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The Effects of a Metacognitive Strategy on the Reading Comprehension of High School History Students

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By

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ABSTRACT

The purpose of the current study is to add to existing research on the effectiveness of the SRSD RAP strategy on reading comprehension. This study describes a single-subject research design involving professional development in the RAP metacognitive strategy and a teacher's implementation in her high-school history courses. The study aims to assess the strategy's effectiveness in the high school general education setting with inclusive instruction and without pull out sessions to learn that strategy. The current study explores RAP strategy research and uses a week-long unit of instruction for teaching the RAP strategy. The results of the RAP strategy on the reading comprehension of high school students were found by using the scores of the reading comprehension probes.

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CHAPTER I

INTRODUCTION

Background Information

Reading comprehension is a critical skill that students must master in order to be successful in all academic domains. As reading material in textbooks are becoming the essential source for knowledge, reading comprehension is becoming more and more important (Itler, 2017). Reading comprehension is a skill that involves many factors such as: prior knowledge of the text, general knowledge, word reading, and cognitive/metacognitive strategy use. According to the Nation's Report Card (2017), students in eighth-grade in Tennessee performed significantly lower on mandated reading assessments than the National public. Therefore, students are not performing well on reading assessments that require a great amount of reading comprehension. Teachers are concerned with how their students are performing in the classroom with a skill that should be farther mastered at adolescent age (Nippold, 2017).

RAP study background knowledge

The student population is this study consists of three high-school history classes. The students in this study needed the intervention due to their deficit in reading comprehension skills. The concern of their history teacher is how this study was brought about. According to the teacher, the students were reading material for homework and class assignments and when asked basic questions about the reading, the students could not recall what they had read. The teacher was concerned because the questions that were being asked of the reading were main idea questions and the students could not respond. The interventions taken place in this study was the use of the SRSD RAP strategy. The RAP strategy was chosen because the texts that are being

focused on are expository texts in which paraphrasing is an effective strategy to help students remember what they have read (Nippold, 2017). This strategy aims to improve reading comprehension through the use of paraphrasing after finding the main idea and details of a paragraph or passage. The students will focus on finding the main idea and three details and proceed to put those components into their own words.

The RAP strategy

Adolescent students need many strategies in their mental toolbox and be able to pull out one when it is needed. The Self-Regulated Strategy Development (SRSD) approach to is designed to help students learn and use strategies that will help their reading and writing. The SRSD strategies are well-established reading and writing strategies that help struggling students. The SRSD strategies focus on self-regulating learning which motivates students. The strategies also involve a goal-setting component which drives students to meet their goal (Johnson, 2011). When SRSD strategies are taught systematically, reading comprehension is addressed in a way that caters to reading and writing deficits.

The RAP strategy is an SRSD strategy that aims to help students with their reading comprehension skills. The RAP strategy requires students to take a passage by paragraphs and complete the steps in the strategy. The steps in the RAP strategy are: Read the paragraph, Ask yourself, "what is the main idea and what are two details to support the main idea?", and Paraphrase. Research shows that this strategy has been used in the past but not with adolescent students nor the subject of history. Hagaman and Reid have done multiple studies involving the RAP strategy but all have been with a younger population of students. Studies in 2008 and 2012 both showed that younger students responded immediately to the use of the RAP strategy

(Hagaman & Reid, 2008, Hagaman, Casey, Reid, 2012). Therefore, the RAP strategy has been proven to work with the younger population of students.

The knowledge of reading requires the knowledge of cognitive and metacognitive strategies (Cromley & Azevedo,2007). The knowledge of reading refers to background knowledge of the content and knowledge of vocabulary. There are several components to reading comprehension: background knowledge, reading vocabulary, word reading, and inference (Cromley & Azevedo, 2007). To help students with these components, knowledge of strategies must be present to aid students in excelling in every component of reading. There is much evidence that struggling readers do not have the knowledge of strategies or do not use them when appropriate. However, reading comprehension is clearly not just a single factor. With the RAP strategy as the foundation of this study, there are other factors that must be taken into account.

Training students to use metacognitive strategies is a way to increase students' metacognitive comprehension skills (Itler, 2017). The RAP strategy is a metacognitive strategy that aims to help students with their reading comprehension by providing a series of steps to aid students in their understanding and remembering of text. The RAP strategy has been proven helpful to younger students but has not been evaluated with students at the high school level. The importance of mastering reading comprehension becomes more essential as students move up from grade to grade. Therefore, students at the high school level need strategies that they can use to help them master the skill of reading comprehension (Kozminsky, E., & Kozminsky, L. 2001).

Given the need for a reading comprehension strategy, the purpose of this study is to investigate the effects of the RAP paraphrasing strategy on high school students when reading grade-level history texts.

Research Questions

The following research questions guided this study:

1. What is the effect of the RAP strategy on high school students' reading comprehension of history texts?
2. How will the students respond to the RAP strategy instruction?
3. Will the students like the RAP strategy and find it effective to use when they read?
4. Will the teacher like teaching the RAP strategy and find it effective for her students?

CHAPTER II

LITERATURE REVIEW

Adolescent students that are lacking the skill of reading comprehension are becoming more prevalent. According to the Nation's Report Card (2017), students in eighth-grade in Tennessee performed significantly lower on mandated reading assessments than the National public. According to Cromley and Azevedo, approximately 26% of American students in the eighth grade performed below average in 2003 (2007). Reading is a crucial academic skill that is required for all academic domains. Students must be able to read their assigned text in order to perform in the classroom. The ability to read and comprehend textbook readings is essential to mastering grade-level curriculum (Nippold, 2017). By high school age, students should be able to process words and understand what they are reading. The problem arising is that high school students are having trouble comprehending their textbook reading material which should have been a skill learned in early grades. There are many aspects that encompass reading comprehension. Students must know the meaning of the words that they are reading, have an understanding of syntax, and have past knowledge of the topics that are mentioned in the reading but not explained (Nippold, 2017). Reading comprehension in adolescents has been researched for students with Learning Disabilities but research is lacking with general education high school students who have trouble with reading comprehension. Comprehension studies in general and studies using the paraphrasing strategy to aid comprehension will support this study.

