Effects of Teaching Comprehension Using Question-Answer Relationships

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Introduction

Question-Answer Relationships were first introduced by Pearson and Johnson and then further developed by Raphael (1982). This is a strategy developed to help students understand the relationship between questions and answers by teaching them how to determine answers to comprehension questions based on whether the information comes from the text or from their heads (Ezell, 1992; Kinniburgh & Shaw, 2009). Studies show that teaching Question-Answer Relationships can increase students’ comprehension abilities across all content areas (Fenty, McDuffie-Landrum, & Fisher, 2012; Kinniburgh & Shaw, 2009; Raphael & AU, 2005). It was
my intent to research whether teaching using the Question-Answer Relationships strategy could improve my third grade students’ abilities to comprehend texts and thus answer questions more efficiently.

This study took place in a small city school in the southeastern United States. The school serves Kindergarten through fifth grade. In the 2014-2015 school year, there were 333 students total with 150 females and 183 males. The school has a very high student body diversity rate with 56% African American, 27% Caucasian, 15% Hispanic, and 6% Asian students. At this school, 59% of students were eligible for free lunch, 6% are eligible for reduced lunch, and 35% were not eligible for free or reduced lunch.

Within the school, the third grade classroom was comprised of 25 students consisting of 12 males and 13 females. There were 18 African American students, 4 Caucasian students, and 3 Hispanic students. Of these 25 students, one was identified as special needs with an Individualized Education Program, as he is limited verbally. He can generally understand English, but cannot communicate effectively. To accommodate his learning needs, he must be read aloud to when completing assessments and when assignments require reading. In math, he was pulled out to work with a special education teacher to complete his assessments. There were 2 other English Language Learners, but they do not have Individual Education Plans. There were also 6 gifted students who were pulled out for enrichment classes every morning.

The classroom was a very positive place with a small library, a reading rug, and resources such as four desktop computers, a rolling cart of laptops that were shared between the two third grade classrooms, and a Promethean board. The students were seated in clusters of four to five, providing for optimal group discussion and teacher interaction. The students were held to high behavior expectations and showed respect to their teachers and peers. Lastly, the classroom was a safe environment where the teacher was very aware of the students’ social, emotional, physical, and academic needs. As such, the students were all motivated learners.

There were many students in the classroom who struggled when with comprehending texts in all content areas. Students struggled to figure out exactly what a question is asking of them, and if the answer was not directly in the text, they simply gave up. There were many times when students have asked for help on a question because they just didn’t get it. I never knew how to help them other than explaining the directions very clearly. Such explanation did not always solve the problem; therefore, I wanted to learn how to better help my students understand what questions are asking of them. After researching possible strategies to improve comprehension of texts, I decided that implementing the Question-Answer Relationship strategy may improve my ability to teach students how to better comprehend texts. Due to the nature of my problem, I determined that the best question for this study was, “How will using the Question-Answer Relationship strategy influence my ability to teach students how to better comprehend texts?”
Review of Literature

What is the Question Answer Relationship Strategy?

As stated above, the Question-Answer Relationship framework is a strategy that strives to teach students to connect the type of question to the type of information needed to find the answer. Pearson and Johnson developed this framework in 1978, and Raphael later expanded upon it in 1985 (Ezell, 1992; Kinniburgh & Shaw, 2009). The Question-Answer Relationship strategy teaches students to use many comprehension strategies such as synthesizing, predicting, making inferences, and simply recalling information (Kinniburgh & Shaw). The framework is set up hierarchically with the categorization of answers to questions as either In the Book or In My Head. This means that students will either be able to find the answers directly in the text if they are In the Book, or if questions are In My Head, the answers lie in their own personal background knowledge (Kinniburgh & Prew, 2010; Raphael & AU, 2005).

