Does The Use Of Pre-designed Graphic Organizers In Reading Instruction Increase Boys' Engagement And Level of Comprehension?

An Action Research Project
IBSC Conference 2006
Johannesburg, South Africa

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The Adventure Begins

- In February, 2005 the IBSC Board of Trustees launched an action research initiative as an expression of its mission to promote the professional growth and collaboration of teachers and staff in its member schools.

- Boys and Reading was chosen as the area of inquiry for the first year of the initiative.

- On-line applications were submitted and two international teams were selected in April, 2005

Action Research Teams

Action Research Coordinator
Mary Gauthier, Upper Canada College
Toronto, Canada

Team 1
Boys and Reading Grades 3-4

- **Julie Haas**
  Fourth grade teacher,
  St. Albans School
  Washington DC, USA
- **Maddy Ross,**
  Third grade teacher
  The Ridge School,
  Johannesburg, South Africa
- **Susan Droke**
  Head of Lower School
  Presbyterian Day School
  Memphis, TN, USA

Team 2
Boys and Reading Grades 8-9

- **Anita Heriot**
  Haverford School
  Philadelphia, PA, USA
- **Di Laycock**
  Barker College
  Sydney, Australia
- **Alan Thompson**
  St. John's College
  Johannesburg, South Africa
- **Peter Wiles**
  Brighton Grammar School
  Melbourne, Australia

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The Adventure Begins

■ Under the direction of Action Research Coordinator Mary Gauthier, the teams began to communicate through email.

■ The teams finally met in person June 25, 2005 prior to the IBSC Conference in Washington DC.

■ Action Research plans for each team were developed.

What is Action Research?

"Action research is any systematic inquiry conducted by teacher researchers, principals, school counselors, or other stakeholders in the teaching/learning environment to gather information about how their particular schools operate, how they teach, and how well their students learn. This information is gathered with the goals of gaining insight, developing reflective practice, effecting positive changes in the school environment (and on educational practice in general), and improving student outcomes and the lives of those involved. Action research is done *by* teachers *for* themselves."

(Mills, 2003, p.26)

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Why Action Research For Teachers?

- Every teacher needs professional growth opportunities

- Professionals should be significant agents in organizational learning

- Collaboration enriches professional development

(Osterman and Kottkamp, 1993)

Why Action Research For Schools?

- To document boys' learning in the context of classrooms

- To make more informed decisions about how we teach boys

- To include the professional work of teachers in school planning

- To sustain improvement in schools

(North Central Educational Laboratory)

Engaging In Action Research

Step One

Identify an area of inquiry

- Met in Washington DC as a team to discuss the project and focus on boys and reading

Step Two

Develop a precise research question

(June 2005)

- Does the use of pre-designed graphic organizers in reading instruction increase boys' engagement and level of comprehension?

Boys And Reading

Michael W. Smith and Jeffrey D. Wilhelm in *Reading Don't Fix No Chevys: Literacy in the Lives of Young Men* identify the following gender differences that affect literacy instruction:

- Boys take longer to learn to read than girls do.

- Boys read less than girls.

- Girls tend to comprehend narrative texts and most expository texts significantly better than boys do.

- Boys tend to be better at information retrieval and work-related literacy tasks than girls are.

Boys And Reading

- Boys generally provide lower estimations of their reading abilities than girls do.

- Boys value reading as an activity less than girls do.

- Boys have much less interest in leisure reading than girls do, and are far more likely to read for utilitarian purposes than girls are.

- Significantly more boys than girls declare themselves to be non-readers.

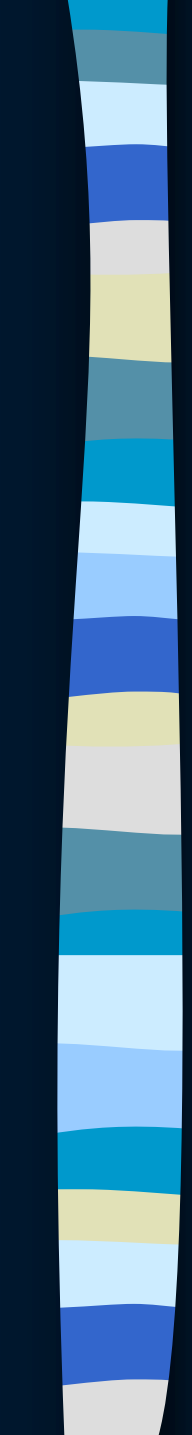- Boys . . . express less enthusiasm for reading than girls do.