Aiding students understanding of reading comprehension in the age of adolescence is not too late. Teaching comprehension strategies to older students with reading difficulties is beneficial. However, for older readers, gains in reading comprehension are minimal compared to other reading-related areas (Scammacca, Roberts, Vaughn, Edmonds, Wexler, Reutebuch, &

Torgesen, 2007). According to Scammacca et al., the result of reading comprehension strategies in adolescents is not well established within their meta-analysis research. The confidence of the students was more evident than the increase in reading comprehension skills. Most experimental studies of reading at the high school level have investigated single variables related to reading comprehension (Cromley & Azevedo,2007). Researchers must pinpoint what adolescent readers are struggling with in order to design effective educational interventions for students. Some of the most effective content enhancements for high school students is graphic organizers. Cognitive strategies have also been very effective when improving the reading comprehension of adolescents (Ko & Huges, 2015). One of the most effective ways to aid in students' reading comprehension is by teaching a reading comprehension strategy (RCS) with explicit instruction. This type of instruction includes: following a specific sequence for teaching, informing the students of the purpose for the strategy, modeling the RCS to the students, and generalizing the use of the strategy (Berkeley, Masteropieri, & Scruggs, 2011). Teaching cognitive and metacognitive strategies are essential to helping students improve their reading comprehension abilities. However, high school students are less likely to want to use them than kids of younger age. The belief that they need to put in extra effort makes them feel that they have low ability and because of this they will not put forth the effort to learn the strategies (Berkeley, et al., 2011). This aspect of high school students' attitudes will need to be considered. Prior knowledge of reading material will also affect the student's ability to comprehend text. General knowledge of the material will allow students to expedite reading comprehension because they can focus on what they are reading and not the meaning of words in a text (Kozminsky, & Kozminsky, 2001). Older students with reading difficulty benefit greatly from improved knowledge of word meaning and concepts (Scammacca et al., 2007). Therefore, the students will focus on the

content of the passage and not the vocabulary in the passage due to their understanding of the content before reading. Studies on adults and children found that prior knowledge of a text has better outcomes of comprehension. Knowledge of reading requires knowledge of reading strategies and when/how to apply them (Kozminsky, & Kozminsky, 2001). The knowledge of diverse reading strategies helps the student in selecting an appropriate strategy for the given reading conditions. Due to the many reading conditions, students need a diverse knowledge of strategies to aid them in their reading.

Self-Regulated Strategy Development (SRSD) are strategies that have been used in many studies teaching reading comprehension to students of many ages. SRSD strategies can be evaluated by using daily probes that are scored which will be done in my study. Some probes such as the study administered by Chalk, Hagan-Burke, and Burke are scored according to amount of time vs quality (2005). One study divided students into a control group and experimental group within an inclusion setting. The control group was given the district-mandated reading instruction while the experimental group was given instruction on a meta-cognitive strategy for reading comprehension. It was concluded by looking at the probe data that being exposed to the meta-cognitive strategy improved reading comprehension (Katims & Harris, 1997). Another study was based with adolescent students with Attention Deficit Hyperactivity Disorder (ADHD). This study showed that the SRSD strategies helped the students with ADHD maintain persistence on tasks due to self-regulation practices (Johnson, 2011). Teaching SRSD strategies to students proves successful in many studies with students with disabilities.

The RAP strategy is an SRSD paraphrasing strategy that is implemented with students who have trouble understanding expository texts. Paraphrasing requires readers to indicate the

main idea and details that accompany that main idea and put the content into their own words (Itler, 2017). The RAP strategy stands for: Read a paragraph, Ask myself "what are the main ideas and details," and Put it into my own words. By teaching the paraphrasing strategy, teachers are wanting to ensure that their students are aware of main ideas and details in text (Itler, 2017). This strategy has been taught to younger students in a pull out setting for a study of this specific reading comprehension strategy. Students were identified by their teachers as having reading comprehension deficits and assigned a pull-out time during reading period. The study staff created lessons for the teachers to use to teach the six distinct steps of the RAP strategy. The study resulted in the improvement of reading comprehension of young students that received the RAP strategy using the SRSD instruction method (Hagaman, Casey, Reid, 2012). The study of the RAP strategy has also been implemented in the middle school setting for students that were at risk for failing reading. This particular study included three students and was designed with a multiple baseline and also used the pull-out teaching method. After receiving the instruction on the RAP strategy using SRSD instruction, the students immediately started to improve their reading comprehension (Hagaman & Reid, 2008). The RAP strategy is implements with students who have trouble understanding expository texts. A study by Itler (2017) consisted of two fourth-grade students that were at frustration-level reading. The design of the study was a multiple-probe design across participants and was conducted in a special education classroom. The effectiveness of the RAP strategy was monitored by short-answer questions that addressed reading comprehension. After the SRSD instruction steps, the RAP strategy proved to be successful for the two students in that they both achieved the criteria level (Itler, 2017).

There have been many studies on the RAP strategy with the SRSD instruction method. However, there is not much research on the effects on the comprehension of high school students

in a higher-level curriculum class. My study will aim to evaluate how the RAP strategy will aid students in the genera education classroom. My study will consist of teaching this mega-cognitive strategy across three different high-school, general education classes that are struggling with reading comprehension. This study will be a multiple baseline design across all three classrooms that are included in the study and will be monitored by daily probes that will assess the various levels of comprehension. Instruction of the RAP strategy will take place during regular instructional time; the students will not be pulled out of classroom instruction time.

CHAPTER III

METHODOLOGY

The current study was to explore the effects of the Self-Regulated Strategy Development (SRSD) RAP strategy with adolescent students in general education high school classes. This study uses a multiple baseline approach. A multiple baseline research design is defined as: A research design that measures two or more settings, subjects, or behaviors simultaneously while comparing the current performance to the baseline data (Askov & Others, 1985. The independent variable that was used in this study was the intervention of the SRSD RAP instruction. Another component of the independent variable was a professional development session that was held to assure that the study staff and the classroom teacher were equipped with the knowledge needed to teach the RAP instruction and observe the instruction. The dependent variable used in the current study was the probes that were given to the students throughout the study to measure their comprehension skills before and after the RAP instruction.

