Using a Reading Comprehension Strategy for Secondary School Students: Does it Increase Student Performance and Efficacy?

An Action Research Proposal

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Abstract

It is often assumed that secondary school students have reading and comprehension skills that serve them well in content areas. Skill development of this nature is often considered the domain of reading and English teachers. Often, using explicit reading comprehension strategies are employed as differentiation strategies for struggling and learning disabled (LD) students. This action research proposal will explore whether one such strategy could lead to comprehension breakthroughs and better academic performances in a general education setting. The efficacy of the strategy called QARs (Question-Answer Relationships) is the subject of this action research.
**Background**

Many middle school and high school students struggle to read and most secondary school teachers are unaware of this struggle. The vast majority of students lack reading comprehension strategies and become overwhelmed and frustrated by the vast amount of information they are called on to retain. They simply just try to get by and hope some information is retained for recollection at test time. They are not interacting with the text and evoking prior knowledge.

There is something to be done but the standard approach of the secondary school teacher must be challenged. Cris Tovani (2000) discussed this: “Few middle school and high school teachers feel they have the time or expertise to teach students how to read. They have been trained in their content area and are uncomfortable stepping into the role of reading specialist (p. 29).” If one thinks of a high school history class with the thick textbook and the multitude of material to be covered, it is no wonder a teacher would balk by spending additional time on reading comprehension strategies. However, time spent wisely on a reading strategy may reap dividends for both students and teachers. Teachers can move through material faster and more effectively because students remember and understand what they have read.

The research literature about reading comprehension in the elementary years is extensive. There is less research about reading and comprehension strategies for secondary school educators. The goal of reading in secondary content areas is comprehension and gaining meaning from text. Educators often neglect instructing students how to read for learning and understanding (Edmonds, et al., 2009, p. 263). This is in part because of how content area teachers view themselves. Often, they are defined their specialty and consider themselves historians, scientists, writers, or musicians first and teachers second. They teach because they want to share their expertise. However, their students often do not share the same enthusiasm or
interest and need to be engaged. Difficult text makes this more challenging and it becomes
critical that the teacher becomes the facilitating conduit between the text and the student (Lapp,
Fisher, & Grant, 2008, p. 378). The practicing teacher must determine whether this role is needed
and, if so, what comprehension strategy will yield the most effective use of class time and result
in better experiences for their students. There needs to be symbiosis; students must be aware of
what they are comprehending (metacognition) and teachers must facilitate development of this
skill.

One approach lies in the use of questioning techniques that drive more interaction and
activation of prior knowledge when reading. Self-questioning initiates cognitive processes that
contribute greatly to reading comprehension. A study of third and fourth graders showed a
positive association between student-generated questions and reading comprehension (Taboada
& Guthrie, 2006). There is sufficient reason to believe that this finding can be extrapolated to
include middle and high school readers. One such student-driven questioning technique
developed by T. Raphael (1986) is called Question – Answer Relationships (QARs).

Research studies on using reading comprehension strategies have shown many benefits
for educators. “First, we think that these studies indicate that comprehension practices that
engage students in thinking about text, learning from text, and discussing what they know are
likely to be associated with improved comprehension outcomes for students with reading
difficulties and disabilities (Edmonds, et al., 2009, p. 294). These research findings also apply to
general education learners (Tovani, 2000). Choosing one reading strategy may not improve the
comprehension of all students in a particular classroom. Teachers may want to consider the use
of additional elements, such as graphic organizers and calling students’ attention to text
structures when students are reading relevant expository or information texts. Also, it must be
noted that comprehension is often higher if students know they are part of a new treatment or research study. This may be because researchers are more attentive to implementing interventions with high levels of fidelity. Teachers should take note of this and be attentive to implementation techniques when targeting comprehension practices (Edmonds, et al., 2009, p. 294). This may also be the result of placebo or Hawthorne effects where subjects perform better because they know they are part of an experiment (Schutt, 2012, p. 218).

**Research Question**

Should the reading comprehension strategy QARs be implemented in a secondary social studies classroom? Does explicit instruction and practice in this strategy lead to better reading comprehension and therefore better performance on subsequent assessments?

**Research Design**

The subject samples will be two general education classes in high school social studies. The classes will have equal number of students and the control class and the experimental class will be chosen randomly to prevent any selection bias. The treatment begins after both classes have taken the first assessment of the quarter. This is the pretest component of the research design. This design feature helps the researcher to verify that randomization was successful and the selection biases were limited (Schutt, 2012, p. 201). The control class will take two subsequent reading comprehension assessments and will have no exposure to the reading comprehension strategy. The experimental class will receive instruction and modeling in the strategy and use the strategy while interacting with the class text. The experimental class will take the same two subsequent reading comprehension assessments. The second post-treatment test is looking for sustainability or increased improvement. This experimental design is termed a randomized comparative change design. After the testing component, the data will be compiled and analyzed. A survey will be completed by the experimental class to assess perceived
usefulness and self-efficacy. The five survey questions will be completed prior to the pre-treatment test and revisited at the conclusion of post-treatment testing.

**Proposed Targeted Instruction**

Critics of reading comprehension strategies claim that these skills are often learned in isolation and the emphasis is more procedural than holistic. Transactional Strategy Instruction (TSI) has been suggested to counter this approach. Teachers need to invest the time to fully explain and model the strategy and then support reader self-efficacy, and ultimately, achievement (Casteel, Isom, & Jordan, 2000, p. 68). QARs is considered a transactional strategy and is the subject treatment for this action research.

