

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



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Who We Are

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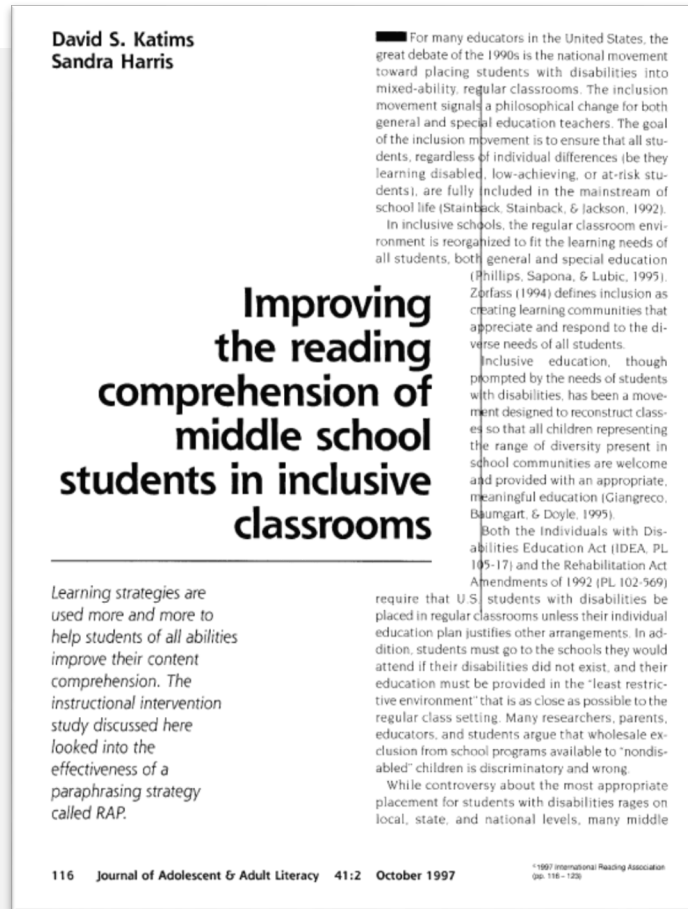
Why did we do the study?

- The general education high school history teacher was concerned about her students' reading comprehension.
- The students could not recall what they read for homework the night before.
- The history teacher wanted to implement a “flipped classroom” (reading is assigned for homework and more class time is devoted to activities and inquiry).

Related Research

Katims & Harris (1997)

- 7th grade general education reading class
- Experimental vs. control group research design
- Participants - 207 students from 10 parallel classes
- The RAP strategy and SRSD were taught and practiced over 15 sessions across 6-weeks period
- Pre and posttests included passages from *Timed Readings* with 10 multiple choice comprehension questions
- Statistically significant results showing the strategy improved comprehension from pretest to posttest
- Students in the experimental group gained 17% compared to those in the control group who gained 3.5%

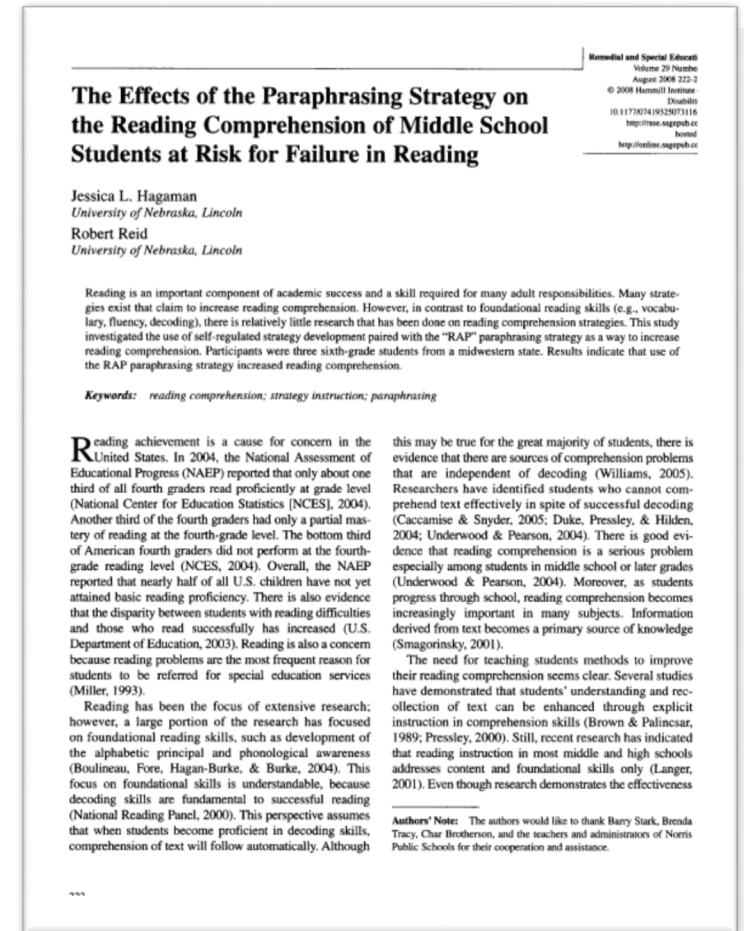


Katims, D. S., & Harris, S. (1997). Improving the reading comprehension of middle school students in inclusive classrooms. *Journal of Adolescent & Adult Literacy*, 41(2), 116-123.