The research questions that guided this study were:

1. What is the effect of the RAP strategy on high school students' reading comprehension of history texts?
2. Can a teacher implement RAP strategy instruction in a high school history setting?
3. Do students' opinion of their comprehension abilities improve or change after they receive RAP strategy instruction?
4. Will the teacher like teaching the RAP strategy and find it effective for her students?

Participants

Three high school general education history classes participated in the current study. The participants in this study gave passive consent to take part in the study. The first class to go through intervention consisted of eight students. One student in this class was a student that spoke English as a second language and another student in this class was classified as gifted. The second class to go through intervention had 23 students. This class consisted of a student with a 504 plan that allowed for accommodations in the general education setting. The final class had 18 students. A student in this class had an Individual Education Plan (IEP) due to hearing difficulties. These three classes were chosen by the classroom teacher because they were having trouble with the "flipped classroom" structure that the classroom teacher was mandated to implement in her classroom. A flipped classroom is defined as: A concept in which students gain first exposure to new material outside of class, and then use class time to dig into the harder work of assimilating that knowledge (Brame, 2013). Therefore, the students were not able to familiarize themselves with the new history material given and take that knowledge with them to the classroom.

Setting

The current study took place in a rural district in a high school on a university campus. The instruction of the RAP strategy was given in a general education classroom. The students participated in the study in their normal classroom environment. There was one teacher in the classroom and no other staff members. The number of students in the classroom varied from class to class.

Research design

The research design used in the current study is a multiple baseline approach. The advantage of a multiple baseline design is that variables can be controlled to indicate that A caused B. After one class went through intervention, the other two classed that participated were re-probed with same level probes as baseline, to ensure that the students were still on baseline level before they began intervention. This design was chosen because it was a validated design that best suited the way that we wanted to transition from class to class throughout the study. This design allowed the study staff to examine one class's performance at a time in relation to the baseline data and the SRSD RAP instruction. The RAP instruction was duplicated across the three classes by having the teacher follow an outline that was created by the study staff to guide her in teaching the RAP strategy. The outline was also used as an inter-observer agreement checkpoint. The classroom teacher checked the outline as she went through the lesson to match the sequence of the outlined instruction to the sequence in which she was teaching. The observer of the study staff also had the same outline and checked the instruction as the teacher went through the lesson. External validity was addressed through re-probing. The students that had not yet gone through intervention were probed before going into intervention to affirm that their skill level was still at the baseline level. This was done to ensure that the intervention caused the skill level to change

The baseline conditions in the current study include that the students are receiving no reading comprehension strategy instruction. The probes to collect baseline data started at the beginning of the school's academic year. The classroom teacher in the current study was teaching solely history content and no reading comprehension instruction. The minimum baseline data points that was collected for the current study was five data points. The baseline

data consisted of six data points for each class. Each class participated in baseline data collection on the same days. All students took the same probes on a given day for baseline data. Each student read the passage and answered questions about that passage the next day to gauge their comprehension levels. The students then read another passage after answering questions on the previous passage in order to be ready for the next set of questions the next day.

The baseline data was examined by the study staff to decide who would first participate in the RAP strategy intervention. According to the baseline results provided in the Appendix, the three history classes needed a reading comprehension strategy. The class order to participate in the intervention was decided by the baseline data. The class with the greatest need for the intervention was the first class to enter the intervention phase. According to the baseline data, period seven was the first class to go through intervention of the RAP strategy. After re-probing, second period was decided to be the next class to move to intervention with period six being last. The targeted baseline pattern was low and stable. The study staff wanted the students to score low to have room for improvement and wanted the baseline to be stable.

Method of data analysis

The data analysis used in the current study was a visual analysis. The data was averaged for the given class and placed on a dot chart to determine visual relationships and trends. During the current study, there were no variables influencing data outside of the classroom. However, one thing that needed to be taken into consideration about the data findings was the resentful demoralization of the students in the study. The students' attitudes were hostile toward the given intervention. The students knew that the probes that they were given were not for a grade and therefore did not strive for their best. The teacher also did not want to take more class time to implement important steps of the research-validated SRSD strategy. The teacher verbally refused

to do one of the important steps in the SRSD strategy because she did not want the instruction of the RAP strategy to occupy any more of her class time. External validity consisted of talking with the classroom teacher throughout the study to ensure that the students were not receiving any outside instruction on reading comprehension. At the time of the study, the students were not receiving any kind of instruction on comprehension strategies but solely content.

Dependent Variable

The scores on the comprehension probes were the dependent variable in the current study. There was a one to one ratio of dependent variable to independent variable. Therefore, there was one dependent variable for one targeted independent variable. The probes consisted of 10 questions that addressed the different levels of Blooms Taxonomy as well as main idea questions. The readability level of these probes was around 50. The dependent variable aimed to measure the improvement of reading comprehension scores on the 10 question probes that were given. The probes used in the current study were pulled from the "Timed Readings" books, (Spargo, 2989). These probes were also used in a study by Hua et al. The study used these expository texts from the "Timed Reading" books due to their consistent length and readability (Hua, Woods-Groves, Ford, & Nobles, 2014). The readability of the probes ranged from 9.0-12.0 using the Flesch Kincaid Grade Level readability scale. The readability of the textbooks that were used in the classroom for grade-level instruction ranged from 11.0-13.5, according to the Flesch Kincaid Grade Level scale. Therefore, the comprehension probes used and the classroom textbooks all varied in readability levels. The results of the probes were calculated in percentages to produce quantifiable results.

Independent Variable

The RAP instruction in the current study served as the independent variable. The RAP instruction was formulated by the study staff and implemented by the classroom teacher. Lesson plans were created by the study staff. Checklists of critical points were made from these lesson plans to give the teacher. Along with these check points, a script was created for the teacher to follow. The instruction was given in a five-day sequence that broke up the strategy into parts. The instruction was broken down into: learning how to find the main idea, learning how to find details, learning how to paraphrase, practicing how to put it all together, and a review and follow up. The objective for each part of the sequence was evaluated by practice paragraphs that the teacher chose. The teacher chose these passages to ensure that the paragraphs were relevant to the standards and on the students' reading levels.

A professional development session was held for the classroom teacher and the study staff. The professional development session was an hour and twenty minutes. The session allowed of the study staff and the classroom teacher to practice the RAP strategy together. The study staff and the classroom teacher took turns practicing how to explain and implement the RAP strategy by using practice passages. The professional development session was filmed to show to the members of the study staff who could not attend the professional development session.