These two categories are then further divided into subcategories. The In the Book category contains questions that are either Right There (specifically found in one area of the text) or Think and Search types (answers that are found by synthesizing several areas of the text). The In My Head category contains questions that are either Author and Me types (answers can be found through the use of personal background knowledge along with information from the text) or On my Own types (answers can be found based only on background information (Kinniburgh & Prew, 2010; Raphael & AU, 2005). In conclusion, according to Ezell (1992), teaching students to use the Question-Answer Relationship (QAR) method facilitates three different comprehension strategies as follows: how to find information, knowing when an inference is needed, and learning how various text structures convey ideas.

Teaching Question-Answer Relationships

Based on research, QAR strategies can be taught to children at any grade level. Both Raphael and AU (2005) as well as Kinniburgh and Prew (2010) advocate teaching students QAR strategies before they have acquired the ability to read on their own. Kinniburgh and Prew conducted a study of four kindergarten through second grade classrooms to determine the effect of using QAR strategies in the primary grades. The teachers used picture books, chants, poems, and songs to explain Question-Answer Relationships and only focused on the top tier categories In the Book and In My Head due the age of the students. After four weeks, all of the teachers interviewed stated they enjoyed the QAR method, and it seemed to improve their students’ reading comprehension. Several students were also interviewed and said the strategy helped them to understand how to find answers, and that they enjoyed using the strategy.

Teaching the Question-Answer Relationship strategy (QARs) to students in older grades is slightly more complex as it employs specific lesson plan models. Several general rules to remember when teaching QARs is to always give feedback right away, begin with shorter texts and then move to longer texts, begin with group activities before assigning independent activities to students, and always provide modeling when moving from questions that are Right There to Think and Search or Author and Me questions requiring students to synthesize information from several texts (Raphael, 1982).
One specific strategy that both Raphael and AU (2005) and Kinniburgh and Shaw (2009) recommend is beginning instruction in using QARs by first introducing questions in the broad categories of In My Head and In the Book. Kinniburgh and Shaw describe one lesson model in which the teacher uses a pocket chart to give students a visual of the categories and the subcategories within each category. The teacher then places a sentence strip with a definition of what each category and subcategory means. Also, the teacher has sentence strips of particular questions to go with a story, and explains that while listening to the story, the students should listen to identify what category the question goes under as well as the answer. The students will then place each sentence strip question in the correct place in the pocket chart. This provides students with a hands-on whole class experience in learning about QARs.

Another strategy for introducing QARS is to explain the differences between question types by comparing In My Head and In the Book questions, Right There and Think and Search questions, and Author and Me against On My Own questions. Specifically, this method involves explaining the differences between the two types and then reading a short passage as a class and asking students the two types of questions. The class will then hold a discussion about the relationships between the types of questions and answers. The length of the texts will change according to the types of questions being taught (Raphael & AU, 2005).

According to one very specific lesson model for teaching QARs, the steps to teaching should be as follows: anticipatory set, modeling, guided practice, independent practice, and closure. This method for teaching the QAR strategy works across all content areas including reading, science, social studies, math, and language arts (Fenty, et al, 2012). Visuals such as posters are advocated for use when teaching QARs. Kinniburgh and Shaw (2009) also advocate the use of worksheets where students must write the questions and then identify the category in which the question falls before answering it.

**QAR and Special Needs**

When considering a possible strategy to implement in the classroom, it is imperative to consider whether the strategy will be effective for all learners, including special needs learners. Studies show that special needs learners who struggle with reading comprehension will fall further and further behind as content becomes more and more complex while they move through elementary and into middle school (Fenty, et al, 2012). However, QAR has been proven to be effective in helping special needs students make strides in comprehension. One study discovered that through a combination of co-teaching between the special education teacher, instructional coach, and classroom teacher, QARs can be modified to help all students succeed in answering abstract questions requiring background knowledge or synthesis of text (Fenty, et al).