(Smith and Wilhelm, 2002)

The Process In Action

Step Three

Review relevant literature and publications

(July-September 2005)

- Formed on-line discussion groups
- Shared resources and provided research summaries
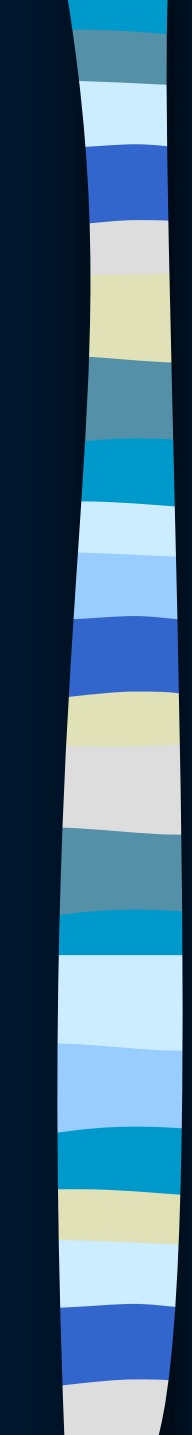- Received support from the Research Coordinator

Literature Reviews
Research on Graphic Organizers

- "In general, beginning in early childhood and continuing throughout the human life span, males tend to prefer symbolic texts – diagrams, symbols, emblems, graphs, charts-more than females…"

  (Gurian, 1998,p.184)

- "A graphic organizer is a visual representation of knowledge. It is a way of structuring information, of arranging important aspects of a concept or topic into a pattern using labels. A graphic organizer promotes active learning"

  (Bromley, 1995, p.6)
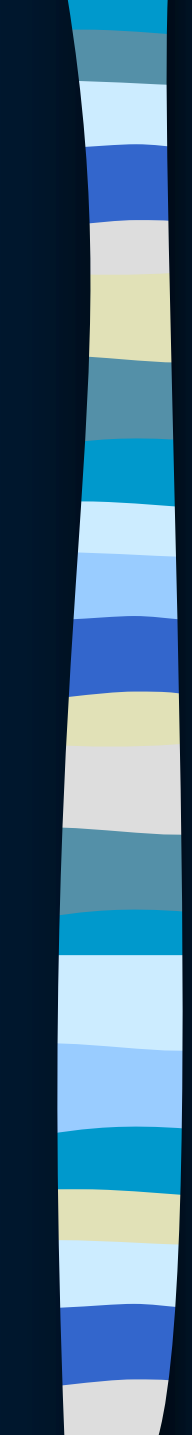
Literature Reviews
Research on Graphic Organizers

- In the book *Classroom Instruction That Works,* Robert Marzano identifies the use of graphic organizers as one of nine research-based strategies that can increase student achievement.

- "Graphic organizers are perhaps the most common way to help students generalize nonlinguistic representations… Actually, graphic organizers combine the linguistic mode in that they use words and phrases, and the nonlinguistic mode in that they use symbols and arrows to represent relationships."
(Marzano, 2001, p. 75)

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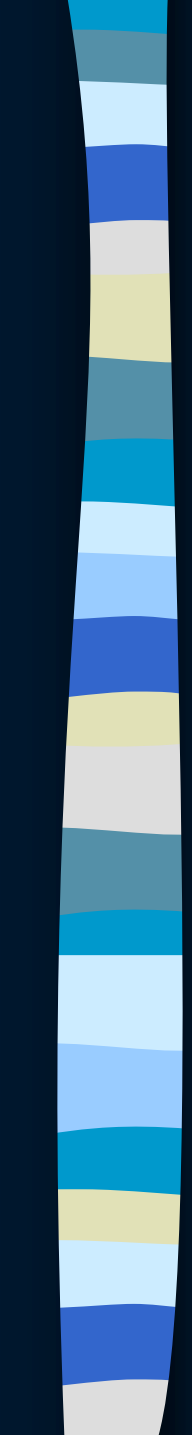
Literature Reviews
Research on Graphic Organizers

Marzano also identifies six types of graphic organizers that can be of use in the classroom