Scaffolding was the teaching strategy that was used throughout instruction. The students participated by focusing on the day's lesson and practicing a few paragraphs with their teacher. Then the students used the practice paragraphs with a partner to work on the lesson's target.

Finally, the teacher had the students practice the focus of the lesson on their own. In the current study, the teacher used the instruction to first model the given objective for the lesson and then scaffolded the students to independence. On the first day of the RAP instruction, the students focused on memorizing the steps of the SRSD RAP strategy. The second and third days of instruction, the teacher modeled to the students how to find the main idea and details and then had the students try to find these parts on their own. The forth and fifth day consisted of the same procedure in which the teacher modeled how to paraphrase and then let the students try the skill on their own.

Procedures

Data for the current study was collected during the school week Monday through Friday to ensure repeated measure. The baseline probes were collected every day for one week Monday through Friday. The probes took around 30 minutes per day of class time. The probes were given one time to the classes that were not receiving instruction during instruction time for the class receiving the RAP instruction. The teacher implemented the RAP instruction in this study with the guidance and observance of the study staff. Refer to Appendix A for the RAP instructional outline for the five day instruction period. After the week of RAP instruction, data was collected for one week Monday through Friday after the instruction was complete. Each class participated in post-intervention probes that mimicked the baseline probes. However, the history content of the probes differed. One maintenance probe was given to all three classes a few weeks after the conclusion of the study to collect data on the maintenance of the RAP strategy. The study staff oversaw the collection of data. The probes were collected each day and scored. After the probes were graded, the probes were taken back to the teacher to give the graded probes back to the

students the following day. This method ensured that the students were seeing their scores on the probes and following their own improvements.

Materials

The teaching materials in the current study consisted of lesson plans and checklists created by the study staff. The lesson plans were provided to the classroom teacher to show how the objective in the lesson should be met. The checklists were provided with scripts for the teacher as she taught the given content. The checklists consisted of main points that the implementor must cover in the lesson. Observers of the study staff used these same checklists to validate the implementation of the RAP instruction in the given lesson. The script in the checklists followed the lesson plans and used the language needed to portray the instruction in a systematic fashion.

The classroom teacher implemented the independent variable to her three history classes included in the study. The teacher implemented the RAP strategy instruction with the materials given to her by the study staff. The teacher selected the paragraphs that her students would use to practice during the instruction. She chose these passages based on reading levels and what the students would need to learn for the history class content.

The independent variable was manipulated by the experimenter if the instruction of the RAP strategy was not being comprehended by the students in the given class. The RAP instruction was designed to be systematic and build on each lesson. However, if the students were not understanding a component of the strategy instruction, the instructional materials would be manipulated. These materials would be manipulated by discussing with the classroom teacher

to understand what part of the instruction was not fulfilling the objective of the lesson. Observers during the study could also bring about issues that were seen when observing, which would also call for manipulation of the RAP instruction materials. The materials would be modified to re-try another approach to help make sense of the content to the students in the given class. Extra days could have been taken to review a concept if needed, according to the classroom teacher's discretion on the students' understanding. The teacher monitored this understanding by the use of the practice paragraphs that she has chosen during class.

The amount of time needed to implement the independent variable is at least five days. The task analysis calls for five days of approximately 30 minutes of instruction on the RAP strategy.

Inter-rater Reliability

The inter-rater reliability was addressed in this study through the grading of the probes. Thirty percent of the probes were graded by two different members of the study staff to compare grading. The criterion for acceptability was 95%. The inter-rater reliability was calculated with the formula: Number of intervals agreed / number of intervals agreed + number of intervals disagreed x 100.

Procedural Reliability

Procedure reliability was addressed by observation of the classroom teacher as she was teaching the RAP strategy. The teacher was observed two times per week by a trained member of the study staff. The criterion for acceptability was 90% of the lesson was taught correctly and shown by checkmarks of the observer and the teacher. Additional professional development sessions would be needed if the guidelines for the criterion were not met.

Social Validity

A social validity measure was provided before the study and after all classes had received the RAP instruction. The social validity measure was provided to get the perceptions of the students and teacher before and after the study. The social validity measure consisted of two separate surveys. One survey was filled out by the teacher before and after the study. The questions on this survey address the teacher's thoughts of her students' reading comprehension before and after the RAP instruction as well as her thoughts on the effectiveness/efficiency of the strategy for her students. The other survey was filled out by the students. The questions on this survey address the students' thoughts on their reading comprehension skills before and after the RAP instruction.

CHAPTER IV

RESULTS

The purpose of this study was to extend the research of the use of reading comprehension strategies to aid adolescent students. The reading comprehension strategy was taught in the students' regular setting and during their scheduled class time. The intervention was delivered by a general education teacher to three of her general education history classes. The intervention was planned to take five days of instruction to implement. However, some classes took longer than others to grasp components of the RAP strategy than others. The planed unit of instruction was designed to be completed in five days. However, the teacher extended some of the lessons across two class periods.

The following research questions guided this study:

5. What is the effect of the RAP strategy on high school students' reading comprehension of history texts?
6. Can a teacher implement RAP strategy instruction in a high school history setting?
7. Do students' opinion of their comprehension abilities improve or change after they receive RAP strategy instruction?
8. Will the teacher like teaching the RAP strategy and find it effective for her students?

Inter-Observer Agreement (IOA) and Instructional Fidelity

Inter-observer agreement (IOA) for comprehension probe scores and instructional fidelity for RAP strategy instruction were assessed throughout the baseline and intervention phases.

Comprehension Probes

Comprehension probes were collected during baseline and after intervention. The Inter-scorer agreement was assessed through the grading of the probes. The lead researcher independently graded all baseline and intervention probes, and the probes that were given to each class. Another member of the study staff scored 30% of the probes to compare scores. The process for collecting and grading probes was: Collected probes, photocopied, graded, photocopied the graded probes, and another person of the study staff would grade the clean photocopy. The comprehension probes were returned to the class on the same day to give back to the students. This allowed them to see their progress and the answers that they missed. Each probe was graded twice with a clean copy to detect grading errors. The probes consisted of 10 multiple choice questions that were teamed with answer keys that were used for grading. The percent of IOA was calculated by finding the quantity of agreements divided by the number of agreements plus disagreements and multiplied the answer by 100 (Hawkins & Dotson, 1973). The IOA comprehension probes was 100%. There were no errors due to the undisputed format of the probes.