Related Research

Hagaman & Reid (2008)

- 6th grade reading enrichment program
- Single-subject research design
- Participants - 3 sixth grade girls ranging in age from 12-13 identified as “struggling”
- RAP strategy and SRSD implemented using a retelling checklist
- Probes originated from a grade-level ESL social studies textbook
- "Betty" and "Katie" increased main idea recall by 700%
- "Helen" increased main idea by 192% and detail recall by 317%



Hagaman, J. L., & Reid, R. (2008). The effects of the paraphrasing strategy on the reading comprehension of middle school students at risk for failure in reading. *Remedial and Special Education, 29*(4), 222-234.

Related Research İlter (2017)

- 4th students who scored below 40% on a cloze test
- Single-subject research design
- Participants - 3 boys ranging in age from 10-11
- RAP strategy and SRSD implemented twice weekly with a 1 to 1 student-teacher ratio
- "Murat" improved by 340% from baseline to intervention
- "Mahmut" improved by 400% from baseline to intervention.
- "Vedat" improved by 471% from baseline to intervention.

İlter, İ. (2017). Improving the reading comprehension of primary-school students at frustration-level reading through the paraphrasing strategy training: A multiple-probe design study. *International Electronic Journal of Elementary Education*, 10(1), 147-161.



School Setting

- Services grades K-12
- Located on a university campus
- 531 students total
- 16 to 1 student-teacher ratio
- 100% graduation rate
- 12% minority enrollment



Population

- The study took place in a small city in a rural part of the South East U.S.
- Population ~ 65,000
- Poverty rate 22%.
- Predominantly white > 80%



RAP Paraphrasing Strategy

Make an encouraging statement

Read a Paragraph

Ask yourself, “What is the main idea and what are two details?”

- Main Idea
 - Ask yourself, “What is the paragraph about?”
 - Use this statement: “This paragraph is about _____.”
- Details
 - Ask yourself, “What information in this passage tells me more about the main idea?”

Put the information into your own words.

- Look away from the paragraph
- State the main idea in my own words
- Add important details

End with a positive statement



SRSD Stages

Stage 1: Develop background knowledge

- Justify use of the strategy.
- Share comprehension baseline/pretest data with students.
- Set goals to improve reading comprehension.

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 (e.g., students will cue themselves to use the RAP strategy when they are reading difficult history materials).



SRSD Stages Continued



Stage 3: Model it

Show the students:

- The thinking process used by skilled learners.
- The steps in the RAP strategy
- Why the steps are necessary.

Stage 4: Memorize it

Students memorize the steps of the RAP strategy:

- R - Read a paragraph.
- A - Ask myself, “What is the main idea?” and “what are the details?”
- P - Put it in my own words.

Stage 5: Support it

- Model and provide guided practice on each part of the strategy

Unit Plan – 1 Week of Instruction

- Lesson 1: RAP Overview
- Lesson 2: Finding the Main Idea
- Lesson 3: Finding the Details
- Lesson 4: Put it in Your Own Words (Summarize)
- Lesson 5: Generalizing RAP to Class History Materials



5-Day Unit of Instruction

Scripted Lessons

Incorporates:

- SRSD Stages
- RAP strategy steps

Important Instructional Components Boldfaced and Checked for implementation Fidelity

Day 1: Introduce the RAP Strategy

- SRSD Stages 1-4
- Develop background knowledge
- Discuss it
- Model it
- Memorize it

Day 2: Finding the Main Idea

- SRSD Stages 3, 4, & 5
- Model it
- Memorize it
- Support it

5-Day Unit of Instruction

Scripted Lessons

Day 3: Finding the Details

- SRSD Stages 3, 4, & 5
- Model it
- Memorize it
- Support it

Day 4: Put the Information into Your Own Words

- SRSD Stages 3, 4, & 5
- Model it
- Memorize it
- Support it

Day 5: Generating the RAP Strategy to Class History Readings

- SRSD Stage 5
- Support it

Day 2: Finding the Main Idea

Objective: When given a paragraph, students will be able to state the main idea of the paragraph, with teacher supports, in three out of three trials.

_____ ✓ **Begin with a review from lesson one**

Ask students to define, name, and identify the following:

[Elicit student responses.]

- Define paraphrasing
- What is the name of the strategy you can use to help with paraphrasing? [RAP]
- Name the steps in RAP
- Define Main Idea
- Define Details
- To find the **main idea**, what question do you ask yourself? [*"What is the paragraph about?"*]
- What statement do you use to state the main idea? [*"This paragraph is about _____."*]
- How do you paraphrase or put the information in your own words? [*To put it in your own words, you look away from the paragraph, make a statement about the main idea of the paragraph, and then tell all the details that you can remember.*]
- What are some encouraging statements that you can tell yourself before and after you read the passages?