- Descriptive Patterns
- Time-Sequence Patterns
- Process/Cause-Effect Patterns
- Episode Patterns
- Generalization/Principle Patterns
- Concept Patterns

(Marzano, 2001)

Literature Reviews
Research on Graphic Organizers

- The National Reading Panel (2000) cites graphic organizers as one of seven categories of instruction that are the most effective in the improvement of reading comprehension. The report states that "the rationale for the explicit teaching of comprehension skills is that comprehension can be improved by teaching students to use specific cognitive strategies or to reason strategically when they encounter barriers to understanding what they are reading"

(NRPR, 2000)

The Process In Action

Step Four

Develop a research plan and a method for collecting data

(September 2005-March 2006)

- Developed and shared ideas for our research plan through email
- Developed methods for gathering data
- Agreed to timeline for sharing progress
- Implemented plan

Our Research Plan

- Each class will read four novels.
- Two novels will be taught with graphic organizers.
- At the beginning of these two novels each boy will receive a pre-designed "big picture" graphic organizer to use throughout the book.
- Two novels will be taught without the "big picture" graphic organizer.
- At the end of each novel comprehension will be assessed in two ways:

  a teacher-created end-of-book test

  a written summary of the book assessed with a common rubric.
- Boys will also be asked to reflect on the use of graphic organizers.

Pre-designed Graphic Organizer

Story Planning Map
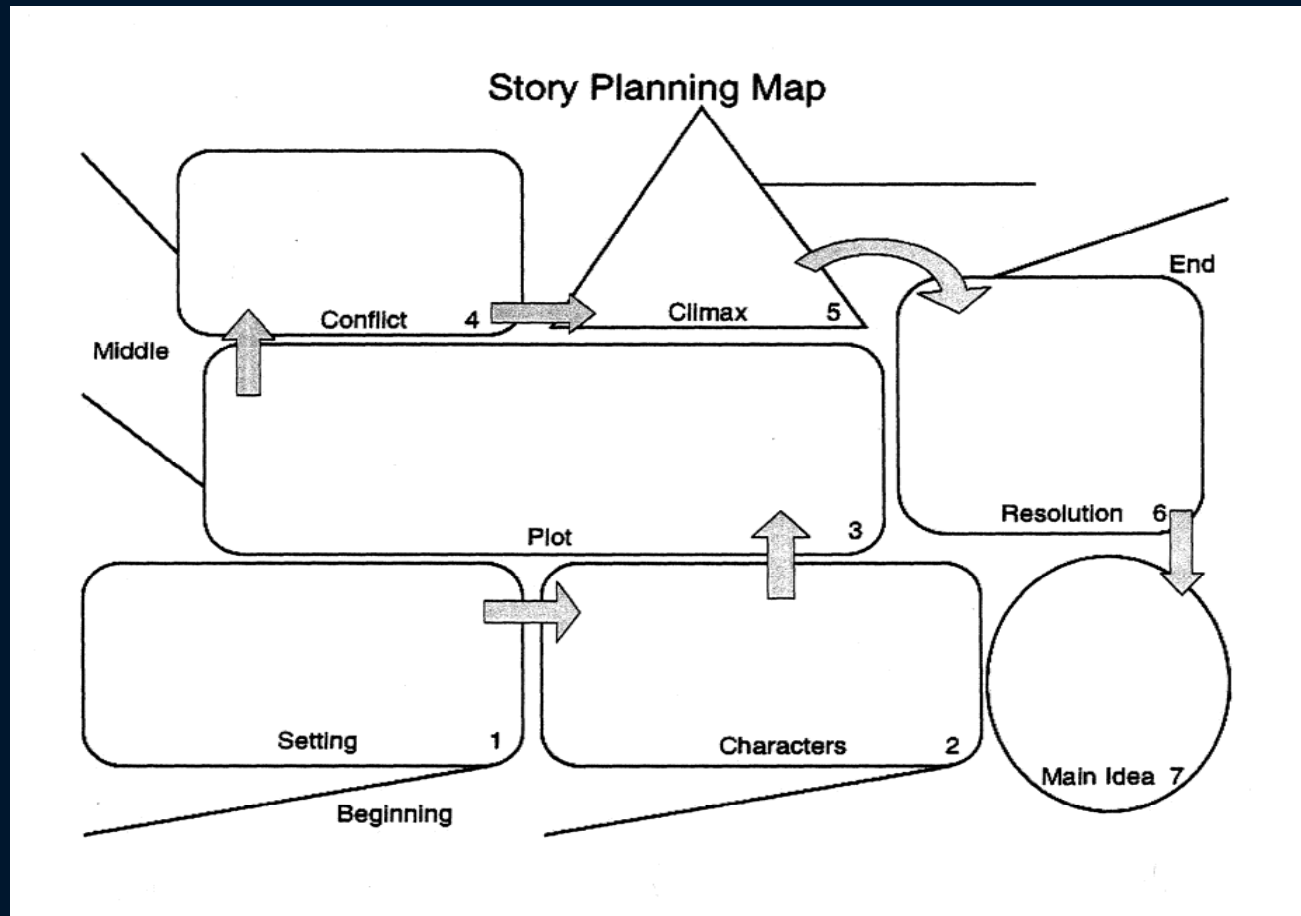
The Process in Action