Instructional Fidelity

Instructional fidelity was addressed by checklists. During the intervention phase, the classroom teacher and the researcher utilized a checklist of essential lesson plan components. To measure instructional fidelity, a member of the study staff observed the classroom teacher deliver the intervention. The essential lesson plan components were checked as the teacher executed them. The instructional fidelity was calculated by finding the quantity of agreements divided by the number of agreements plus disagreements and multiplied the answer by 100 (Hawkins & Dotson, 1973). Out of all observations throughout the three class periods, there were only six

disagreements between the classroom teacher and the observer. At the end of each observed lesson, the classroom teacher was informed of what was checked and not checked according to the observer's observations. If the classroom teacher skipped a step, the observer would help correct the omission for the upcoming lessons.

Period 7 Results

Period 7 (P7) was the first class to go through the intervention phase due to the deep slope in their baseline probe scores, shown in Figure 1. P7 consisted of eight students. One student in this class was an English second language learner and another was identified as gifted. During baseline and intervention phases, most of the students were present without many absences.

The students in P7 participated in five consecutive baseline data probes. The class's performance is illustrated in Figure 1. The class average on the five baseline probes was 68.2% accuracy. P7 then received the RAP strategy instruction intervention, and then participated in eight post-intervention probes. Visual analysis of the graph shows an instant and steady increase in the average of the probe scores. However, the seventh probe drops by five points and then returns to a higher average. The post-intervention probes average to a score of 75.3%.

One maintenance probe was administered eight weeks after the final day of instruction, and the class average on the single probe for P7 was right above the goal of an 80% class average.

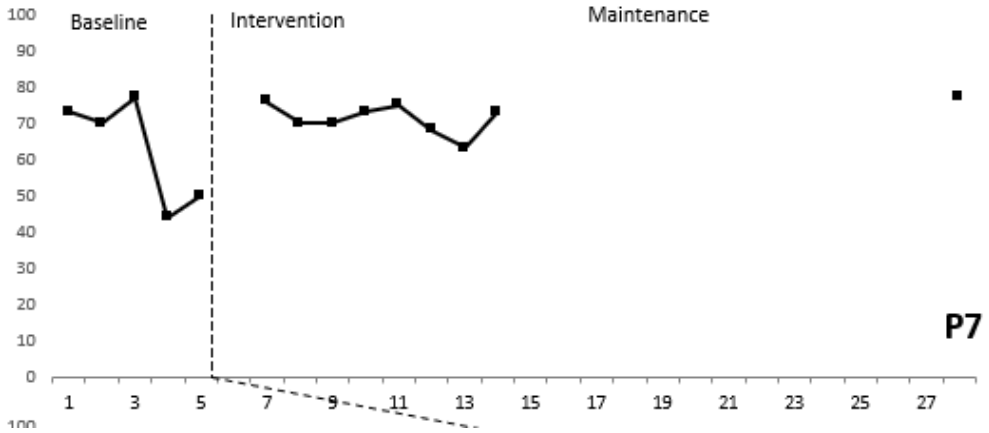

Figure 1. Multiple baseline data on probe score averages for Period 7.

Period 2 Results

Period 2 (P2) was the second class to enter the intervention phase due to a steady decline in their baseline probe averages, shown in Figure 2. P2 consisted of 23 students. One of the students in P2 had a 504 plan that allowed for accommodations in the general education setting. During baseline and intervention phases, most of the students were present without many absences.

The students in P2 participated in five consecutive baseline probes. The class's performance is illustrated in Figure 2. The class average for the five baseline probes had an accuracy of 71%.

P2 also participated in three intermediate baseline probes before they began the intervention instruction. These probes were given following P7 intervention, as shown in Figure 2. Across these three intermediate baseline probes, the class average was 63.3%.

P2 then received the RAP intervention followed by eight post-intervention probes. Visual analysis of the graph shows a fluctuation of the class average post-intervention probe scores. The post-intervention probes calculated to a class average of 79.9%.

One maintenance probe was administered and the class average on the single probe four weeks after the final day of instruction, for P2 was just above 90%.

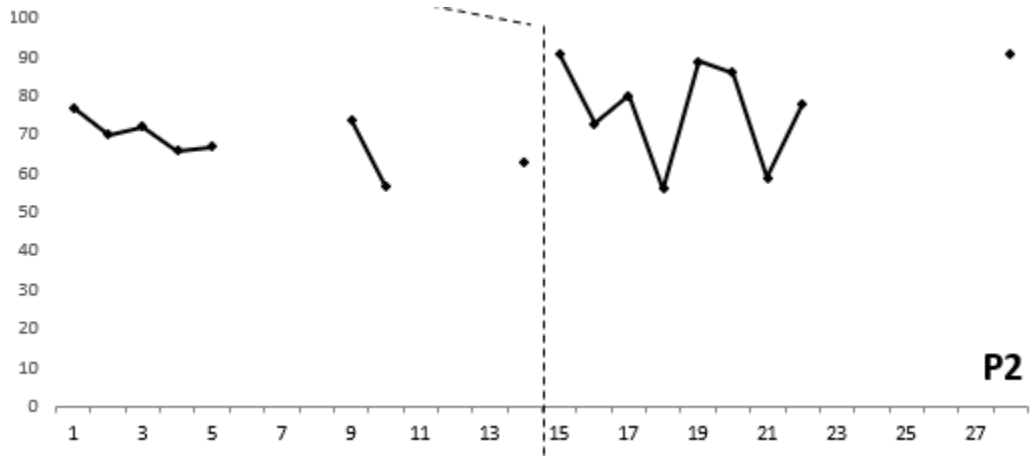

Figure 2. Multiple baseline data on probe score averages for Period 2.

Period 6 Results

Period 6 (P6) was the third and final class to enter the intervention phase. P6 consisted of 18 students. A student in this class had an Individual Education Plan (IEP) due to hearing difficulties. During baseline and intervention phases, most of the students were present without many absences.