Instructional Procedures

_____ ✓ **State the Purpose of the Lesson**

Today we are going to talk about main idea and expand on the A step of our RAP strategy. By the end of class today, you should be able to read a paragraph and state the main idea of the paragraph.

_____ ✓ **Define Main Idea**

Scripted Lesson Example Day 2

JAMESTOWN  EDUCATION

Timed Readings Plus *in Social Studies*

BOOK 8



25 Two-Part Lessons with Questions for
Building Reading Speed and Comprehension

Probes

Jamestown Education. (2004). *Timed readings plus in social studies, Books 7, 8, & 9. 25 two-part lessons with questions for building reading speed and comprehension.* New York: Glencoe/McGraw-Hill.

Example Probe

4

A

Powerful First Ladies

The title “First Lady of the United States” is given to the wife of the nation’s president. The duties of most First Ladies have included arranging and attending social functions, such as state dinners. As the president’s wife, the First Lady is in a highly visible position. Therefore, her behavior can make her a role model. She can change people’s thinking by supporting a favorite cause. The First Lady also has access to influential people, including the president. Many First Ladies have used their position and skills to draw attention to, and change, social and other policies, and sometimes events have forced a First Lady to take a prominent role in leading the country.

First Lady Edith Wilson assumed many of her husband’s duties after a stroke in 1919 left Woodrow Wilson weak and partly paralyzed. For many months she decided who could see him, determined which issues required his attention, and passed on other matters to members of his staff. Some people called her the Secret President, and many praised her for her judgment.

After polio limited her husband’s mobility, Eleanor Roosevelt worked tirelessly on his behalf. Franklin Delano Roosevelt began his presidency during the Great Depression. Both he and his wife cared deeply about helping the unemployed and providing relief for the needy. As First Lady, she went places he could not go, traveling widely and reporting to him what she saw and heard. She visited protesting war veterans, coal miners in Appalachia, slum dwellers, and sharecroppers; she also inspected government relief projects. During World War II she traveled abroad as America’s goodwill ambassador.

Believing that it was vital to inform the public about the president’s and her own thoughts and actions, Eleanor Roosevelt was the first presidential wife to hold press conferences. As First Lady, she gave lectures and radio talks and wrote articles. She began writing a newspaper column titled “My Day,” which shared her views on social, political, and other issues. Thousands of people wrote to her, asking for help. When she could not answer a letter personally, she forwarded it to the appropriate government agency to answer.

Eleanor Roosevelt was an outspoken supporter of civil rights and worked to end prejudice. She urged women to be politically active and supported programs to aid jobless women. As a result of her influence, there were more women than ever before working in a president’s administration.

Recalling Facts

1. A First Lady can change people’s thinking by
 - ☐ a. attending social functions.
 - ☐ b. supporting a favorite cause.
 - ☐ c. having an understanding of world affairs.
2. Edith Wilson assumed many of her husband’s duties
 - ☐ a. because he was so busy.
 - ☐ b. when he went away on trips.
 - ☐ c. after a stroke left him weak and partly paralyzed.
3. Some people called Edith Wilson
 - ☐ a. the Second Wilson.
 - ☐ b. the Secret President.
 - ☐ c. Mrs. E. W. President.
4. Eleanor Roosevelt was the first presidential wife to
 - ☐ a. work.
 - ☐ b. travel abroad.
 - ☐ c. hold press conferences.
5. According to the passage, as a result of Eleanor Roosevelt’s influence, more women than ever
 - ☐ a. were unemployed.
 - ☐ b. worked in a president’s administration.
 - ☐ c. were involved in social-advocacy work in their hometowns.

Understanding Ideas

6. One can infer that one reason the First Lady is powerful is that she
 - ☐ a. attends state dinners.
 - ☐ b. can influence the president’s actions.
 - ☐ c. has experience and advanced degrees that others do not.
7. Edith Wilson and Eleanor Roosevelt both
 - ☐ a. aided their husbands.
 - ☐ b. championed special causes.
 - ☐ c. wrote articles in newspapers that influenced the public.
8. In contrast to Eleanor Roosevelt, Edith Wilson
 - ☐ a. was outspoken on social issues.
 - ☐ b. assumed many of her husband’s duties.
 - ☐ c. traveled widely around the globe.
9. One can infer that people wrote to Eleanor Roosevelt for help because
 - ☐ a. she was wealthy.
 - ☐ b. she was outspoken.
 - ☐ c. they believed that she would help them.
10. One can conclude that one cause Eleanor Roosevelt supported was
 - ☐ a. clean air.
 - ☐ b. women’s rights.
 - ☐ c. national health care.

Research Design and Rationale



- Multiple baseline across classes research design
- Participants - 3 high school history classes taught by the same teacher
- Established stable baseline for all of the classes prior to treatment
- The start of treatment conditions was staggered
- Purpose for starting RAP strategy instruction at a different time with each class is to demonstrate that any changes in comprehension were due to the treatment (instruction) rather than to a chance factor.
- A multiple baseline design is also suitable since it most commonly used when the dependent variable is not expected to return to normal after the treatment has been applied. The dependent variable (class comprehension averages) was not expected to return to normal after RAP strategy instruction was given.

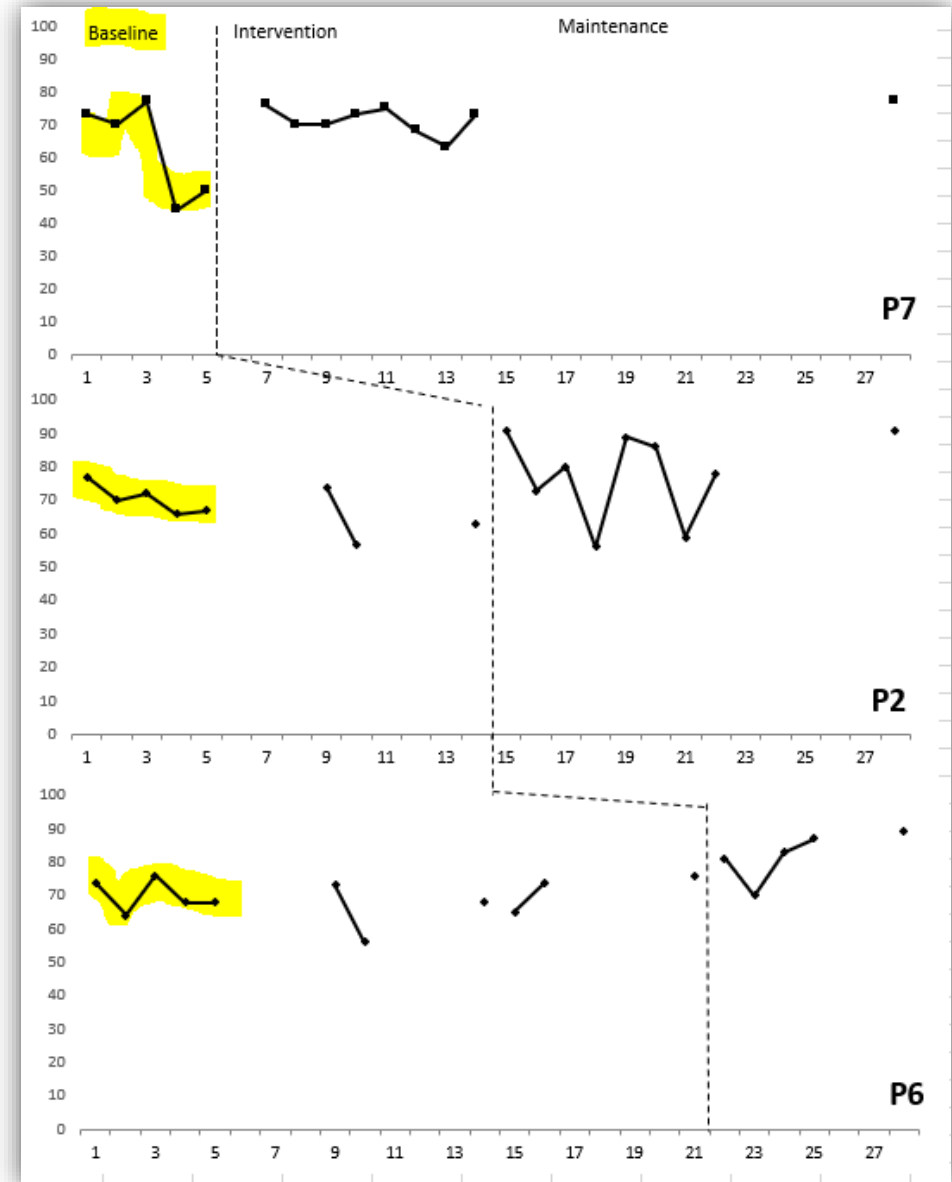
Data Collection Procedures



- Baseline probes were conducted across the 3 classes.
- The students read a passage on the first day. The following day, they took a 10-question probe based on the passage.
- The probes were collected, copied, then graded, the class average was analyzed, then copies of the graded probes were returned to students.
- After treatment (RAP instruction), the same probe process was used to gather post treatment data.