By using visuals such as sentence strips or pictures, students can match question types to answers (Raphael & AU, 2005). Another way QARs can be used with special needs children, particularly English language learners, is to create lessons based on picture books and then worksheets with four columns that use the QAR strategy. The columns are question type, question, answer, and how you found the answer. English language learners can draw pictures in the how you found the answer column to demonstrate understanding.
Studies in the primary grades by Kinniburgh and Prew (2010) determined that many special needs students learned QARs through the use of chants, large picture books, and posters. These methods also were used with general education students, thus the QAR strategy is conducive to all types of learners.

**Benefits of QAR**

Overall, there is an abundance of benefits to teaching Question-Answer Relationships. One major benefit is that teaching using this strategy provides teachers and students with a common language, so students will be able to explain exactly why they may not understand a question and teachers will be able to explain what the question is asking of them using the QAR language (Raphael & AU, 2005; Kinniburgh & Prew, 2010). Another benefit is that QAR strategies have been proven to increase literacy proficiency in many diverse groups of students, therefore preparing them for high stakes standardized testing that is moving away from multiple choice and towards open-ended responses (Raphael & AU).

The QAR strategies teach students about metacognition, the process of thinking about thinking. The ability to think about one’s own thinking helps students when comprehending all types of texts, as well as on standardized tests (Raphael & AU, 2005; Chin, 2013). Finally, the QAR strategy can be used across all content areas and with all types of learners to help improve the reading comprehension abilities of students (Raphael & AU; Chin; Ezell, 1992; Kinniburgh & Shaw, 2009; Kinniburgh & Prew, 2010).

**Method**

In an effort to improve comprehension skills, I took over reading and language arts in my classroom from April 1-April 17th, implementing the Question-Answer Relationship strategy. In order to make my research do-able and effective for the whole class, I taught each lesson following the format used by my cooperating teacher. I created questions based on the specific standards-based skills students need in third grade including: cause and effect, drawing conclusions, main idea, author’s purpose, summarizing, and defining vocabulary using context clues. I implemented whole-group reading lessons focusing on the above skills and adapted the cooperating teacher’s format to meet the needs of my research by adding specific questions to each lesson.

According to Raphael and AU (2005), an effective way to teach students about Question-Answer Relationships is through three binary comparisons of the types of questions. The first step was to teach students the difference between the broad categories In My Head and In the Book. Then, the next day, I taught students the subcategories for In the Book questions which are Right There and Think and Search. Finally, I taught students the subcategories for In My Head questions which are Author and Me versus On My Own questions. During the three day teaching of QAR, I did not teach using the cooperating teachers’ format and focused on teaching the QAR strategy. I explained the differences between the two types of questions, had the class read the passage together, modeled what the two types of questions looked like, and discussed how I found the answer to each type. I created a poster to assist with my teaching and left it up for students to view while completing each assessment. The students then completed an assessment with each
of the four types of questions labeled. Students answered the questions based on their knowledge of where and how to find the answer to each type of question. After instruction, I reviewed the types of questions each day, and gave students passages to read and labeled questions to answer. My timeline is shown in Table 1.