The students in P6 participated in five consecutive baseline probes. The class's performance on these baseline probes is illustrated in Figure 3. The class average on the five baseline probes was 69.9%.

P6 also completed six baseline intermediate probes. These probes were administered while P7 and P6 were going through the RAP instruction and post-intervention probes, as shown in Figure 3. The mean score for these six intermediate baseline probes combined was 56.3%.

P6 then received the RAP strategy instruction followed by four post-intervention probes. Average class scores are illustrated in Figure 3. The class average for these four post-intervention probes combined is 79.75%.

One maintenance probe was administered two weeks following the last day of intervention and the class average on the single probe across P6 was just under 90%.

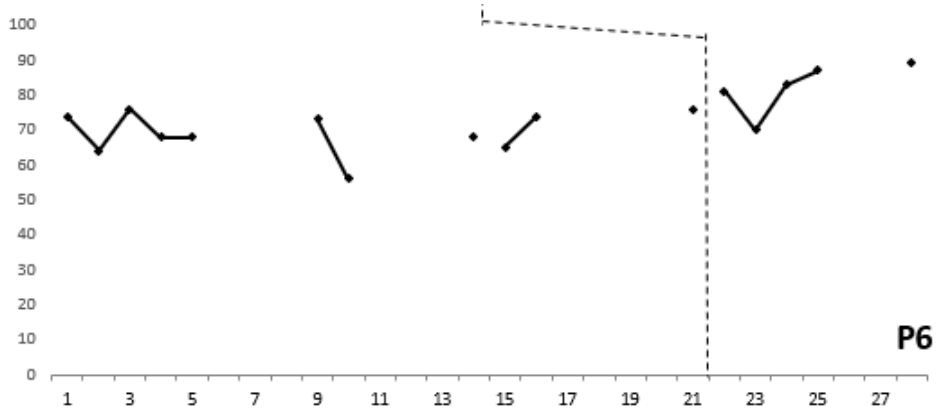

Figure 3. Multiple baseline data on probe score averages for Period 6.

Social Validity

In the current study, social validity was addressed by surveys. The study staff used two separate surveys. One survey was for the students and the other was for the teacher. The students completed the same six-question survey both before and after the intervention. This survey addressed how the students felt about their reading comprehension in history and if they had a strategy that could help them decode their history texts. See Appendix C for the questions that were included in the student survey. Each question had the following choices: Strongly agree,

Agree, Neutral, Disagree, and Strongly Disagree. There was a greater number of students who participated in the pre-intervention survey than the post-intervention survey. Refer to Appendix B for results of the pre versus post-intervention surveys. According to the students' answers on the survey, the students were confident in their ability to decipher between the main idea and details of a passage on the pre-intervention survey and they were even more confident in the post-intervention survey. The students' survey questions are found under Appendix C. For example, on question two of the student survey, 10% of students strongly agreed that they could find the main idea in a history passage. The percent for the same question on the post-intervention survey was 22%. Question four of the student survey focused on paraphrasing history texts. Students that strongly agreed and agreed averaged to 55%. However, the students that strongly agreed and agreed on the post-intervention survey rose to 63%. Question one on the student survey focused on the students' confidence in comprehending their history texts. The pre-intervention survey showed that 68% of students were confident in their ability to comprehend their history texts by answering strongly agree or agree. The post-intervention survey showed that 76% of students were confident in their ability to comprehend history.

The social validity measure for the classroom teacher was also a checklist that was given only after all three history classes had gone through intervention. The classroom teacher's survey consisted of 12 questions, see Appendix C for the questions that were included in the teacher's survey. Each question had the following choices: Strongly agree, Agree, Neutral, Disagree, and Strongly Disagree. According to the classroom teacher's responses, she was satisfied with the way that the three classes responded to the intervention. The classroom teacher also answered that she was fond of the RAP strategy as a reading comprehension strategy that her students could use effectively.

Research Question 1

What was the effect of the RAP strategy on high school students' reading comprehension of history texts?

The students in all three history classes participated in the social validity survey that was given before and after the study. All three history classes showed some growth but also regressed on the post-intervention probes. According to the charted data, there was no distinct upward trend on the averages of the probes given after the RAP intervention. The post-intervention probes were given for consecutive days. P7 had the most consistent data after the intervention stage. According to the charted data, there were no steep declines. However, there is a small decline in the averages on probe seven for P7. The average class score for P7 was between 80% and 65%. P2's averages fluctuated between 91% and 56% without any distinct pattern of progress. On post-intervention numbers one, five, and six, P2 performed with a class average around 89%. However, there were steep declines in the class averages on post-intervention probe two, four, and seven. P6 averaged between 87% and 70%. P6 scored the highest on their last post-intervention probe. However, the class average decreased on probe two. According to the charted data, the last two post-intervention probes were increasing in average.

According to question one on the pre-intervention survey, multiple students were not confident that they could comprehend their history texts. However, the post-intervention survey showed that more students were confident that they could comprehend their history texts. The amount of students who were confident in their comprehension of history texts before the RAP intervention was 68%. The quantity of students who were confident in their comprehension of history texts after the RAP intervention was 76%.

Research Question 2

Can a teacher implement RAP strategy instruction in a high school history setting?

The high school history teacher implemented the RAP strategy in her classroom. The RAP strategy was implemented after baseline was collected. However, the post-intervention probes were not significantly different. Therefore, a teacher can implement this strategy but its degree of success could be indecisive.

Research Question 3

Do students' opinion of their comprehension abilities improve or change after they receive RAP strategy instruction?

This research question is supported by Question six of the student social validity survey, see questions in the survey in Appendix C. More students participated in the pre-intervention survey than the post intervention survey due to class rotations after a break period. According to the charted data, fewer students had negative thoughts about comprehending their history texts before the RAP intervention than after. Questions one, two, and three address how the students feel about comprehending their history texts in general and finding the main idea and details in a text. All three questions increased in the number of students that agreed that they were confident in all three areas that the questions addressed. Therefore, the students felt more confident to find the main idea and details in their history texts after the RAP instruction was administered.

Research Question 4

Will the teacher like teaching the RAP strategy and find it effective for her students?