Step Five

Collect and analyze data

(April-May 2006)

- Learned about ways to analyze data

- Discussed data gathering tools

- Analyzed data

The Process In Action

Step Six

Develop an action plan

(May-June 2006)

- Shared data analysis through email
- Planned presentation
- Reflection
- Based on what I have learned, what should I do now?

Our Research Projects
## Presbyterian Day School
Memphis, TN

- The 17 boys in Shelley Clifford's third grade class read the following books:

  Stone Fox

  Mr. Popper's Penguins

  A Cricket in Times Square

  The Whipping Boy

- The first and last books were taught without graphic organizers

- The second and third novels were taught with graphic organizers
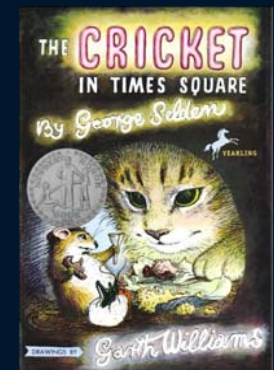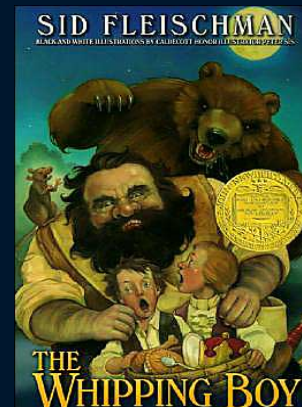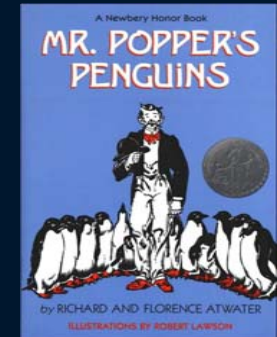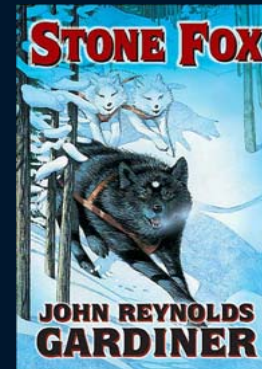
Book pictures found at www.barnesandnoble.com
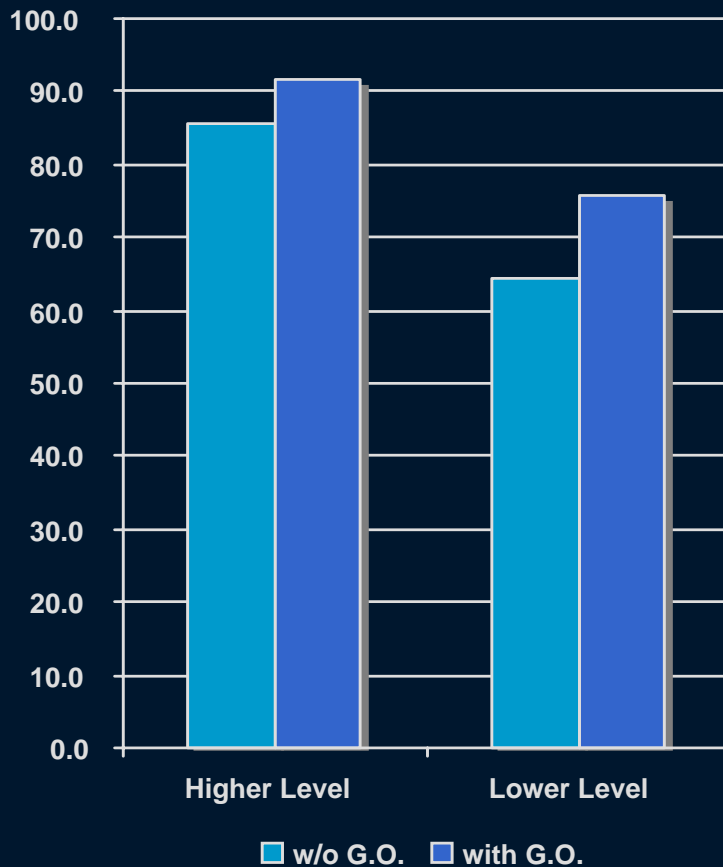
Our Research Projects
Presbyterian Day School
Memphis, TN
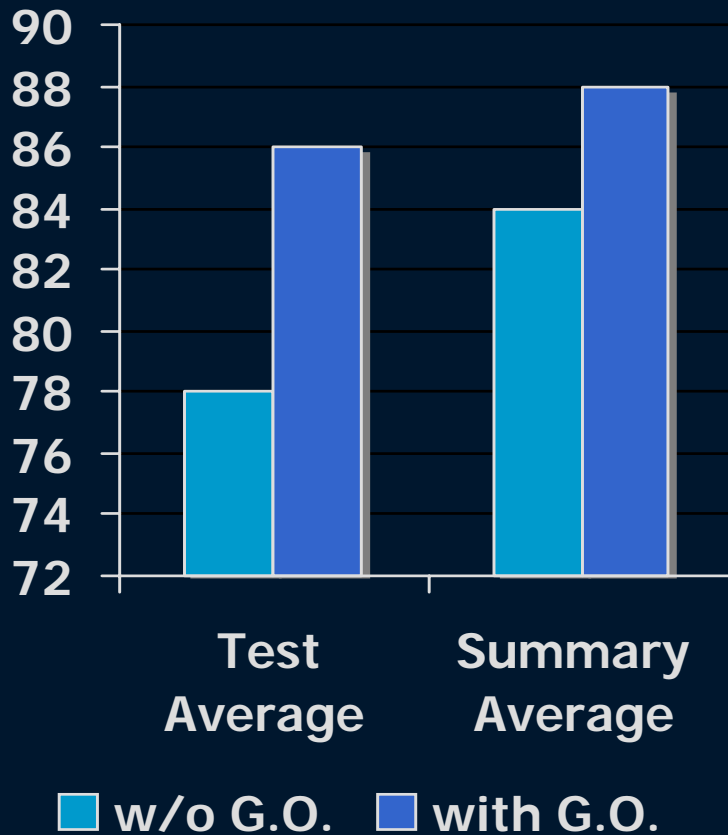
- The average test score for the books taught without graphic organizers was 78%.
- The average test score for books taught with graphic organizers was 86%.
- The average score on the summaries of the books taught without graphic organizers was 84%.
- The average score on the summaries of the books taught with graphic organizers was 88%.

Our Research Projects
Presbyterian Day School
Memphis, TN

- Students answered 85.5% of the higher level test questions correctly on books taught without graphic organizers.
- Students answered 91.5%of the higher level test questions correctly on books taught with graphic organizers.
- Students answered 64.5% of the lower level test questions correctly on books taught without graphic organizers
- Students answered 75.7% of the lower level questions correctly on the books taught with graphic organizers.

Our Research Projects
Presbyterian Day School
## Memphis, TN

Additional Findings

- 12 out of 17 boys' averages on the end of book tests increased when using graphic organizers.

- 10 out of 17 boys' scores on the summaries increased when using graphic organizers.

- In reading response journals 16 out of 17 students indicated that using graphic organizers was helpful during the novel studies.