Table 1

*Timeline*

<table>
<thead>
<tr>
<th>Day</th>
<th>Plan of Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days 1-3</td>
<td>Teach lessons normally without QAR. Assess students on each of the 4 types of questions, gather assessments, and compile data based on what percentage of students answered each type of question correctly.</td>
</tr>
<tr>
<td>Day 4</td>
<td>Introduce QAR by teaching students the two broad categories of In the Book and In my Head. Introduce QAR worksheet and complete as a class to model both types of questions. Place these two types of questions with definitions on the white board. At the end, have all students complete a QAR assessment sheet on their own with two In the Book questions and two In my Head questions.</td>
</tr>
<tr>
<td>Day 5</td>
<td>Introduce the subcategories of In the Book questions: Right There and Think and Search. Explain what each type of question is and add to the poster chart on the board. Read a passage and do 2 questions as a class to model both types. Then have students complete a QAR assessment sheet with one Right There and one Think and Search question.</td>
</tr>
<tr>
<td>Day 6</td>
<td>Introduce the sub-categories of In My Head Questions: Author and Me and On My Own. Explain what each type of question is and add to the poster chart on the board. Read a passage and do 2 questions as a class to model both types. Then, have students complete a QAR assessment sheet with one Author and Me and one On My Own question</td>
</tr>
<tr>
<td>Days 7-10</td>
<td>Teach a lesson in the normal format on a new passage, reminding students to think about the QAR strategies we learned the last few days. Refresh students on QAR and then give the QAR assessment sheet at the end where students must answer one of each type of question. The questions will all be labeled and students will use knowledge of each type of QAR to answer questions.</td>
</tr>
</tbody>
</table>
I chose to conduct a whole class study to collect data on reading comprehension before, during, and after QAR instruction. Table 2 is broken into three phases with blue being before QAR instruction, green being during QAR instruction, and purple being after QAR instruction. See also Figure 1. For each day, the class percentage of correct answers for each type of question is listed along with the type of passage. At the end of each of the three phases, the overall percentage of correct answers for the question type is listed.

**Table 2**

**Percentage of Correct Answers**

<table>
<thead>
<tr>
<th>Raw Data-Percentage of Answers Correct</th>
<th>Type of Passage</th>
<th>Right There</th>
<th>Think and Search</th>
<th>On My Own</th>
<th>Author and Me</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1 (no QAR)</td>
<td>Non-fiction</td>
<td>52%</td>
<td>60%</td>
<td>80%</td>
<td>68%</td>
</tr>
<tr>
<td>Day 2 (no QAR)</td>
<td>Non-fiction</td>
<td>87%</td>
<td>57%</td>
<td>78%</td>
<td>43%</td>
</tr>
<tr>
<td>Day 3 (no QAR)</td>
<td>Fiction</td>
<td>67%</td>
<td>17%</td>
<td>54%</td>
<td>38%</td>
</tr>
<tr>
<td><strong>Total Percentages</strong></td>
<td></td>
<td>69%</td>
<td>45%</td>
<td>71%</td>
<td>50%</td>
</tr>
<tr>
<td>Day 4 (QAR instruction)</td>
<td>Fiction</td>
<td>79%</td>
<td>75%</td>
<td>88%</td>
<td>63%</td>
</tr>
<tr>
<td>Day 5 (QAR instruction)</td>
<td>Non-fiction</td>
<td>22%</td>
<td>61%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Day 6 (QAR instruction)</td>
<td>Fiction</td>
<td>67%</td>
<td>40%</td>
<td>73%</td>
<td>67%</td>
</tr>
<tr>
<td><strong>Total Percentages</strong></td>
<td></td>
<td>56%</td>
<td>59%</td>
<td>81%</td>
<td>65%</td>
</tr>
<tr>
<td>Day 7 (after QAR)</td>
<td>Fiction</td>
<td>92%</td>
<td>75%</td>
<td>75%</td>
<td>45%</td>
</tr>
<tr>
<td>Day 8 (after QAR)</td>
<td>Non-fiction</td>
<td>42%</td>
<td>71%</td>
<td>88%</td>
<td>75%</td>
</tr>
<tr>
<td>Day 9 (after QAR)</td>
<td>Non-fiction</td>
<td>75%</td>
<td>67%</td>
<td>54%</td>
<td>75%</td>
</tr>
<tr>
<td>Day 10 (after QAR)</td>
<td>Fiction</td>
<td>81%</td>
<td>31%</td>
<td>100%</td>
<td>50%</td>
</tr>
<tr>
<td><strong>Total Percentages</strong></td>
<td></td>
<td>73%</td>
<td>61%</td>
<td>79%</td>
<td>62%</td>
</tr>
</tbody>
</table>
Figure 1. Whole Class Results

Figure 2 records the progress of the special needs English Language Learner in the classroom. His percent correct for each question type are listed for each phase of data collection.

