions to 10 and to balance the levels of questions. Caution was given in the development of the questions so as to ensure that they were FCAT appropriate. Documents from the Florida Department of Education were used to guide the development of question stems and verbiage.

Participants

In the participating county, students who are low-achieving 8th graders are required to complete a summer transition program prior to entering high school. Students are recommended for the program based on previous achievement and standardized test scores. The transition program at the participating school typically draws in between 100 and 150 students.

In order to quickly assess such a high number of students the lead teacher developed an Algebra pretest. Students were divided into two large groups based on their mathematics pretest scores. Students with the bottom 45% of total scores were assigned to Team A and students with the upper 55% of total score were assigned to Team B. The separation of students by mathematics only is not perfect, particularly for reading, but does allow a general separation of students and meets the needs of this short six week summer program. The researcher utilized two classrooms from Team B for this study. The reasoning is that students on Team A may need to work on lower level reading skills before moving on to *Questioning as Thinking*. Participants included a convenience sample of 44 rising 9th graders who were divided into experimental and control groups.

Students in the experimental group received an informational handout that explained the QAR taxonomy and received approximately four weeks of instruction of the QaT strategies. *Questioning as Thinking* instruction included direct instruction of think-alouds, practice asking questions using the taxonomy, and self-questioning. In addition to the questioning as thinking (QaT) strategies, the experimental group received instruction in strategies that were included in the summer school curriculum.

Students in the control group did not receive the handout, nor did they receive QAR instruction. Although the control group did not receive QAR instruction, the teacher was permitted to model think-aloud strategies and provide instruction in self-questioning. The control group used the same practice and passages as the experimental group, with the exception of the QAR language. For example, when the experimental group practiced asking the different categories of questions, the control group practiced asking questions without the additional task of categorizing them. This allowed the teacher to provide metacognitive instruction without the language and practice of QAR. The control group also received instruction in strategies that were included in the summer curriculum.

Data Analysis

The purpose of this study was to determine the effect of QAR within the *Questioning as Thinking* umbrella. *Questioning as Thinking* requires instruction that balances think-alouds, Question-Answer Relationships, and self-questioning, in order to improve reading comprehension. Data was analyzed to determine the effect of instruction of the three strategies under the QaT umbrella, as well as to interpret the strength of QAR within the QaT umbrella.

When analyzing students' ability to *answer* comprehension questions, the researcher had to be conscious of the varying levels of difficulty of the questions. Questions on pre- and post-

test measures were blind reviewed by the research and another expert in the field in order to determine which category of QAR they belonged. Questions categorized “right there” by the research team were assigned a value of 1 point. Questions categorized “think and search” and “author and me” were assigned a value of 2 points. “On my own” questions were not included in the comprehension questions; however were assigned a point value of zero on the self-questioning assessment.

When analyzing students’ ability to *ask* questions, the researcher and expert performed a blind review of student responses to determine the type of questions that students asked during reading for the pre- and post-test. Point totals were awarded per student for each measure (self-questioning and question answering) using the point system described above, and a repeated measures analysis was computed based on the total derived from correct responses.

Data was entered into SPSS software and analyzed by repeated measures analysis, correlation analysis, and mean scores. Repeated measures analysis was computed to determine significance of treatments on self-questioning and comprehension. Pearson’s product-moment correlation coefficient was computed to determine relationships between students’ comprehension and self-questioning scores. Mean scores were computed to determine the ability of students to interact with text.

Results

Results from this pilot study represented quantitative measures from the three separate measures. First, pre- and post-tests of students’ ability to answer reading comprehension questions after reading. Second, pre- and post-tests of students’ ability to generate questions about text while reading. Third, students’ ability to interact with text by measure of their ability to answer their own questions during reading.

A repeated measures analysis was conducted on the data to determine any effects for time, group, comprehension, and questioning. A significant main effect for student (experimental and control together) self questioning was found $F(1, 42) = 5.079, p < .05, e^2 = .108$. The student self questioning pretest mean ($M = 2.03, SE = .593$) was significantly less than the student self questioning posttest mean ($M = 3.94, SE = .974$). This result indicates that the students’ self-questioning skills improved for both groups. No significant differences were found when comparing self questioning for experimental and control groups, which suggests that think-aloud and self-questioning practices were as effective with or without QAR instruction. Additionally, no significant main effect was found for students’ (experimental and control) comprehension. This finding indicates that while both group improved in self-questioning skills, neither group saw an increase in performance in their ability to answer comprehension questions.