Our Research Projects
The Ridge School
Johannesburg, South Africa

- 15 boys participated
- 4 novels read:
  - *There's a Pharaoh in our Bath*
  - *Akimbo*
  - *Julius Caesar's Goat*
  - *The Marble Crusher*
    - *The Marble Crusher*
   - *Colly's Barn*
    - *Conkers*

The Marble Crusher and other Stories

The Marble Crusher *with GO*

Colly's Barn *no GO*

Conkers *with GO*
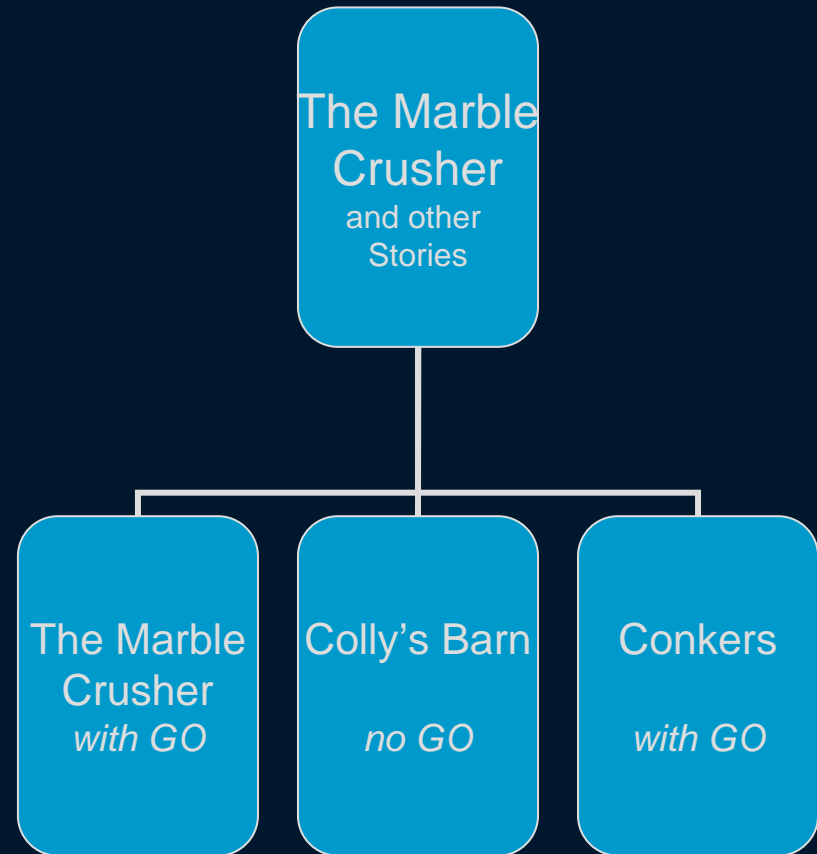
Our Research Projects
The Ridge School
Johannesburg, South Africa

Implementation of Graphic Organizers

- Novels Without Graphic Organizers
  - There's a Pharaoh in our Bath
  - Akimbo
  - Colly's Barn

- Novels With Graphic Organizers
  - Julius Caesar's Goat
  - The Marble Crusher
 - Conkers
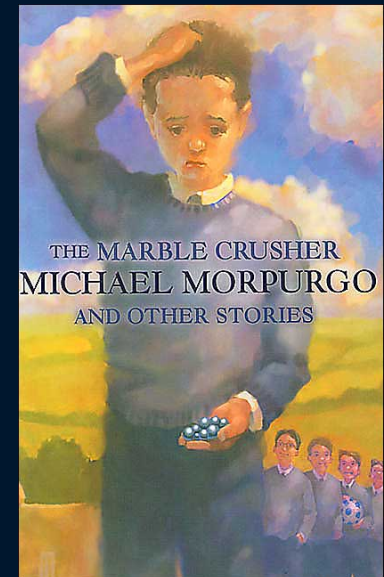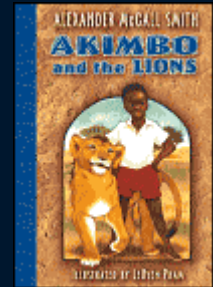
Our Research Projects
The Ridge School
Johannesburg, South Africa

Comparing Results of Implementation

With the Graphic Organizer

- 9 boys out of 15 increased their **summary score**, 1 remained the same, 5 were down.

- 9 increased their **test scores**, 6 were marginally down.

- 11 increased their **total score**, 4 were down.