The teacher completed the post-intervention social validity survey. As reported by the survey, the teacher was satisfied with the RAP comprehension strategy. Refer to Appendix C to reference the questions that were asked on the social validity survey. Appendix B shows the teacher's answers on the survey. The teacher responded with agree to 10 questions and responded strongly agree to two questions.

CHAPTER V

DISCUSSION

High school curriculum requires an ample amount of comprehension on specific course content. Reading comprehension is one of the most vital academic skills that students need to learn (Buxton, 2017). Therefore, students need to be confident in reading a passage and recalling main ideas and details because this is a skill that will be generalized across grades and subjects. However, this skill is not addressed in secondary education. As students get older, it is implied that they are able to excel in the skill of reading comprehension. The current study focused on the skill of reading comprehension in a general education high school history class. The current study uses the RAP strategy instruction to address the reading comprehension skill of high school students.

The high school history class teacher in the current study was concerned about her students' ability to read class content for homework and discuss the content the next day in class. The students were claiming that they could not comprehend the material what was assigned to them the night before. Prior to the intervention phase of the study, baseline comprehension probes were given simultaneously to all classes. In contrast to the teacher's beliefs, the students performed at a high level on the comprehension baseline probes. Therefore, the class averages of the probes were hard to improve as the scores were high before the intervention. The high baseline averages brought about questions to the study staff. Were the students more interested in the content on the comprehension probes? The comprehension probes consisted of different content than what the students were learning in class due to the teacher's preference. The students may have been more interested in this content than what they were learning in class. Were the comprehension probes more feasible than what was being assigned for homework? If

the homework was too long, were the students reading the assigned content? The comprehension probes were approximately one page in length. However, the reading homework that was being assigned was longer in length. If the reading assignments given for homework were too lengthy, the students might have claimed that they read but did not. These factors could be reasons why the classroom teacher was seeing a deficit in her students' reading comprehension skills.

The single-subject research design required multiple probes without consequence or reinforcement. Students at the high school level are reluctant to complete a task repeatedly without any reinforcement or consequence. If there is no reward, students are intrinsically motivated to do the task (DeLamarter & Krepps, 1980). This is the ideal scenario for teachers, for students to be intrinsically motivated for all tasks they are given. However, if students do not have consequences or reinforcements, they may not be willing to put in as much effort in a task. The baseline probes were given to all three classes, five days in a row. The students were not given an explanation to what the comprehension probes were for and why they were completing them daily. During this time, the students questioned the purpose of the probes and were becoming reluctant to participating in completing the comprehension probes. Due to tests and other assignments in the students' class load, the students had a lot on their plates to focus on. Therefore, the comprehension probes were something that was not for a grade which made the students hesitant to put forth their best effort. In future studies, a different research design may be more fitting for the high school population.

The RAP strategy uses the SRSD stages to be facilitated to students. There are six SRSD stages. The stages are as follows: Develop Background Knowledge, Discuss it, Model it, Memorize it, Support it, and Establish Independent Practice. In the current study, not all SRSD steps were implemented. A SRSD strategy requires progress monitoring by the students. This

allows them to see their own progress both before and after the RAP strategy intervention. The SRSD stages were not fully implemented because the students did not chart their own progress throughout the study. The participants may have been more motivated if they had charted their progress to give them a visual of growth in their comprehension probe scores. The stages were not executed because the classroom teacher did not want to devote anymore class time to the current study. The teacher was concerned that the study was taking too much time away from preparing students for material necessary for the end-of-course exams. Therefore, not all SRSD stages were implemented in the current study.

The high school history curriculum and the comprehension probe content were kept separate in the current study, due to the classroom teacher's request. The comprehension probes focused on historical topics but were not related to the curriculum that needed to be covered for the high school history course. In future studies, the comprehension probe material could be relevant to the material that the students are learning in the class. This also would have improved the aspect of time in the current study. If the probes were directly related to the course content, the classroom teacher could have used the probes as an introductory to topics that the students would be learning in class. However, this would have taken an ample amount of planning with the classroom teacher. In future studies, using curriculum-based content for the comprehension probes could save time during the study and give the students more exposure to topics that need mastered.

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Appendix A

RAP Instructional Outline-Five Day Instructional Period

RAP: A Self-Regulated Strategy Development (SRSD) Strategy for Reading Comprehension

Just an idea for title: The effects of the RAP paraphrasing strategy on students' comprehension of social studies passages

SRSD Stages that need to be addressed:

Stage 1: Develop background knowledge

- Collect baseline data
- Ensure students have prerequisite skills *(Can we get some standardized assessment data on the students?)*
- Justify use of the strategy; *Share comprehension baseline/pretest data with students; convince them to agree that they need the strategy*

Stage 2: Discuss it (Introduce the strategy)

- How RAP can help students
- When and how to use RAP
- Reinforce staying committed and making positive self-comments while using the strategy
- Self-monitoring while using RAP

Stage 3: Model it

Show the students:

1. The thinking process used by skilled learners:
    a. What am I being asked to do?
    b. What strategies do I know that can help me?
    c. What do I need to do first?
    d. Am I using all the strategy steps?
    e. Have I met all my goals?
2. The steps in the RAP strategy
3. Why the steps are necessary

Stage 4: Memorize it

Students memorize the steps of the RAP strategy

Read a paragraph
Ask myself, "What is the main idea?" and "what are the details?"
Put it in my own words

Stage 5: Support it

Model and provide guided practice on each part of the strategy (identify main idea, identify details, summarize the paragraph in your own words)

Stage 6: Establish Independent Practice

- This is the generalization and maintenance stage
- Consider continued use of the strategy across several days within the classroom (e.g., using planned content material)
- Include periodic review of the strategy during class instruction *(how will this affect the study?)*
- Generalization: Assign and support homework readings

Timeline:

1 week for baseline (Stage 1)

Instruction

1 Day: Develop background knowledge, Discuss it, Model it, and Memorize it (Stages 1-4)

- ❖ Share baseline data, class contract
- ❖ Explain why RAP is important and how/where they can use it (generalize)
- ❖ Pass out/give examples of positive self-comments
- ❖ Cue card fill in blank notes?