Students must learn the QARs strategy. Table 1 provides the basic question-answer relationships. This should be prominently displayed in the classroom and students should have multiple copies to use for upcoming reading assignments. The teacher will start students off by practicing with short passages and discussing fully the different types of questions and categorizing them under the correct QARs (Vacca, Vacca, & Mraz, 2014, p. 205). Essentially, this is the model of show me, help me, let me. Eventually, students will be using the tool on their own for reading and comprehending the textbook or other assigned passages. It is also important to note that peer to peer interaction in use of QARs may help students become better at using the tool.
### Table 1

<table>
<thead>
<tr>
<th>QARs</th>
<th>IN THE BOOK</th>
<th>IN MY HEAD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Right There</strong></td>
<td>The answer is in the text: reread, scan, look for key words.</td>
<td><strong>Think &amp; Search</strong></td>
</tr>
<tr>
<td><strong>Author &amp; YOU</strong></td>
<td>The answer is NOT in the text.</td>
<td><strong>ON MY OWN</strong></td>
</tr>
<tr>
<td>- Think about how what you know and what is in the text fit together.</td>
<td>- Think about what you already know.</td>
<td>- Think about what you read before.</td>
</tr>
</tbody>
</table>
Proposed Data Collection and Analysis
(Note: Illustrative data has been populated for discussion purposes)

Table 2 Control Class Data

<table>
<thead>
<tr>
<th>Comprehension Test Scores</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-treatment test scores</td>
<td>82</td>
<td>11</td>
</tr>
<tr>
<td>Post-treatment test score 1</td>
<td>81</td>
<td>10</td>
</tr>
<tr>
<td>Post-treatment test score 2</td>
<td>84</td>
<td>9</td>
</tr>
</tbody>
</table>

Table 3 Experimental Class Data

<table>
<thead>
<tr>
<th>Comprehension Test Scores</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-treatment test scores</td>
<td>81</td>
<td>12</td>
</tr>
<tr>
<td>Post-treatment test score 1</td>
<td>86</td>
<td>13</td>
</tr>
<tr>
<td>Post-treatment test score 2</td>
<td>88</td>
<td>11</td>
</tr>
</tbody>
</table>

Figure 1

QARs strategy results

- Mean Post-treatment scores
- Mean Pre-treatment Scores

Experimental Class

Control Class
**FIGURE 2**

**QARS EFFECTIVENESS SURVEY**

<table>
<thead>
<tr>
<th>Student Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date #1 (Before):</td>
</tr>
<tr>
<td>Date #2 (After):</td>
</tr>
<tr>
<td>Class Period:</td>
</tr>
</tbody>
</table>

For each question below, circle the number to the right that best reflects your experiences regarding reading comprehension.

<table>
<thead>
<tr>
<th>BEFORE and AFTER USING QARs</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>1. Most of the time I read text I can’t remember anything I just read.</td>
<td>1</td>
</tr>
<tr>
<td>2. I do not use reading comprehension strategies now.</td>
<td>1</td>
</tr>
<tr>
<td>3. I rarely think of other things I know when I read.</td>
<td>1</td>
</tr>
<tr>
<td>4. When reading, I do not think about the author’s intentions or mine in similar situations.</td>
<td>1</td>
</tr>
<tr>
<td>5. I rarely derive satisfaction from reading.</td>
<td>1</td>
</tr>
</tbody>
</table>
Discussion of possible results and reflection

For purposes of discussion, the contrived illustrative data will be used. Both control and experimental class pre-treatment test scores must be compared and standard deviation analyzed. If these are statistically equivalent, confidence in proceeding with the treatment is warranted. If they are not, additional exploration will be needed. If the standard deviations are markedly different, individual tests that comprise the mean will need to be mined for outliers. This same approach to the standard deviation applies to the post-treatment test scores.

The mean comprehension test scores will need to be compared between the experimental and control classes. This is demonstrated in Figure 1. The responses to the survey will need to be analyzed by looking at the frequency of responses along the agreement spectrum. Regarding the responses to the before treatment survey questions, a mean frequency above 3 would indicate that students are in need of better comprehension techniques. Regarding the responses to the after treatment survey questions, a mean frequency below 2 would indicate that the QARs strategy is increasing students’ perceived self-efficacy.

The results of this action research may indicate that the use of this tool is not warranted or another comprehension tool may be more useful for students. Moreover, it could be that the experimental class has successfully learned comprehension techniques through previous classes. Strategies that work in one situation, it may not work in another. Certainly, there is applicability to other learning situations. The QARs strategy was developed for older readers but can be adapted for young readers with Autistic Spectrum Disorder (ASD) (Whalon & Hart, 2011). Furthermore, it could be applicable to any type of learner.

Action research of this sort can be developed into a dynamic way to solve problems whatever the proposed treatment may be. It requires planning a design, implementing this design in appropriate circumstances, collecting data, analyzing data, and then reflecting. Possible causal
theories may be explored which may result in innovative approaches to classroom dynamics and techniques. Individual students can be sought out for more individualized instruction. This is a systematic way to evaluate teaching methods and strategies. The benefit is that teachers become more effective and innovative in the process of improving their practice.
References