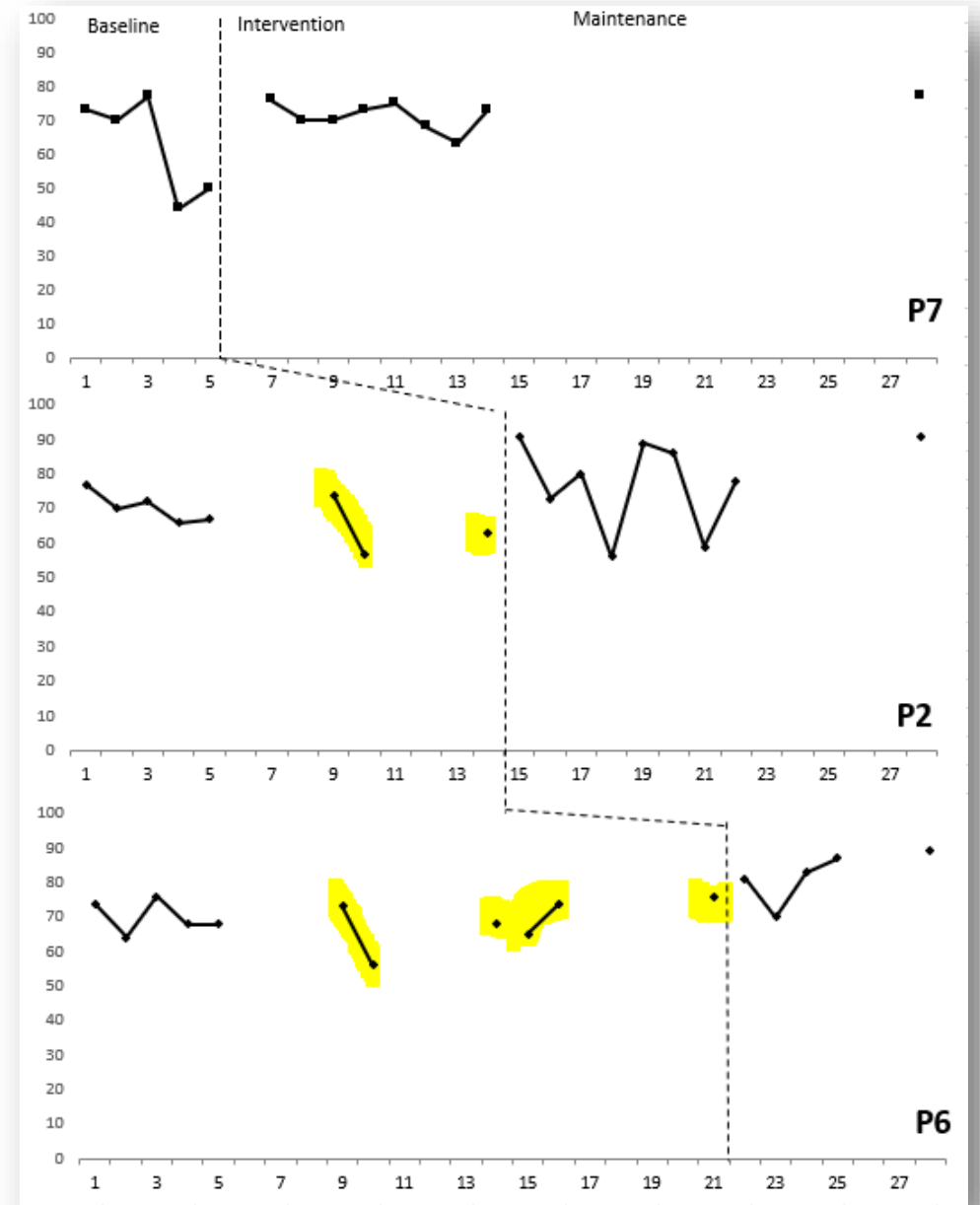
Baseline Data

- The baseline data collected for all classes simultaneously.
- Period 7 selected to receive intervention first due to the largest decline in the baseline data.