1 Day: Teach how to find the main idea using modeling and guided practice (Stage 5)

1 Day: Teach/Add how to find the details. Include a review and practice of finding the main idea (Stage 5)

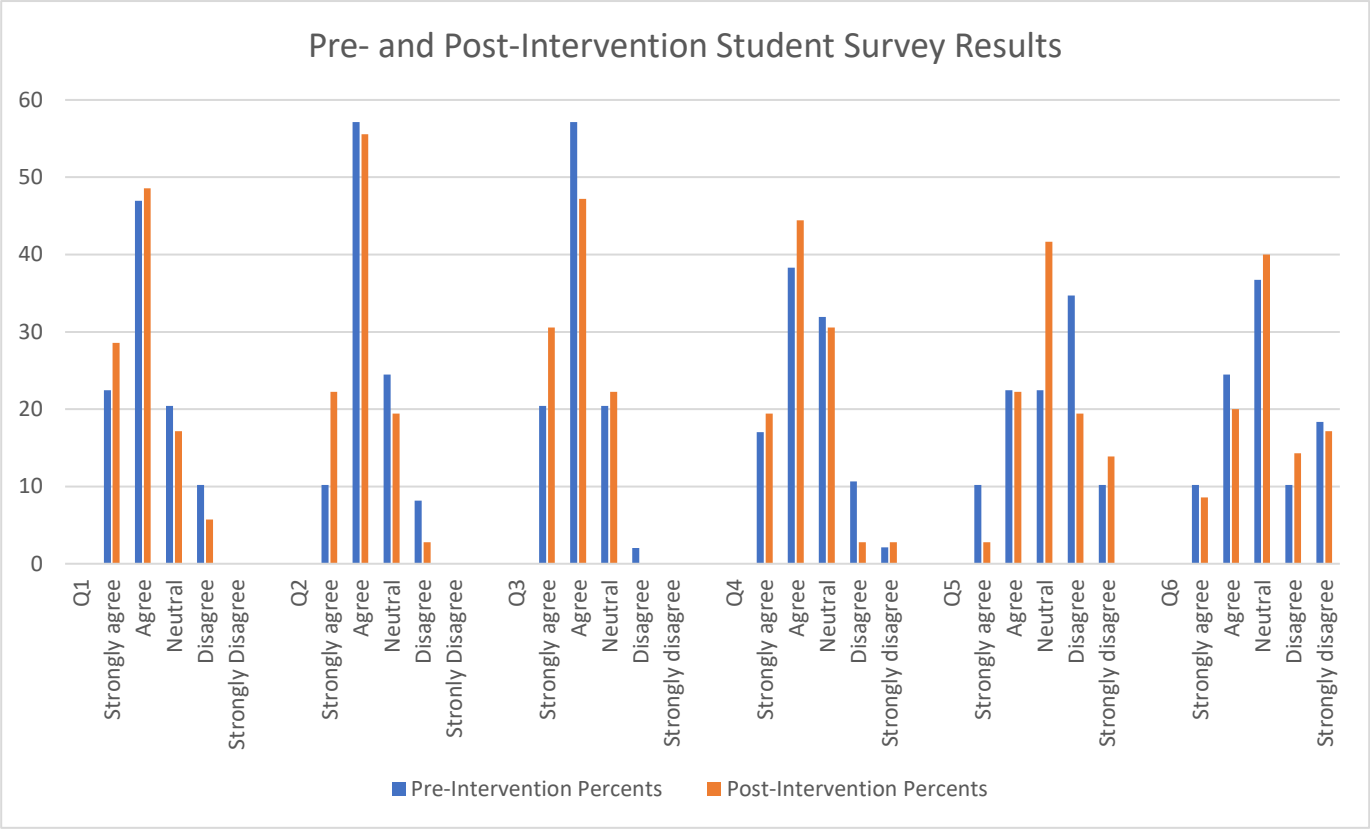
2 Days: Teach how to summarize (put it in your own words). Include a review and practice of finding the main idea and details (Stage 5)

Week following Instruction:

- Generalize to reading homework (Stage 6)
- Review and reinforce students' use of the RAP strategy at the beginning of each class period

Appendix B

Pre Versus Post-Intervention Social Validity Surveys Chart



Teacher Social Validity Survey Responses

Question 1	Agree
Question 2	Strongly Agree
Question 3	Agree
Question 4	Agree
Question 5	Agree
Question 6	Strongly Agree
Question 7	Agree
Question 8	Agree
Question 9	Agree
Question 10	Agree
Question 11	Agree
Question 12	Agree

Appendix C

Social Validity Survey Questions: Teacher and Student

Social Validity Questionnaire (Student Form)

Date:_____

This questionnaire consists of 6 items. For each item, you need to indicate the extent to which you agree or disagree with each statement. Please indicate your response to each item by circling one of the five responses to the right.

	Questions	Responses				
1.	I can comprehend my history texts.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
2.	I can identify the main idea in each paragraph within my history texts.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
3.	I can identify some details in each paragraph within my history texts.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
4.	When reading history texts, I can summarize each paragraph in my own words.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5.	I use a strategy to help me comprehend my history texts.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
6.	I have positive thoughts about reading my history texts.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

Social Validity Questionnaire (Teacher Form)

Teacher: _____ Date:_____

This questionnaire consists of 12 items. For each item, you need to indicate the extent to which you agree or disagree with each statement. Please indicate your response to each item by circling one of the five responses to the right.

Questions	Responses				
1. The RAP comprehension strategy was successful in helping students comprehend history texts.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
2. The comprehension reading probes used in this study were appropriate for the students.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
3. The instruction used to introduce the strategy, "Discuss It Phase," with the students was helpful.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
4. The instruction used to model the strategy, "Model It Phase," was helpful.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5. The instruction used to aid the students in memorizing the strategy, "Memorize It Phase," was helpful.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
6. The instruction used to teach students how to find the main idea was helpful.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
7. The instruction used to teach students how to find details and summarize a paragraph was helpful.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
8. There was a change in the student's responses after implementation of the RAP comprehension strategy.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

9.	I noticed meaningful improvements in students' attitude towards reading history texts.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
10.	I noticed meaningful increases in the student's ability to engage in reading homework assignments.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
11.	I believe that the instructional time needed to teach the RAP comprehension strategy is adequate to the beneficial outcomes.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
12.	I am interested in continuing to use the RAP comprehension strategy in my history classes.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree