

Closing the Achievement Gap: Strategies for Teaching Content to Low Achieving Students

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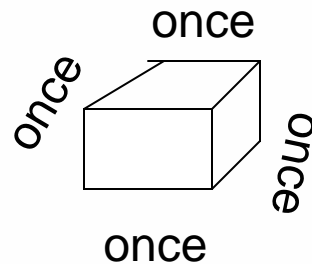
While you wait for this session to begin, try to figure out these common expressions

1.

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Ph. D.
M.S.
B.A.

2.



3.

Man

Board

4.

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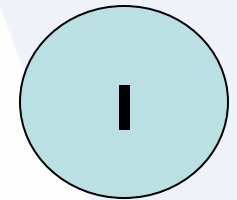
6.

YOU JUST ME

7.

DOCS DOCS

8.



Solving problems like these requires Strategic Thinking

Session Outcomes

- Raise awareness of “SIM”
- Define “strategic instruction”
- Explore examples of a Content Enhancement Routine and a Learning Strategy

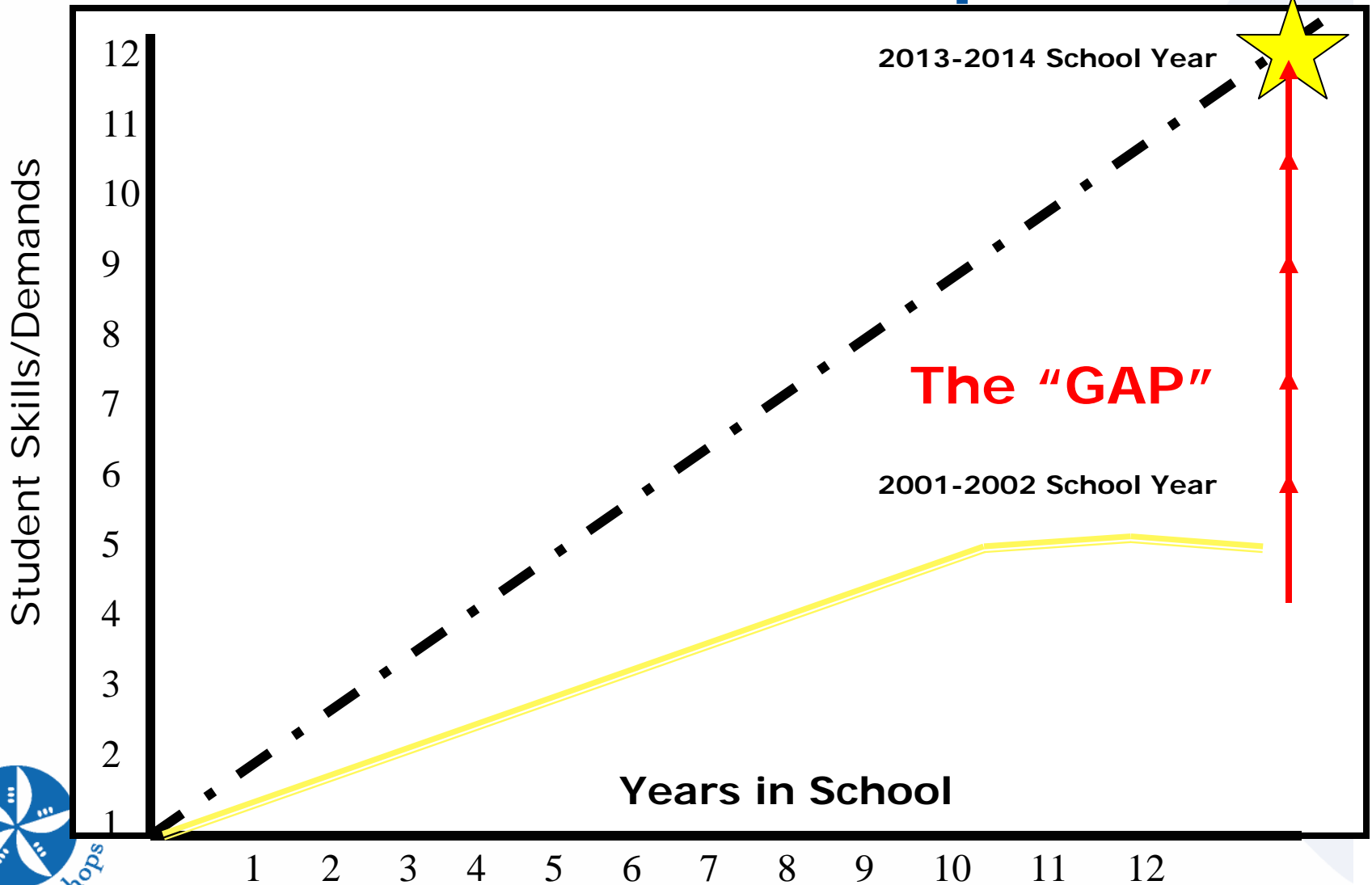


Research Reveals Low-Achievers Lack Strategic Learning Abilities:

- Understanding what information is important to learn, and why learning it is important
- Learning course expectations and organizing how to approach the performance standards accordingly
- How to study effectively for a test
- How to set goals and accurately reflect on their progress to meet the goals
- Creating new ways to organize and categorize information over time
- Learning how to integrate and generalize what they have learned



The Performance Gap



Current Realities

- Increased content
- Limited time for planning and collaboration
- Electronic revolution
- Greater Accountability
- Increased Diversity

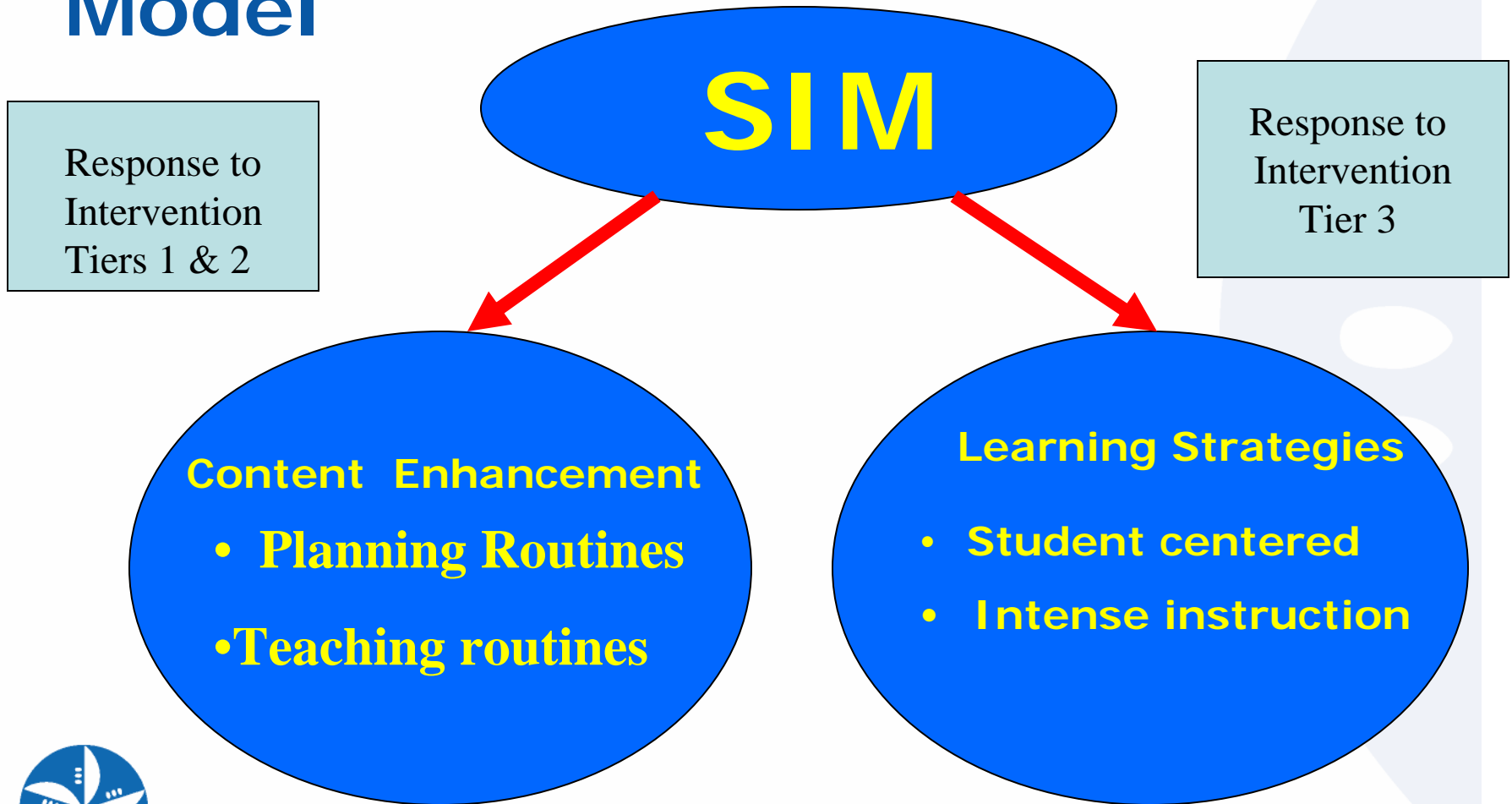


Research about What Students in the GAP Need for Success

- Skills/strategies/knowledge of content
- To be goal oriented-MOTIVATION
- To be strategy proficient
- Mentors and connections
- Intensive, explicit, ongoing instruction
- Comprehensive support
- Great content instruction



The Strategic Instruction Model



Content Enhancement Routines

- A way of teaching an academically diverse group of students in which four conditions prevail:
 1. Both group and individual needs are valued and met.
 2. The integrity of the content is maintained.
 3. Critical features of the content are selected and transformed in a way that promotes learning for all students.
 4. Instruction is carried out in a partnership with students.



The Unit Organizer

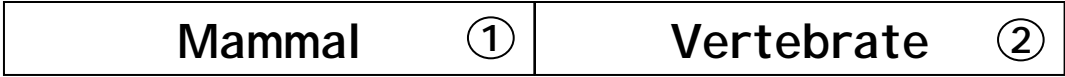
④ BIGGER PICTURE

NAME Sharra Ti
DATE 4/1

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|-----------------------------------|-------------|-------------------------------------|-----|---------------------|--|--|--|--|------|--------------|------|--------------------------------|------|-----------------|--|--|------|------------------|------|----------------|------|--------|------|------|-------------------|--|
| ← The Animal Kingdom | | Interrelationships | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ② LAST UNIT/Experience Invertebrates | ① CURRENT UNIT Vertebrates | ③ NEXT UNIT/Experience Ecology | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>⑧ UNIT SCHEDULE</p> <table border="1"> <tr><td>4/1</td><td>Introduce vertebrates</td></tr> <tr><td>4/4</td><td>Fish/amphibian of choice report due</td></tr> <tr><td>4/5</td><td>Fish/amphibian quiz</td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td>4/10</td><td>Reptile quiz</td></tr> <tr><td>4/12</td><td>Trip to natural history museum</td></tr> <tr><td>4/15</td><td>Trip report due</td></tr> <tr><td> </td><td> </td></tr> <tr><td>4/16</td><td>Bird/mammal quiz</td></tr> <tr><td>4/17</td><td>Lab report due</td></tr> <tr><td>4/18</td><td>Review</td></tr> <tr><td>4/19</td><td>Test</td></tr> </table> | 4/1 | Introduce vertebrates | 4/4 | Fish/amphibian of choice report due | 4/5 | Fish/amphibian quiz | | | | | 4/10 | Reptile quiz | 4/12 | Trip to natural history museum | 4/15 | Trip report due | | | 4/16 | Bird/mammal quiz | 4/17 | Lab report due | 4/18 | Review | 4/19 | Test | <p>⑤ UNIT MAP</p> | |
| 4/1 | Introduce vertebrates | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4/4 | Fish/amphibian of choice report due | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4/5 | Fish/amphibian quiz | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 4/10 | Reptile quiz | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4/12 | Trip to natural history museum | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4/15 | Trip report due | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4/16 | Bird/mammal quiz | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4/17 | Lab report due | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4/18 | Review | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4/19 | Test | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>⑦ UNIT SELF-TEST QUESTIONS</p> <p>What are the basic differences among the major groups of vertebrates? In what ways is life on land more difficult than life in water? What is meant by cold-blooded and warm-blooded? Which of the major groups of vertebrates is the most successful group? Why?</p> | <p>⑥ UNIT RELATIONSHIPS</p> <table border="1"> <tr><td>explanation</td></tr> <tr><td>compare/contrast</td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </table> | | explanation | compare/contrast | | | | | | | | | | | | | | | | | | | | | | | | |
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Concept Diagram



Always Present

Sometimes Present

Never Present

- warm-blooded
- nurses the young
- has hair
- _____
- _____

- walks on 2 legs
- walks on 4 legs
- swims in water
- can fly
- moves on the ground

- 0 cold-blooded
- _____
- _____
- _____
- _____

- ① Convey concept
- ② Offer overall concept
- ③ Note key words
- ④ Classify characteristics

③ Key Words

- elephant
- human
- ~~warm-blooded~~
- nurse the young
- whale
- bird
- shark
- walks on 4 legs
- can fly
- cold-blooded

⑤ Explore examples

Examples:

- human
- elephant
- whale
- bat

Nonexamples:

- snake
- alligator
- shark
- bird

duckbill platypus

⑥ Practice with new example

⑦ Tie down definition

A mammal is a warm-blooded vertebrate that has hair and nurses its young.



Assessment of Learning

SAMPLE BIOLOGY TEST QUESTIONS TO FOLLOW CONCEPT MASTERY RECALL AND COMPREHENSION LEVEL for Younger Students:

Directions: Please circle the best answer on these multiple-choice questions.

1. A snake is not a mammal because:

- a. It is cold-blooded.
- b. It lays eggs.
- c. It has scales.
- d. Both a and c

2. Which statement is false?

- a. Some mammals walk on two legs
- b. All mammals have hair.
- c. Some mammals are cold-blooded.
- d. Some mammals lay eggs.

QUESTIONS THAT REQUIRE HIGHER ORDER THINKING for Older Students:

1. Compare and contrast mammals with the previous phylum, amphibians.
2. Imagine you are a scientist who has just discovered the platypus. Use information from the Concept Diagram to explain why you believe it should be classified as a mammal.



Concept Diagram

| | |
|---|---|
| ① | ② |
|---|---|

Always Present

Sometimes Present

Never Present

_____ +

_____ +

_____ +

○ _____

Examples:

Nonexamples:

③ Key Words

- ① Convey concept
- ② Offer overall concept
- ③ Note key words
- ④ Classify characteristics

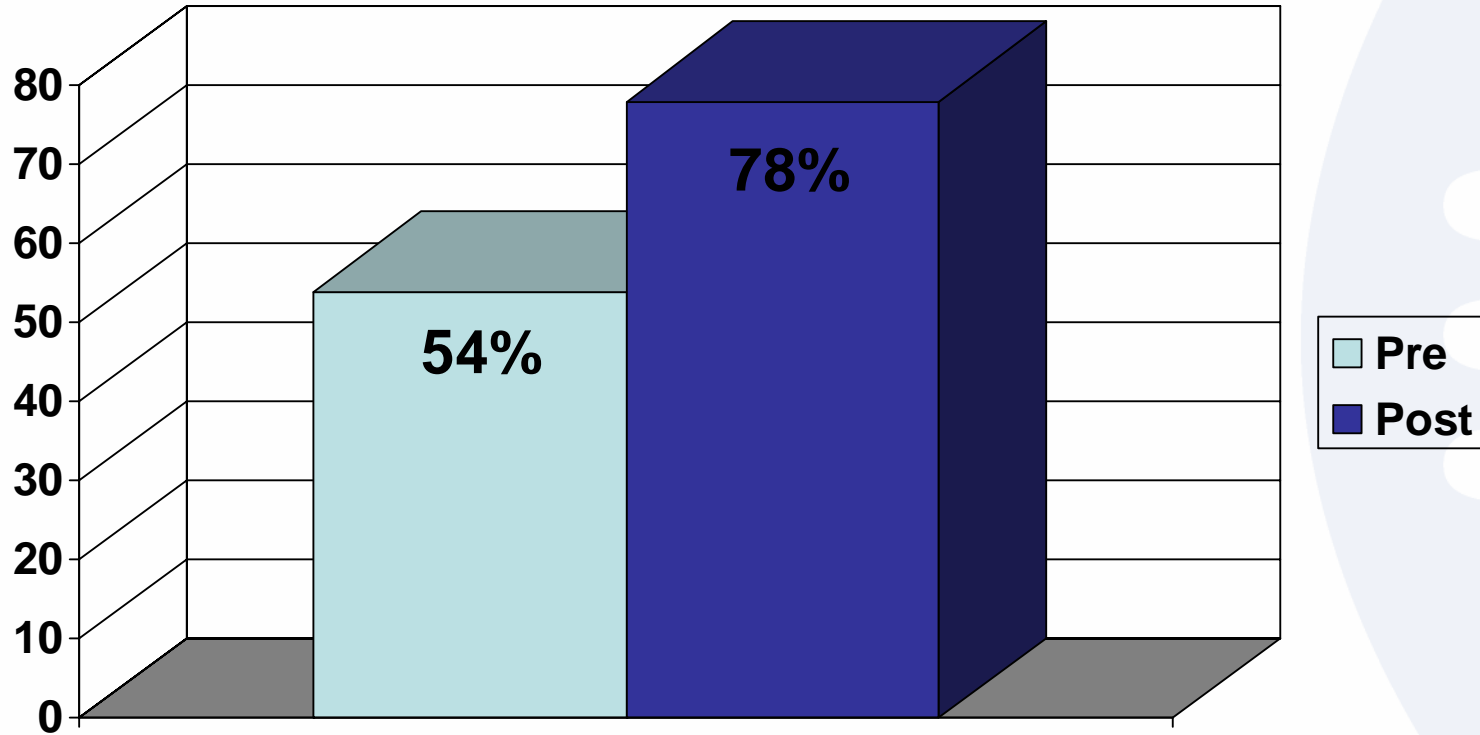
⑤ Explore examples

⑥ Practice with new example

⑦ Tie down definition



Concept Mastery Results



Test scores of students with disabilities on unit tests



A person's approach to learning and using information is called a...

LEARNING STRATEGY

Learning strategy instruction focuses on making the students more **active learners** by teaching them how to learn and **how to use what they have learned to solve problems and be successful.**



The Power of Learning Strategy Instruction

- Learning strategy instruction works
- Must be taught with fidelity to be effective
- Must be taught explicitly
 - The process
 - The thinking that guides the process



Eight-Stage Instructional Process

1. Assess and make commitments
2. Describe
3. Model
4. Verbal practice
5. Controlled practice
6. Advanced practice
7. Posttest and make commitments
8. Generalization



The SLANT Strategy

Step 1: **S**it up straight

Step 2: **L**ean forward

Step 3: **A**ctivate your thinking

Step 4: **N**ame key facts

Step 5: **T**rack the talker



Step 1: Sit up straight

Examples:

Upright posture but relaxed

Non-examples:

Head on desk

Slouching in chair



Step 2: Lean forward

Examples:

Leaning forward slightly

Non-examples:

Leaning backward

Exaggerated forward lean



Step 3: Activate your thinking

Examples:

Asking yourself questions:

"What is this about?"

"What do I need to remember?"

Answering your questions:

"This is about _____."

"I need to remember _____."

Asking the teacher a question when you don't understand

Non-examples:

Talking to others during class

Playing with objects

Doodling

Not doing anything when you don't understand



Step 4: Note the Key Information

Examples:

Answering the teacher's questions

Sharing your ideas or comments

Adding to others' statements

Non-examples:

Keeping your knowledge to yourself

when you could help others understand it

Ridiculing other students' comments



Step 5: Track the talker

Examples:

Keeping your eyes on the teacher as she speaks
Looking at students as they speak

Non-examples:

Staring out the window
Looking at your desk or students
who aren't contributing



The LINC Strategy for Learning Vocabulary Words

Step 1: **L**ist the parts

Step 2: **I**dentify a reminding word

Step 3: **N**ote a LINCing story

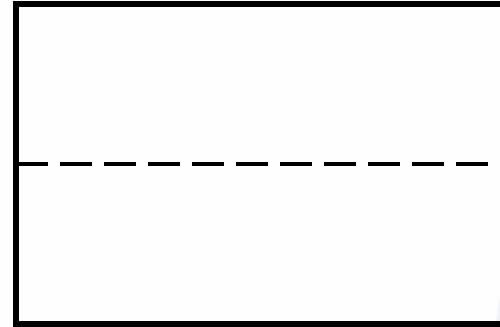
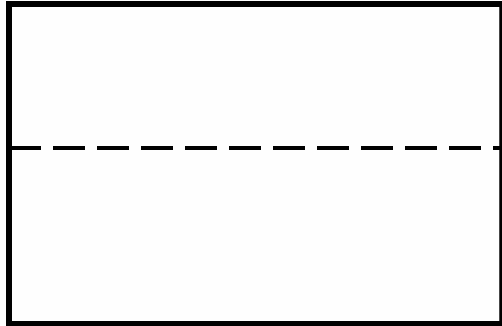
Step 4: **C**reate a LINCing picture

Step 5: **S**elf-test



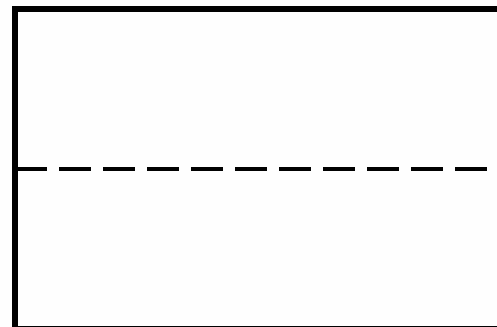
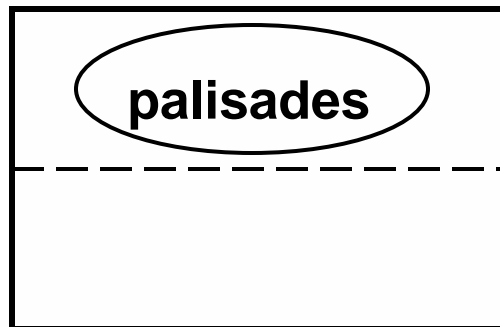
Creating LINCS Study Cards

1. Take an index card and divide both sides in half by drawing lines across the middle of both sides.



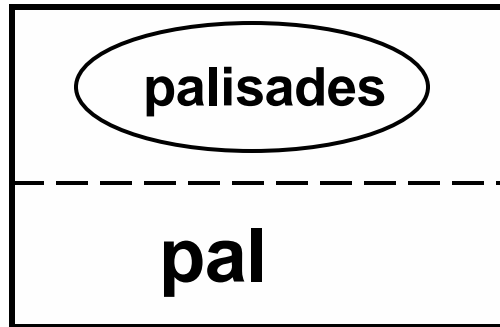
2. Write the word to be learned on the top half of one side. Then circle it.

List the parts

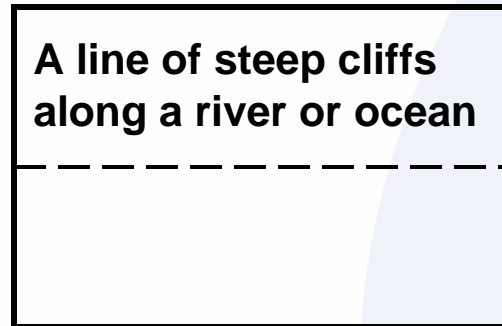


Creating LINCS Study Cards *(cont.)*

3. Write the parts of the definition you need to remember on the top of the other side.



List the parts

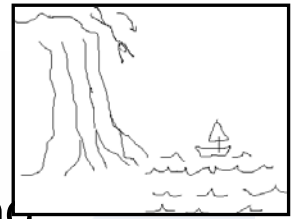


Identify a reminding word

4. Write the Reminding Word on the bottom half of the first side.

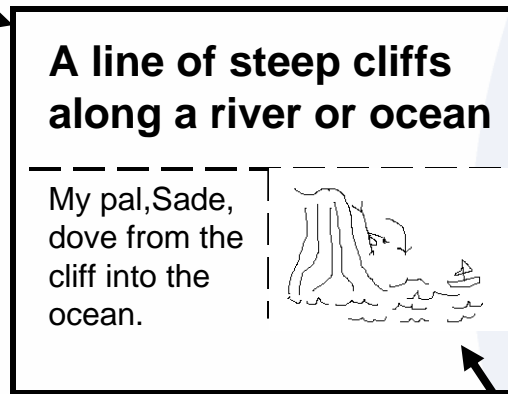
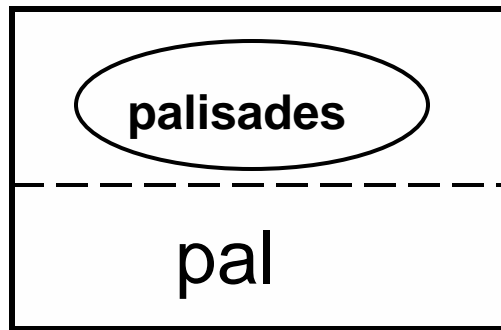


Creating LINCS Study Cards (cont.)



5. Write the LINCing Story on the bottom half of the second side.

Note a LINCing story: A phrase or sentence that Connects, or links, the definition of the new term to the reminding word.



Create a LINCing picture

6. Draw the LINCing Picture on the bottom half of the second side.

7. Use the card to **Self-test**



LINCS Strategy Results

**Table 1:
Mean Percentage Correct on Social Studies Vocabulary Tests***

| | Test 1 (Before LINCS) | Test 2 (After LINCS taught in Class A) |
|-------------------------|--------------------------|--|
| LD students in Class A | 53% | 77% |
| NLD students in Class A | 84% | 92% |
| All students in Class B | 86% | 85% |

* These results are by M. Wedel, D.D. Deshler, J.B. Schumaker, & E.S. Ellis, in prep., Effects of Instruction of a Vocabulary Strategy in a Mainstream Class, Lawrence, KS: Center for Research on Learning. Some of the LD students in this study received additional instructional time outside of the mainstream class when they needed it to complete the practice activities.

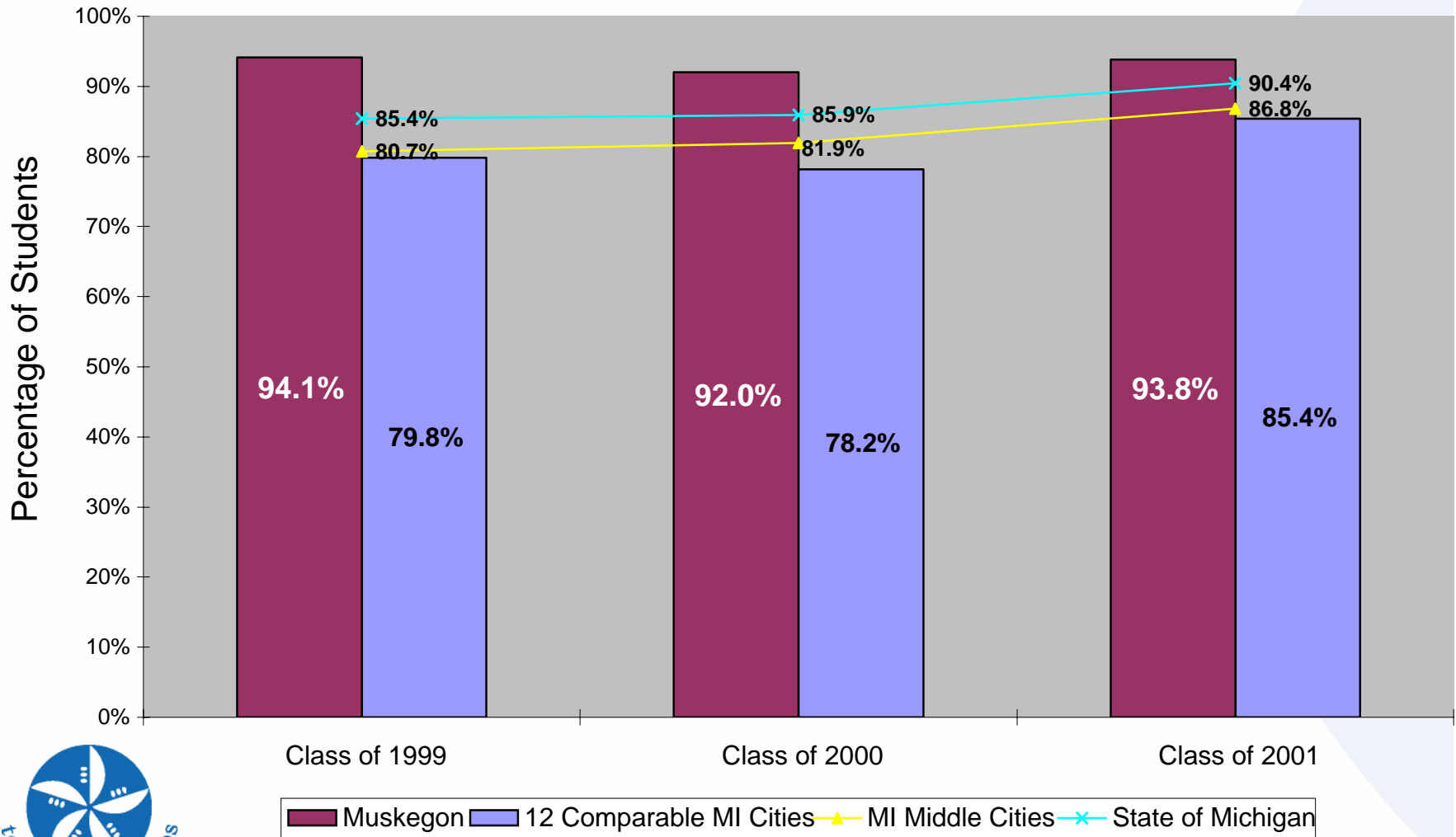


How Does SIM Work in Schools to Meet NCLB & Reduce the GAP?

- When students are not making adequate progress, Content Enhancement and Learning Strategies are employed in different ways along a continuum called the...
- **Content Literacy Continuum**
 - Level 1. Content enhancement routines used regularly in content classes.
 - Level 2. Learning strategies are embedded in content classes along content enhancement routines
 - Level 3. Intensive strategy instruction where strategy instruction and strategic tutoring are used.
 - Level 4. Intensive Basic Skills Instruction
 - Level 5. Therapeutic Intervention-foundational language competencies



**Muskegon in Relation to Like Districts & State of Michigan
Comparisons of Writing MEAP Over 3 Years
% Students Passing the Test**



About the KU-CRL

Founded in 1978

Mission: *Dramatically improve the performance of at-risk students and students with disabilities in grades 4-12 through research-based interventions*

- \$80+ million of contracted Research & Development
- International professional development network
- 275,000 teachers in 3,500 school districts



Tools!

The Strategic Instruction Model

University of Kansas

Center for Research on Learning

www.kucrl.org