A Pearson Product-Moment Correlation analysis was performed on the data to identify any relationships between all students’ (experimental and control combined) pre-comprehension and post-comprehension and their pre-self questioning, and post-self questioning. Pre-comprehension was significantly correlated with post-comprehension ($r = .455, p < .05$). This result suggests that individual student performance on the comprehension pre-test mirrored their performance on the post-test for comprehension. Pre-self questioning was significantly

correlated with post-self questioning ($r = .502, p < .05$). This result indicates that individual student performance on the self-questioning pre-test mirrored performance on the self-questioning post-test. In other words, students who did well at the beginning of the study also did well at the end of the study on both measures. Likewise, students who struggled at the beginning of the study also struggled at the end of the study. No statistically significant correlation was found between comprehension and self questioning for either pre- or post-tests. This means that there was no consistency when comparing these two measures.

A Pearson Product-Moment Correlation analysis was also performed on the data to identify any relationships between all experimental students' pre-comprehension, post-comprehension, pre-self questioning, and post-self questioning. Pre-comprehension was significantly correlated with post-comprehension ($r = .688, p < .05$). This result suggests that individual student performance (in the experimental group) on the comprehension pre-test mirrored their performance on the post-test for comprehension. Pre-self questioning was significantly correlated with post-self questioning ($r = .610, p < .05$). This result indicates that individual student performance (in the experimental group) on the self-questioning pre-test mirrored performance on the self-questioning post-test. In other words, students who did well at the beginning of the study also did well at the end of the study on both measures. Likewise, students who struggled at the beginning of the study also struggled at the end of the study. No statistical significant correlation was found between comprehension and self questioning for either pre- or post-tests. This means that there was no consistency within the experimental group when comparing these two measures.

A Pearson Product-Moment Correlation Analysis was run on the data looking for relationships between all control students' pre-comprehension, post-comprehension, pre-self questioning, and post-self questioning. Pre-comprehension was not significantly correlated with post-comprehension ($r = .241, p = .292$). The result indicates that individual student performance on pre- when compared to individual student performance on post was inconsistent and varied. In other words, there was no consistency in individual student scores between pre- and post-tests for comprehension. Unlike the experimental group, where students who performed well on pre also performed well on post, the control group students' results were scattered when comparing pre and post comprehension scores. Pre-self questioning was not significantly correlated with post-self questioning ($r = .318, p = .16$). The result indicates that individual student performance on pre- when compared to individual student performance on post self-questioning was inconsistent and varied. In other words, there was no consistency in individual student scores between pre- and post-tests for self-questioning. Unlike the experimental group, where students who performed well on pre also performed well on post, the control group students' results were scattered when comparing pre and post self-questioning scores. No statistically significant correlation was found between comprehension and self questioning for either pre- or post-tests. This means that there was no consistency within the control group when comparing these two measures.

Results from the think-aloud post-test suggest that the control group out-performed the experimental group in ability to ask questions and interact with the text. Participants in the control group asked a mean of 4.8 questions each. Of the twenty-four total questions asked 5 questions were "right there", 9 were "think and search", 7 were "author and me", and 3 were "on

my own”. Students also wrote down why they asked the questions and whether or not there was an answer to the question in the text (text interaction). In the experimental group three of the five participants did not wish to participate and did not ask any questions. The remaining two students asked a mean of 2.5 questions each. Of the 5 questions asked by the two students 1 question was a “think and search”, 1 question was an “author and me”, and 3 questions were “on my own”.

Discussion

Findings of the pilot study indicated that the instruction of QAR did not have an effect on overall comprehension, self-questioning, or students’ ability to interact with text. Although self-questioning improved in both groups, there was no indication that QAR was the reason for the increase. The researcher determined that there may have been three possible reasons for this occurrence:

First, the pre- and post-comprehension passages that were used in this evaluation were too difficult for the students. The passage was at a ninth-grade reading level. Though the students in this study were transitioning into the ninth grade, they typically are not tested at their grade level until the end of the school year. Also, the participants were enrolled in a remedial program and were likely not reading at even an eighth-grade level. It would have been beneficial to acquire the reading levels of the students prior to the study and to choose a passage closer to the average reading level of the group. These data were not, however, available.