Figure 2. Special needs ELL Student Results
During the study, the special needs English language learner in the class was accommodated by having the passage read aloud to him and then having the questions read aloud to him and explaining where the answers should come from during instruction. The student was unable to answer any of the types of questions aside from On My Own before instruction. However, during instruction, the student improved in answering Right There, Think and Search and On My Own. After instruction, the student’s ability to answer Right There and Think and Search declined, but was still an improvement from his inability to answer those questions in the beginning. The student’s ability to answer Author and Me questions did not peak until after instruction, when I reviewed each type of question with him again. Overall, I think that the Question-Answer Relationship strategy was beneficial to the special needs English language learner in this classroom.

Data Analysis

As evidenced by the Table 2 and Figure 1 above, the students showed improvement in their abilities to answer all four types of questions. In the case of the Right There questions, the students’ results dipped during instruction, but this could have simply been the difficulty level of the questions as the results improved after instruction.

The students’ abilities to answer Think and Search questions improved slightly before and during instruction, and then improved greatly after instruction. The students had the biggest improvement rate of all with this type of question as the students (16%). One Think and Search question from day one stated, “What are some ways that holidays get started?” Many students did not understand that they needed to look through the whole text to find the answer and either wrote down one or two words from the passage or information that was not even in the passage. Due to these problems, only 60% of the students answered correctly. However, on day seven after instruction, 75% of the students were able to answer the following Think and Search question: “What is the main idea of the story?”

The students’ abilities to answer On My Own questions improved 10% during instruction, indicating that once students understood that these questions came only from their own personal experiences, they were able to more easily answer these.

Finally, the students’ abilities to answer Author and Me questions improved during instruction by 15% indicating that the students’ benefited from knowing that the answers to Author and Me questions ultimately came from their own knowledge using evidence from the text. Overall, the students benefited from the Question-Answer Relationship strategy in all four areas. After tallying the results of the non-fiction and fiction passages, students improved from 66% to 69% correct for non-fiction passages, and then from 44% to 69% for the fiction passages.

Conclusions

After reflecting and viewing the results of my action research study, it can be concluded that implementing the Question-Answer Relationship strategy does improve my ability to teach students how to better comprehend both fiction and non-fiction texts. As a whole class, the
students showed improvement after the Question-Answer Relationship strategy was introduced and implemented. Furthermore, the special needs English Language Learner improved in his ability to comprehend texts as well. Since my method was effective, the study produced the results I had hoped for in the beginning. I was surprised by the results because after grading the students’ questions each day, it was hard to tell if the students were improving.

I hesitate to be satisfied with the results of this study because it is important to point out that my data is most likely skewed due to several factors. First, the difficulty of the passages from day to day must be taken into consideration. I know that the passages from days one through three were on a third grade level as I used the passages my cooperating teacher gave me. However, I was in charge of finding passages for days four through ten, and though I attempted to find passages on the third grade level, my source was the Internet, which is not always completely reliable. Also, I had to create my own questions for each of the passages, and it is highly likely that the difficulty level of these questions varied from day to day. On days six and ten, six of my students were out of the classroom to receive gifted instruction, so their results were not included in those days. Finally, I do not believe that students were given sufficient instruction in using the Question-Answer Relationship strategies. If this action research study took place over a longer span of time, the results would be more valid and reliable.

Despite the possible data skews, I would use this methodology again because there is a plethora of research to support the contention that Question-Answer Relationships can help improve students’ abilities to comprehend all types of texts in all content areas. Also, it is beneficial to a diverse range of students. I would like to use this methodology in my future classroom, however, I plan on implementing it at the beginning of the year so students will see it as an integral part of comprehension. I also plan on implementing the strategy for a longer amount of time so the data will be more reliable and valid. Instead of simply telling the students what type of question they were answering during and after instruction, I would first have students practice recognizing types of questions. This procedure would be beneficial because in the real world, question types will not be labeled as Think and Search, Right There, Author and Me, and On My Own. I do recommend this methodology because I had positive results.

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