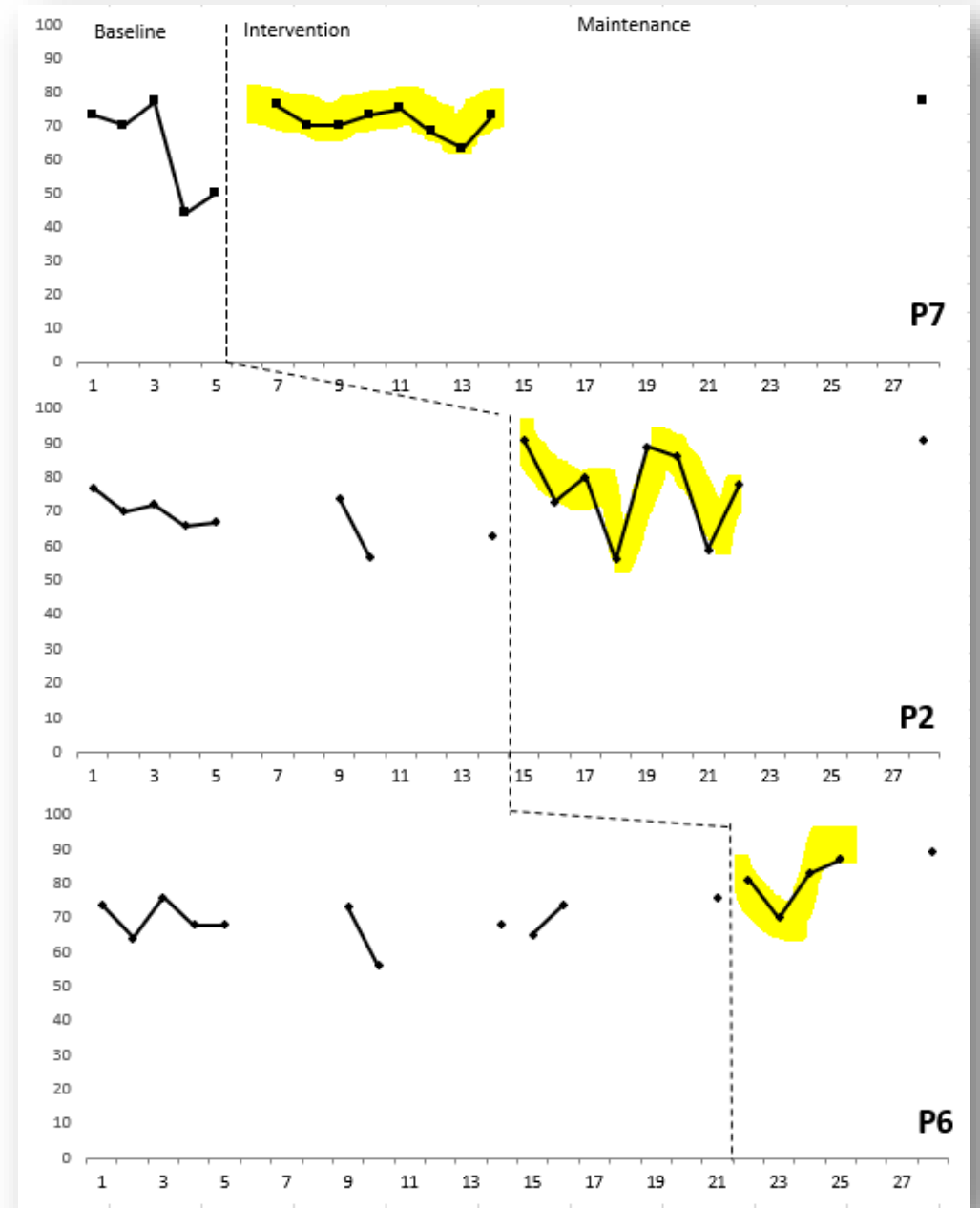
Intermittent Baseline Probes

- Administered to the two classes that were not in intervention.
- Administered to ensure that there were no outside influences affecting the students' reading comprehension skills during the study.
- Administered twice a week for the classes that were not yet in the intervention stage.