Second, the short term of summer school is not enough time to properly train remedial students on three metacognitive strategies and to adhere to an already existing curriculum. For the pilot group, it would seem appropriate to continue these strategies throughout the school year.

Third, the *Questioning as Thinking* framework is one that requires training and practice for effective teaching. The teacher in this study had previous experience with the three QaT strategies individually, however since QaT is a recently developed transactional strategy (Wilson, 2009), this study was the teacher’s first run of the three as one transactional strategy. In addition, the researcher’s observations revealed that the teacher was a novice in true metacognition instruction, in that her think-alouds were very procedural and she had difficulty linking the three strategies together. The main reasons for her difficulties were the short time span of summer school coupled with the varying levels of students that she was working with. The teacher in this study felt that the strategy could be effective with struggling high school readers but she would need more time to work with the students individually.

Think-aloud data is available as a post-test only. This was due to an oversight by the researcher, thus it is recommended that future research conduct pre-and post-test think-alouds for all participants. Five students from each of the groups (control and experimental) were randomly selected by the researcher to participate in the think-aloud post-test. The purpose of the test was to measure the students’ ability to interact with text through self-questions during reading.

Prior to the test, the teacher modeled the task as a whole-class model for both groups. This was a one-time model that occurred the day before the post-test. Text interaction is required in all categories except for the “on my own”, which does not require the text for an answer. Although “on my own” questions are not answered in the text it is still important that students ask this type of questions because they require students to think about their own prior knowledge while reading.

Findings from the think-aloud post test do not mirror findings from the self-questioning post test. The researcher believes that the sample of participants selected for the think-aloud posttest posed serious validity threats. A potential reason for this is reactivity to the experimental situation in which a group of unmotivated students reacted negatively to the instruction. The original low statistical power of the think-aloud test (n=5, N=10) combined with self-selection attrition resulted in non-significance and extremely low power of the think-aloud posttest. Since the number of participants for the think-aloud was much lower than the number of participants in the pre- and post- self-questioning test, the think-aloud results are not valid.

Findings from this pilot study indicated that four weeks is not ample time to teach the QaT strategies. It is recommended that teachers who wish to utilize this umbrella of strategies set aside a time span of closer to 12 weeks for initial instruction. Students would benefit from *Questioning as Thinking* as a year-long implementation. *Questioning as Thinking* is an in-depth way to teach students to think while reading. It is imperative that 1) the teacher herself be metacognitive and have a full understanding of metacognition instruction prior to implementation and 2) the proper amount of time is allotted for implementation of all three strategies.

References

- Anderson, V. (1992). A teacher-development project in transactional strategy instruction for teachers of severely reading-disabled children. *Teaching & Teaching Education*, 8, 391-403.
- Bauman, J. F., Seifert-Kessel, N., & Jones, L. A. (1992). Effect of think-aloud instruction on elementary students' comprehension monitoring abilities. *Journal of Reading Behavior*, 24, 143-172.
- Brabant, C. (2009). Improving comprehension using question answers relationships (QAR) (Master's thesis, University of California, 2009). *Masters Abstracts*.
- Brown, R., Pressley, M., Van Meter, P., & Schuder, T. (1996). A quasi-experimental validation of transactional strategies instruction with low-achieving second grade readers. *Journal of Educational Psychology*, 88, 18-37.
- Cohen, R. (1983). Self-generated questions as an aid to reading comprehension. *The Reading Teacher*, 36(8), 770-775.
- Collins, C. (1991). Reading instruction that increases thinking abilities. *Journal of Reading*, 34, 510-516.

- Davey, B., & McBride, S. (1986). Effects of question-generation training on reading comprehension. *Journal of Educational Psychology*, 78(4), 256-262. doi:10.1037/0022-0663.78.4.256
- Duffy, G. G. (2003). *Explaining reading: A handbook for practitioners and researchers*. New York: Guilford.
- Ezell, H. K., & Kohler, F. W. (1992). Use of peer-assisted procedures to teach QAR reading comprehension strategies to third-grade. *Education & Treatment of Children*, 15(3), 205-.
- Ezell, H. K., Hunsicker, S. A., & Quinque, M. M. (1996). Maintenance and generalization of QAR reading comprehension strategies. *Reading Research and Instruction*, 36(Fall), 64-81.
- Ezell, H. K., Hunsicker, S. A., & Quinque, M. M. (1997). Comparison of two strategies for teaching reading. *Education & Treatment of Children*, 20(4), 365-382.
- Florida Department of Education Office of Assessment. (2010). *FCAT 2.0 reading test item specifications*. Retrieved October 25, 2011, from Florida Department of Education Web site: <http://fcet.fldoe.org/fcat2/pdf/FL10SpISG910RWTr3gfinal.pdf>
- Graham, & Wong. (1993). Comparing two modes of teaching a question-answering strategy for enhancing reading comprehension: didactic and self-instructional training. *Journal of Learning Disabilities*, 26(4), 270-279.
- Heller, R., & Greenleaf, C. (2007). *Literacy instruction in the content areas: Getting to the core of middle and high school improvement* (Washington D.C.: Alliance for Excellent Education, Ed.). Retrieved October 25, 2011, from <http://www.all4ed.org/files/LitCon.pdf>
- King, A., & Rosenshine, B. (1993). Effects of guided cooperative questioning on children's knowledge construction. *The Journal of Experimental Education*, 61(2), 127-148.
- Kinniburgh, & Prew. (2010). Question answer relationships (QAR) in teh primary grades: laying the foundation for reading comprehension. *International Journal of Early Childhood Education*, 2(1), 31-44.
- Kinniburgh, L. H., & Shaw, E. L. (2009). Using question-answer relationships to build reading comprehension in science. *Science Activities*, 45(4), 19-26.
- Loxterman, J. A., Beck, & McKeown. (1994). The effects of thinking aloud during reading on students' comprehension of more or less coherent text. *Reading Research Quarterly*, 29(4), 352-367.
- McIntosh, M. E., & Draper, R. J. (1995). Applying the question-answer relationship strategy in mathematics. *Journal of Adolescent & Adult Literacy*, 39(2), 120-131.
- Mesmer, H. A. E., & Hutchins, E. J. (2002). Using QARs with charts and graphs. *The Reading Teacher*, 56, 21-27.
- Nolte, R. Y., & Singer, H. (1985). Active comprehension: teaching a process of reading comprehension and its effects on reading achievement. *The Reading Teacher*, 39(1), 24-31.

- Okebukola, F., & Owolabi, T. (2007). The efficacy of question-answer-relationships (QAR) on students' achievement and conceptual change in science. *The International Journal of Learning, 14*(5), 173-178.
- Partnership for 21st Century Skills. (2006). *Learning for the 21st century*. Retrieved November 15, 2010, from www.21stcenturyskills.org/images/stories/otherdocs/P21_Report.pdf
- Pressley, M. (1992). Beyond direct explanation: Transactional instruction of reading comprehension strategies. *The Elementary School Journal, 92*, 511-555.
- Pressley, M. (2002). Metacognition and self-regulated comprehension. In A. E. Farstrup & Samuels (Eds.), *What research has to say about reading instruction* (pp. 291-309). Newark, DE: International Reading Association.
- Raphael, T. E. (1981). The effect of metacognitive strategy awareness training on students' question answering behavior (Doctoral dissertation, University of Illinois at Urbana-Champaign, 1981). *Dissertation Abstracts*.
- Raphael, T. E. (1986). Teaching question-answer relationships, revisited. *The Reading Teacher, 39*(6), 516-522.
- Raphael, T. E., & McKinney, J. (1983). An examination of fifth-and eighth-grade children's question-answering behavior: an instructional study in metacognition. *Journal of Literacy Research, 15*(3), 67-86.
- Raphael, T. E., & Pearson, P. D. (1985). Increasing students' awareness of sources of information for answering questions. *American Education Research Journal, 22*(2), 217-235.
- Raphael, T. E., & Wonnacott. (1985). Heightening fourth grade students' sensitivity to sources of information for answering comprehension questions. *Reading Research Quarterly, 20*(3), 282-296.
- Raphael, T. E., Highfield, K., & Au, K. (2006). *QAR Now*. New York: Scholastic, Inc.
- Taboada, A., & Guthrie, J. T. (2006). Contributions of student questioning and prior knowledge construction of knowledge from reading informational text. *Journal of Literacy Research, 38*(1), 1-35.
- Wilson, N. S., & Smetana, L. (2009). Questioning as thinking: A metacognitive framework. *Middle School Journal, 41*(2), 20-28.
- Wong, B. Y. L., & Jones, W. (1982). Increasing metacomprehension in learning disabled and normally achieving students through self-questioning training. *Learning Disability Quarterly, 5*(3), 228-240.