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Research Project  
Dr. Followay

***Does RAP Increased Reading Comprehension Levels?***

According to Polloway, Patton, and Serna (2001), one of the most important academic skills taught in school is reading comprehension. Parker, Hasbrouck, and Denton (2002, p. 45) describe comprehension in reading as, "understanding what is read." The ability to comprehend written text needs to be applied and generalized in various settings within school and also later in life. When students are able to comprehend written material, they gain meaning from the written text. As noted by Polloway et al. (2001, p. 260), "the goal of reading is comprehension."

Students with special needs typically experience great problems in the area of reading comprehension. Poor comprehension is a product of several causes. Parker et al. (2002, p. 45) suggest possible reasons for poor comprehension as, "a failure to understand key words, failure to understand key sentences, failure to understand how sentences relate to one another, failure to understand how the information fits together in a meaningful way (organization), and failure to maintain interest or concentration."

Teaching students what strategies for comprehension are and how to use them will improve their understanding of written text. As noted by the Parker et al. (2002, p. 46),

"a learning strategy is a systematic approach to completing a task." Using learning strategies to help increase comprehension will help diminish the problems students with special needs have with comprehension. Implementation of learning strategies has proven to increase application and generalization of reading comprehension skills (De Corte, Verschaffel, & Van De Ven, 2001). Additionally, Parker et al. (2002, p. 46) mentioned that learning strategies also, "help students maintain interest and concentration during many learning tasks."

Within this research project, a paraphrasing strategy will be used. As noted by Parker et al. (2002), one particular paraphrasing strategy uses an acronym of RAP to help remember and implement a reading comprehension learning strategy. RAP stands for, "read a paragraph, ask yourself, what were the main ideas and details in this paragraph, and put the main ideas and details into your own words" (Parker et al., 2002, p. 46).

Fisk and Hurst (2003, p. 182) stated that, "paraphrasing works so well because it integrates all modes of communication—reading, writing, listening, and speaking—which leads to a deeper understanding of the text. Fisk and Hurst (2003) further noted, that paraphrasing should not be a word for word translation of the written text.

Paraphrasing should be written in the student's own words to express the main idea and include evidence (Fisk & Hurst, 2003). Additionally comprehension instruction that can be individualized to meet the specific needs of each student affects reading comprehension levels positively (Dewitz & Dewitz, 2003).

The purpose of this research is to determine whether using a learning strategy will increase reading comprehension for students with mental retardation. The specific learning strategy implemented in the survey is called RAP. The researcher hopes that students will be able to generalize the strategy to other academic classes to aid in reading comprehension of course material.

### ***Method and Procedures***

#### ***Participants/Setting***

The sample consists of four sixth grade students. There are two females and two males. The ethnic composition of the sample was 50% Caucasian and 50% African American. Also, each participant was receiving special educational services under the label of mental retardation. As can be seen in Table 1, the demographic of the participants are diverse. Research will be conducted in a self-contained special education reading class at the middle school level. The self-contained reading class is

part of the mental retardation program in the school system. One teacher and one para-professional are present in the self-contained reading classroom. The research will be conducted over a five week period.

### **Data Collection**

Participants will complete reading comprehension warm-ups for five weeks. The warm-ups will be taken from Comprehension quickies: 3-minute reading comprehension activities by Miller (2000a, 2000b, & 2000c). The warm-ups consist of one to three paragraphs of fiction and non-fiction stories. Each story is accompanied by five to eight comprehension questions. Participants will receive warm-ups that are comparable to their current reading levels as specified in their current IEP.

The implementation of a specific learning strategy called RAP will be tested to see if it increases the subjects' level of comprehension. Participants' level of comprehension will be measured by a pretest-posttest design. Measures of the percent correctly answered will be taken each day.

Qualitative data also will be collected from the participants. At the end of each week participants will be given a survey on how they feel about warm-up activities. Survey one is shown in Table 2. The surveys will be

compared from before implementation and after implementation. Also, after the implementation of RAP, participants will take a survey on how they felt about the using RAP. Survey two is shown in Table 3.

### ***Procedures***

#### ***Week One - Week Two***

One reading comprehension warm-up will be given to participants at the beginning of the class period each day. Participants will complete a total of five warm-ups per week. Participant one will receive warm-ups that are on a first grade reading level. Warm-ups on a second grade reading level will be given to participants two and three. Participants four will receive warm-ups on a third grade reading level. After completion of warm-ups on days five and ten, participants will take Survey 1 (see Table 2). The percent correctly answered on each warm-up will be recorded each day.