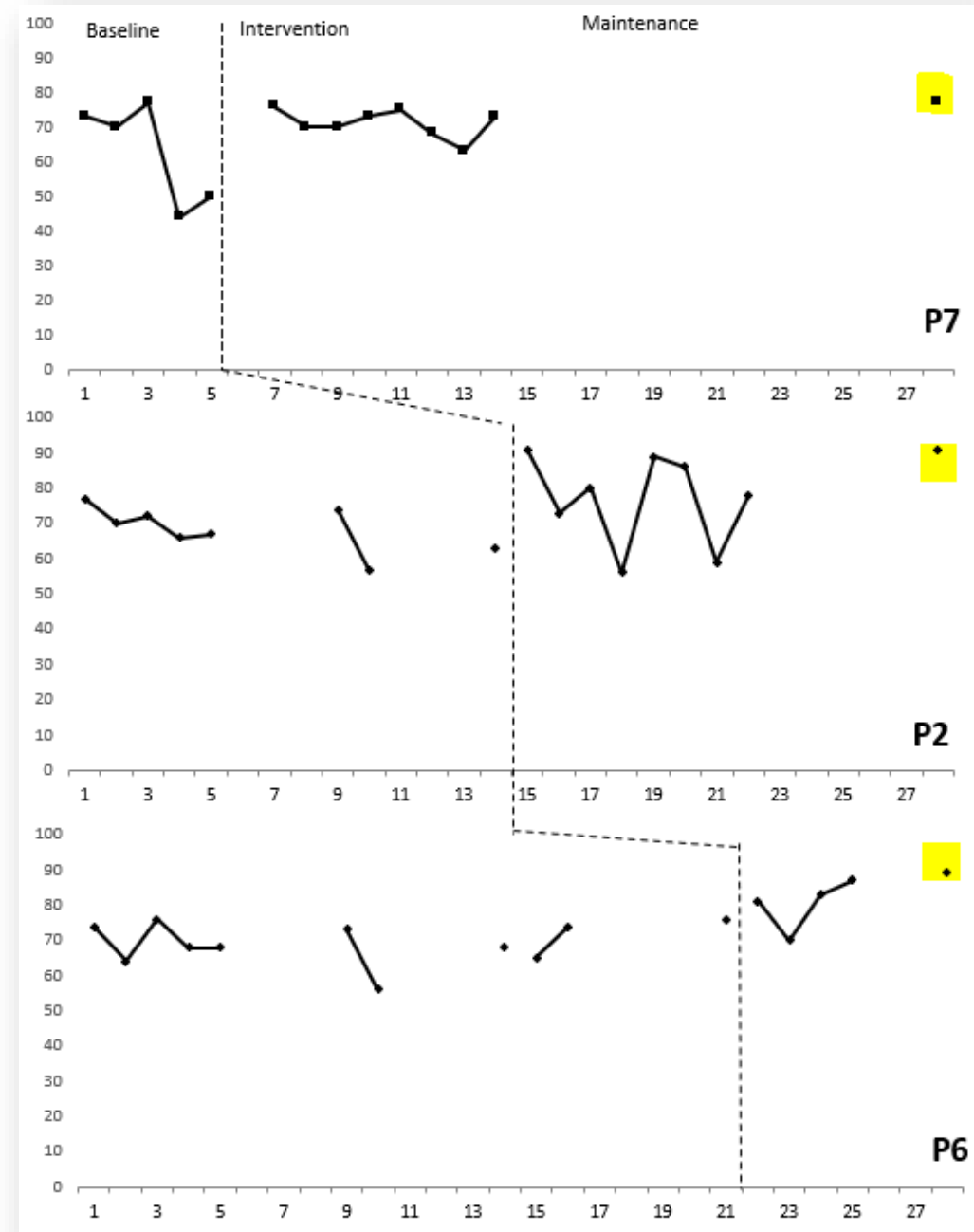
Post-Intervention Probes

- The post-intervention probes show the class averages of the reading comprehension probes after the RAP strategy intervention.
- These probes were administered right after the RAP strategy instruction was completed.



Maintenance Probes

- The maintenance probes administered to check the students' preservation of the RAP strategy.
- The maintenance probes administered to all three classes on the same day.



Social Validity Surveys

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

Teacher Social Validity Survey

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

Student Social Validity Survey

Social Validity Questionnaire Results - Teacher



1. The RAP comprehension strategy was successful in helping students comprehend history texts. **Agree**
2. The comprehension reading probes used in this study were appropriate for the students. **Strongly Agree**
3. The instruction used to introduce the strategy, "Discuss It Phase," with the students was helpful. **Agree**
4. The instruction used to model the strategy, "Model It Phase," was helpful. **Agree**
5. The instruction used to aid the students in memorizing the strategy, "Memorize It Phase," was helpful.
Agree
6. The instruction used to teach students how to find the main idea was helpful.
Strongly Agree

Social Validity Questionnaire Results - Teacher



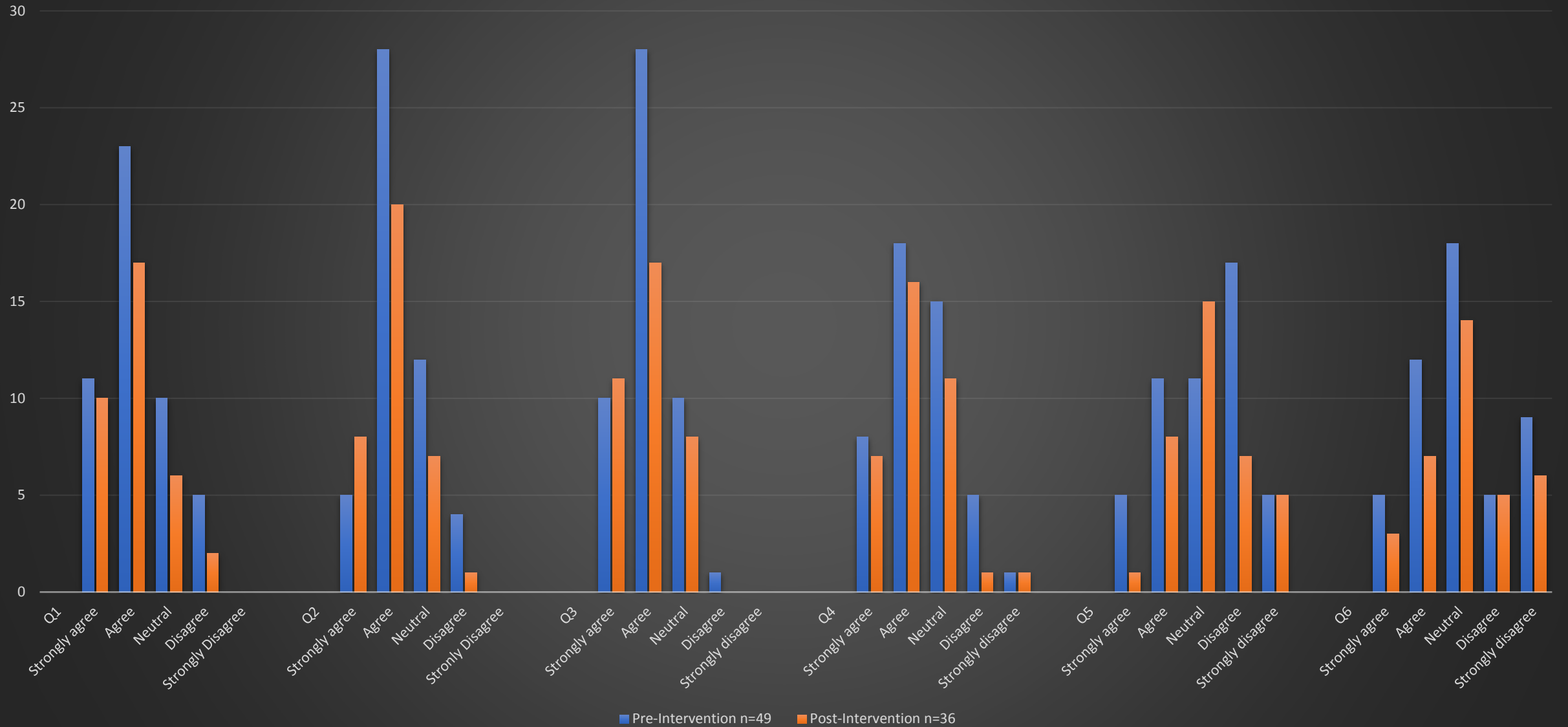
7. The instruction used to teach students how to find details and summarize a paragraph was helpful. **Agree**
8. There was a change in the student's responses after implementation of the RAP comprehension strategy. **Agree**
9. I noticed meaningful improvements in students' attitude towards reading history texts. **Agree**
10. I noticed meaningful increases in the student's ability to engage in reading homework assignments. **Agree**
11. I believe that the instructional time needed to teach the RAP comprehension strategy is adequate to the beneficial outcomes. **Agree**
12. I am interested in continuing to use the RAP comprehension strategy in my history classes. **Agree**