The 4 that attained lower scores, are extremely strong readers.
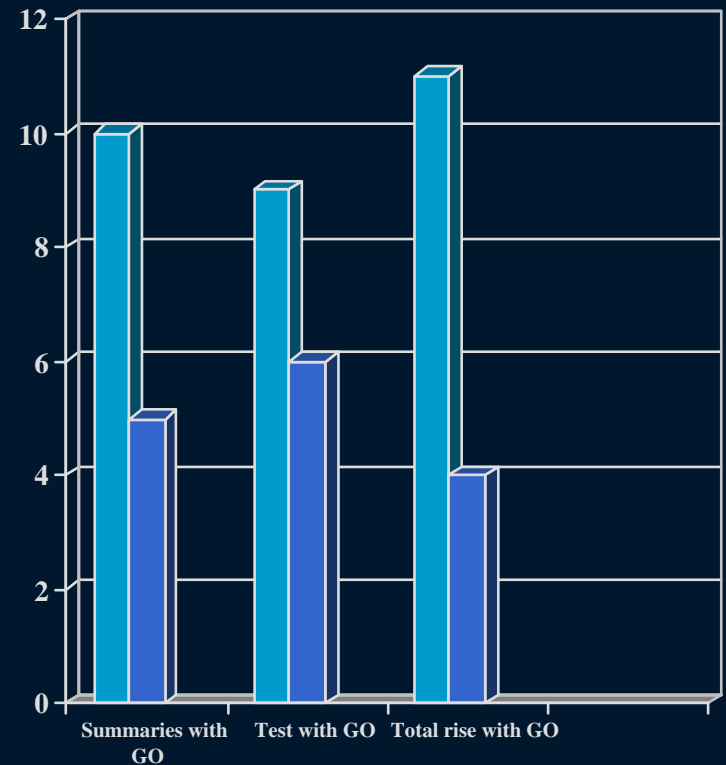
Our Research Projects
The Ridge School
Johannesburg, South Africa

Our Research Projects
## The Ridge School
Johannesburg, South Africa

Journal Responses

- *"It definitely helped me to remember more of the story."*
- *"When there were too many things to think of, it helped."*
- *"Yes, I think it made me remember more."*
- *"I didn't like the summary, but I thought of the sentences in the diagram. So it must have helped."*

Our Research Projects
St. Albans School
Washington DC

- Twelve boys participated
- Four novels read:

  - *There's a Boy in the Girl's Bathroom*
  - *The Whipping Boy*
  - *The Lion, the Witch, and the Wardrobe*
  - *In the Year of the Boar and Jackie Robinson*

- First and fourth novels did not use a graphic organizer
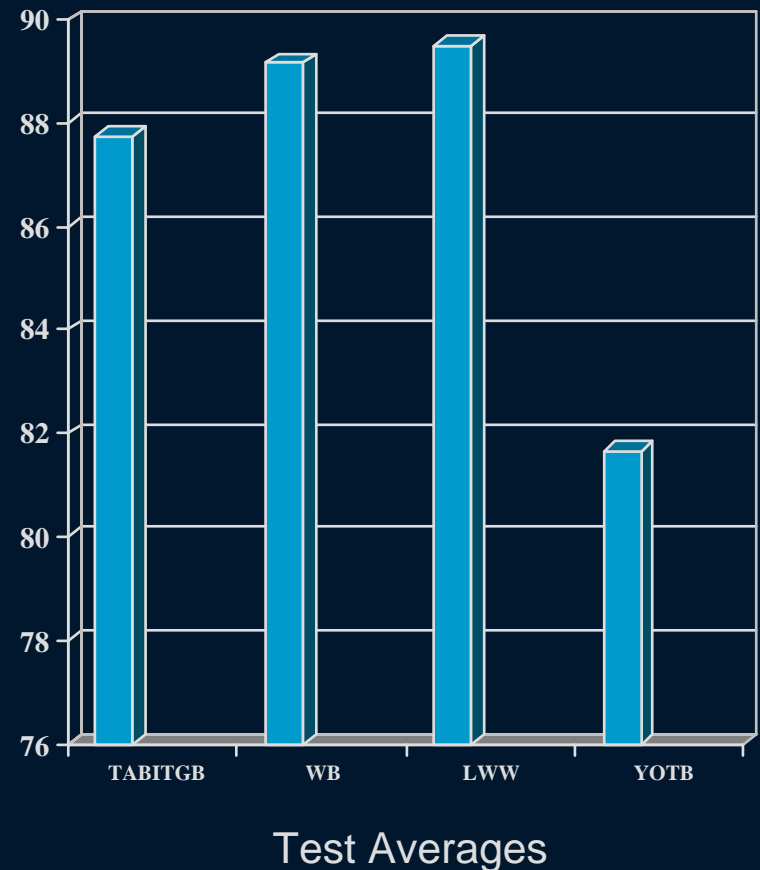- The second and third novels did use a graphic organizer.
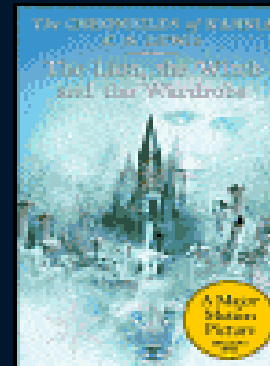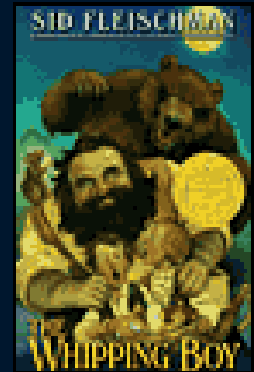
Book pictures found at www.barnesandnoble.com