#### ***Week Three***

The implementation of RAP will begin in week three. RAP will be divided into five steps. First, the strategy will be described to the participants. The description of RAP is shown in Table 4. Secondly, a teacher will model the definition and use RAP. The teacher will identify what each letter stands for then and complete each step using a

simple warm-up activity sheet to ensure participants are comprehending the strategy. Thirdly, together with the teacher, participants will verbally rehearse the meaning and usage of RAP. After verbal rehearsal, participants will engage in practice using the strategy in controlled practice. The scores on the practice warm-ups will be used as data for the project. The practice activities will be of a very low level to ensure subjects are understanding the application of RAP. Finally, participants will use the strategy with their warm-ups. Each day the description in Table 4 will be placed on the overhead projector for subjects to refer to. Participants will take Survey 1 (see Table 2), at the end of week three. Percent of correctly answered questions on warm-ups will be reported each day.

#### ***Week Four - Week Five***

Participants will complete reading warm-ups while using RAP to increase comprehension. A description of RAP will be place at the front of the classroom for students to refer to. Percent of correctly answered questions on warm-ups will be reported each day. Participants will take Survey 2 at the end of week five (see Table 3).



### ***Results***

The group average for the baseline was 67% correct. The average percent correct during intervention was 87% and after intervention was 83% (see Figure 2). Ryan's average percent correct during baseline was 49% (see Table 4). During intervention and after intervention average percent correct was 89% (see Figure 3). As can be seen in Table 4, Stacy's average baseline was 54% correct. Average percent correct during intervention was 79% and after intervention was 73% (see Figure 2). Peggy's average baseline and during intervention was 94% correct and after intervention was an 86% correct (see Figure 3). Nate's baseline average was 70% correct, while during and after intervention his average was 87% and 85% correct, respectively (see Figure 3).

On question one in Survey 1 (see Table 2), during baseline, Ryan and Stacy responded that warm-ups were almost never easy. During and after intervention, Ryan and Stacy indicated on Survey 1 (see Table 2) that warm-ups were sometimes easy. Peggy and Nate responded that warm-ups are sometimes easy during the baseline, intervention, and even after intervention. On question two in Survey 1 (see Table 2) during baseline, intervention, and after intervention Ryan and Stacy responded that they always

understood what they read. During baseline and intervention, Peggy and Nate responded that they sometimes understood what they were reading. After intervention, Peggy and Nate indicated that they always understood what they were reading. On question three in Survey 1 (see Table 2); during baseline, intervention, and after intervention Stacy, Peggy and Nick responded that they sometimes had trouble understanding what they read. Ryan reported that he never has trouble understanding what he read.

On question one in Survey 2 (see Table 3), Ryan and Peggy indicated that RAP was always easy to use. Stacy and Nate indicated that RAP was sometimes easy to use. On question two in Survey 2 (see Table 3), Nate indicated that RAP never helped him understand what he was reading. Stacy and Peggy indicated that RAP always helped them understand what they were reading and Ryan indicated that RAP sometimes helped him understand what he was reading. On question three in Survey 3 (see Table 3), Ryan and Nate indicated that they sometimes liked using RAP. Stacy and Peggy indicated that they always liked using RAP.

### ***Discussion***

Using a learning strategy such as RAP can increase reading comprehension ability for students with mental retardation. The ability to generalize RAP to other course texts has not been established with the participants in this study. The usage of RAP was not generalized to other content areas by the participants, but was able to be used to help in reading comprehension.

The group's average percent correct increased 20% from baseline to during intervention. Then, after the intervention, their percentage dropped 4%. The decrease in average percent correct from during the intervention and after the intervention was not significant, but may be due to participants' problems to use RAP in independent practice compared to guided practice. The percent correct for the group was higher during guided practice (week 3) than after the intervention (week 4 and week 5).

Ryan showed the largest gain in percent correct. His baseline score improved 40% during intervention and after intervention. Ryan's percent correct was consistent and did not drop after the intervention. Ryan was able to independently use RAP to aid in comprehension of his warm-up. Surprisingly, Ryan mentioned during baseline,

intervention, and after intervention that warm-ups were never easy and then that he never had trouble understanding was he read. This was not consistent with his percent correct during and after intervention. It is assumed that he misunderstood the question on the survey. Stacy's response on Survey 1 (see Table 2) during the baseline, that warm-ups were never easy was comparable with her percent correct during baseline. As she started using RAP, she reported that warm-ups were sometimes easy. During baseline, intervention, and after intervention Nate's response of warm-ups sometimes being easy was reflected in his scores. Some days he would do better than other days, even when RAP was introduced.

Stacy and Nate made minimal gains in reading comprehension compared to Ryan. They averaged a gain of 16% from baseline to during intervention. On the other hand, they both decreased in percent correct after intervention (an average of 4%). This decrease is not significant, but does indicate that Stacy and Nate have problems with independent practice.

Peggy's baseline and during intervention percentage was consistently high. After intervention Peggy's percentage decreased. It is assumed that she already had a strategy that worked well for her and using RAP only

created problems. When asked Peggy stated that she usually looked for keywords in the questions and then looked through her paragraph to find the key word. This helped her locate where the possible answer would be. Peggy only decreased 8%, but that is not what was anticipated by the researcher. Peggy seemed to be worried more about using RAP correctly, than answering the questions correctly. Peggy's previous strategy for reading comprehension worked well and should be used by Peggy instead of RAP. The difficulty with RAP was shown in her percent correct, but on Survey 2 (see Table 3), she indicated that RAP always helped her understand what she was reading, was easy to use, and liked using RAP. It is assumed that her answers were in response to what she thought the researcher wanted her to answer and not what she truly felt.

In conclusion, RAP was effective in increasing reading comprehension in three of the four participants with mental retardation. A possible reason for some of the particularly lower scores could indicate the number of actual warm up questions were limited. For example if a student missed one out of five questions they will get a lower grade than if they only missed one out of eight questions. The participants were not able to generalize the use of RAP to other content area courses.

Recommendations for further implementation of a learning strategy include prolonging guided practice with individual students who have problems with independent practice. It is important to monitor student's quality of work once a strategy has been introduced. Sometimes students already have their own strategies, but it is important that each student has a strategy to help them in reading comprehension.

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**Table 1.*****Subject Demographics***

<b><u>Participant #</u></b>	<b><u>Ethnicity</u></b>	<b><u>Grade</u></b>	<b><u>Sex</u></b>	<b><u>Reading Level</u></b>	<b><u>Special Education Label</u></b>	<b><u>Woodcock-Johnson (Passage Comprehension Scores)</u></b>
<b>Ryan</b>	Black	6	M	1 <sup>st</sup>	MR	59
<b>Stacy</b>	Caucasian	6	F	2 <sup>nd</sup>	MR	65
<b>Peggy</b>	Black	6	F	2 <sup>nd</sup>	MR	82
<b>Nate</b>	Caucasian	6	M	3 <sup>rd</sup>	MR	79

**Table 2.**  
*Survey One*

Warm-ups are always easy.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>never</b>	<b>almost</b>	<b>sometimes</b>	<b>always</b>
	<b>never</b>		

I understand what I read in the warm-up.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>never</b>	<b>almost</b>	<b>sometimes</b>	<b>always</b>
	<b>never</b>		

I have trouble understanding what I read.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>never</b>	<b>almost</b>	<b>sometimes</b>	<b>always</b>
	<b>never</b>		

**Table 3.**  
*Survey Two*

RAP was easy to use.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>never</b>	<b>almost</b>	<b>sometimes</b>	<b>always</b>
	<b>never</b>		

Using RAP helped me understand what I was reading.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>never</b>	<b>almost</b>	<b>sometimes</b>	<b>always</b>
	<b>never</b>		

I liked using RAP.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>never</b>	<b>almost</b>	<b>sometimes</b>	<b>always</b>
	<b>never</b>		

**Figure 1.**  
*Definition of RAP*

**RAP**



**R**ead a paragraph.

**A**sk yourself what are the main ideas.

**P**ut it in your own words.

*Source of information* Parker, R., Hasbrouck, J. E. & Denton, C. (2002). How to tutor students with reading comprehension problems. (Tips for teachers). *Preventing School Failure*, 47, 45-48.