Social Validity Questionnaire - Student

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



Pre- and Post-Intervention Student Survey



Discussion Points

Problems/Issues with Study

- Multiple probes was not ideal for population
- Comprehension baseline data were high
- SRSD was not fully implemented
- Probes Related to History Curriculum



Multiple Probes Was Not Ideal for Population

- Single subject research design required multiple probes without reinforcement or consequence or reinforcement.
- Students questioned the purpose of the probes during baseline.



Comprehension Baseline Data Were High

The teacher said the students lacked comprehension, but after looking at the data, the comprehension probes were high for baseline

- Could this discrepancy be related to teaching tactics?
- Could the students have had a higher interest in the probes, versus their history book?
- Could the discrepancy be related to the length of the probes versus the length of their nightly reading?

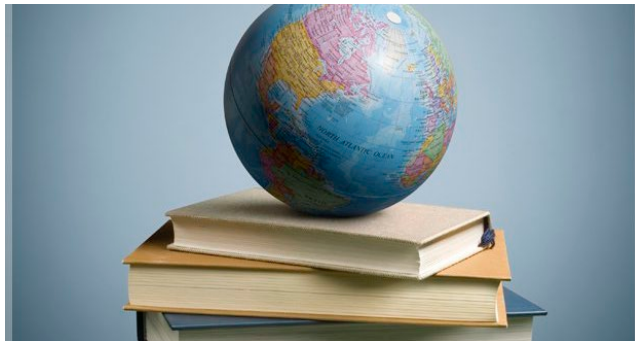
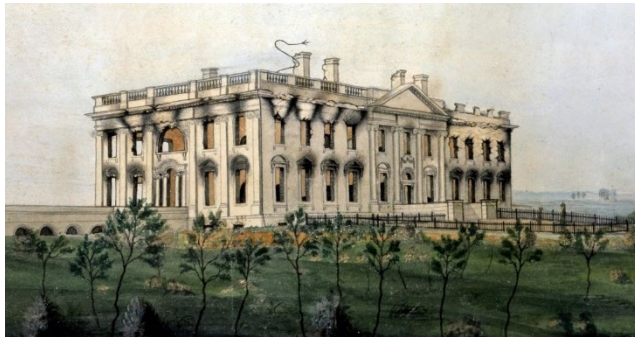


SRSD Not Fully Implemented

The teacher did not want to devote any more class time to the study. She was concerned it was taking too much time away from preparing students for material necessary for end of course exams.

- The SRSD strategy requires progress monitoring by the students.
- The complete SRSD strategy design was not fully implemented because students did not track/chart their own progress through the experiment.
- The students may have been more invested if they had tracked their progress.





Probes Directly Related to History Course Content

In order to account for time and provide relevant materials, the probes could have been related to the high school history curriculum.

The teacher informed us she wanted to keep it separate each time we suggested this option.

- Linking the probes to the content could be useful in future studies.
- It would have taken significant planning with the teacher.



Questions?