Our Research Projects
St. Albans School
Washington DC

Results

▪ The overall average test score for books taught with a graphic organizer was 89.34%

▪ The average test score for books taught without a graphic organizer was 84.71%

Test Averages

Our Research Projects
St. Albans School
Washington DC

Results

- The average summary score for books taught with graphic organizers was 83.06%

- Summary score for the final book was 84.02%

- *This data is not accurate due to the fact that students did not write a summary for the first book.*
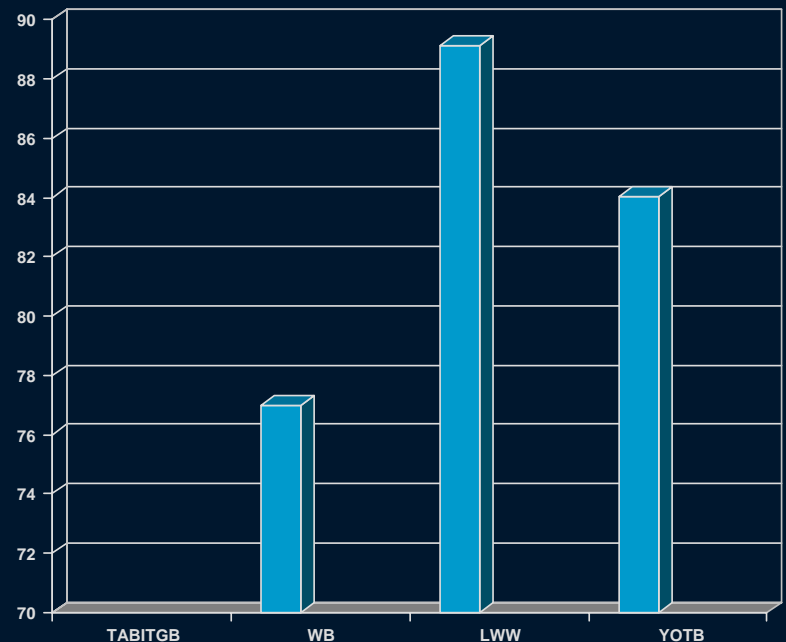
Summary Averages

Benefits of Action Research

- Encourages teachers to move from intuitive to intentional practices in teaching

- Allows teachers to play a meaningful role in advancing their profession

- Values the experience and expertise of teachers

- Promotes shared vision and work with other schools and institutions

Challenges of Action Research

- Finding time for action research endeavors

- Communication with colleagues who live in different areas

- Lack of resources

- Finding ways to value action research by sharing it in meaningful ways with other professionals

- Resistance of teachers to work in a new context

Potential of Action Research For IBSC Schools

- Raises the bar for professional conversations in member schools

- Encourages "best practices" in boys' education

- Allows for collaboration with colleagues in other IBSC schools

- Supports plans for school growth and change to be based on current research on how boys learn and develop

- Demonstrates to the larger school community that boys' schools are continually learning and improving

Possibilities

The important thing is not to stop questioning.

Albert Einstein