**Table 4.**

*Baseline Data (week 1 & week 2)*  
*(% of correct answers)*

<b>Participant</b>	<b>Day</b>										
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>Average</b>
<b>Ryan</b>	14	0	29	29	57	100	86	14	86	71	<b>49%</b>
<b>Stacy</b>	14	14	43	71	29	71	43	57	100	100	<b>54%</b>
<b>Peggy</b>	100	100	100	100	57	86	100	100	100	100	<b>94%</b>
<b>Nate</b>	86	71	57	57	86	86	86	57	43	71	<b>70%</b>

**Table 5.**

*Intervention data (Week 3-Week 5)*  
*(% of correct answers)*

<b>Participant</b>																
	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>Av.</b>
<b>Ryan</b>	57	100	100	86	100	86	71	100	100	100	100	71	100	86	71	83%
<b>Stacy</b>	71	100	83	86	57	71	14	86	71	71	100	86	86	71	71	75%
<b>Peggy</b>	100	83	100	100	86	86	86	57	57	100	100	100	86	100	83	88%
<b>Nate</b>	100	43	86	75	86	100	62	66	100	100	71	83	86	100	86	83%

**Figure 2.**

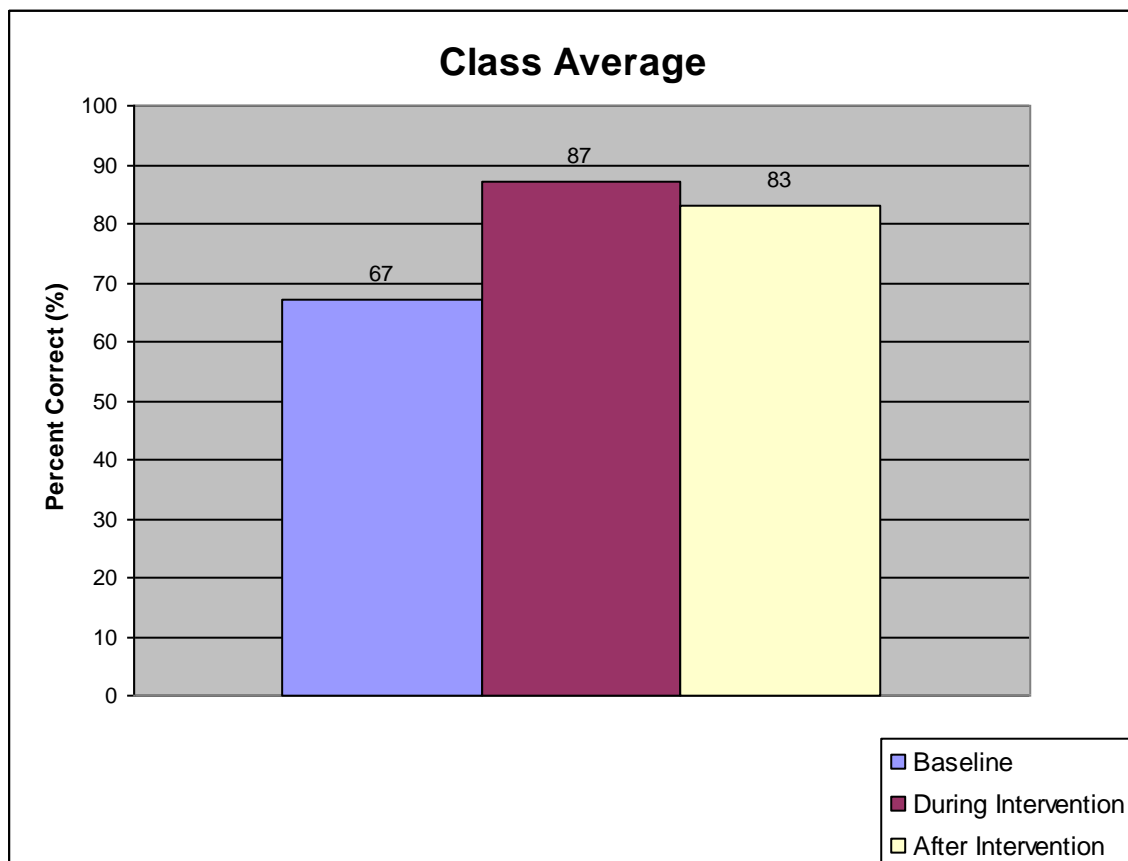


Figure 3.

