

GOING ABOVE AND BEYOND: HELPING STRUGGLING STUDENTS IN MATH

A Special Program Design for
National Middle Schools Association Conference
Denver, Colorado

Friday, October 31, 2008
Mineral Hall A
Hyatt Regency Denver
12:15 - 1:30 pm

presented by
Dr. Judee K. Axelsen
VISION INTO REALITY

There is nothing “spooky or scary” about the ideas and strategies presented in this conference session. Schools, K-12, who have used these strategies have seen achievement gains of 18-25 percent, a decrease in D and F grades, improved student attendance and students who make progress and see math as an area of school success!

"Race, ethnicity, and poverty are poor excuses for low expectations."

Dr. Lorraine Monroe
Nothing's Impossible: Leadership Lessons
From Inside and Outside the Classroom

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TO INCREASE STUDENT ACHIEVEMENT IN MATH

What Works	What Doesn't Work
Increased Attention	Decreased Attention
<ul style="list-style-type: none"> ■ Assessing what students know and how they think about mathematics ■ Having assessment be an integral part of teaching ■ Focusing on a broad range of mathematical tasks and taking a holistic view of mathematics ■ Developing problem situations that require the applications of a number of mathematical ideas ■ Using multiple assessment techniques, including written, oral, and demonstration formats ■ Using calculators, computers, and manipulatives in assessment ■ Evaluating the program by systematically collecting information on outcomes, curriculum, and instruction ■ Using standardized achievement tests as only one of many indicators of program outcomes 	<ul style="list-style-type: none"> ■ Assessing what students do not know ■ Having assessment be simple counting correct answers on tests for the sole purpose of assigning grades ■ Focusing on a large number of specific and isolated skills organized by a content-behavior matrix ■ Using exercises or word problems requiring only one or two skills ■ Using only written tests ■ Excluding calculators, computers, and manipulatives from the assessment process ■ Evaluating the program only on the basis of test scores ■ Using standardized achievement tests as the only indicator of program outcomes

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"Minority students as a group experience a less rigorous curriculum. Lower expectations for these students often preclude the opportunity for them to take more rigorous courses because of inadequate prior preparation. To succeed in mathematics, especially higher level math such as Algebra II and Calculus, all students must have access to and succeed in gateway courses such as Algebra I."

Educational Leadership
February, 2004

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ENTRY TASKS / ACTIVE PARTICIPATION POINTS

Entry tasks are listed on the overhead, PowerPoint or upper right hand corner of the white board as students enter the room.

Entry tasks are linked to the previous night's homework and should take students 3-7 minutes.

As students come into the room, they "flash" their homework at the teacher. If homework is not completed, the teacher can have an "up close and personal" conversation about the importance of homework completion and provide an appropriate consequence, i.e., loss of recess, lunch time homework club, etc. Students place their homework in the upper right hand corner of their desk so the teacher can "monitor by walking about" the degree of completeness and accuracy.

Entry tasks reflect the previous night's homework...

i.e., After reading The Chocolate Moose, the child gives other examples of words that have multiple meanings and uses the words correctly in sentences, even providing drawings to illustrate multiple meanings.

i.e., Students solve 5-6 sample math problems reflective of the previous night's homework; students explain their

problem solving process in words or using a graphic organizer.

i.e., Through reading and research, students identify the most important cause of the Civil War to them and are prepared to defend their stance through writing, panel discussion, or use of a graphic organizer.

Students must be on task the entire time allotted for the entry tasks to receive "active participation" points. Students not on task will receive a zero; other students will receive points in multiples of 10, 100, 1,000, and 10,000. Points are awarded at the end of the entry task by the teacher and students record them on their paper. The teacher records them under the appropriate data and draws a line vertically through the student roster. Students staple their entry task on top of the homework assignment and put it in their working portfolio (red file folder). On Friday, students (after entry task) are given a scoring rubric and asked to self evaluate their evidence of best work for the week (homework and entry task must match.) Students give themselves a letter grade. The teacher reviews, records if appropriate, or asks the student to conference on Monday. At the end of the grading period, students have at least 9 letter grades and 45 days of points which are converted to a letter grade which comprises 20-30 percent of their grade.

This process eliminates the need for parents to sign homework assignment sheets and/or parents who do their child's homework. It also eliminates cheating or copying by students as there is a high level of student and teacher accountability.

The Essential Educational Question... Why, based on what?

Don't get lost in the
"how to" questions; they
eat up your valuable
time and get you
nowhere if why and
what are not the
questions that drive you!

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"Being a 'warm demander' is the goal for all members of your school community as people rise to high expectations when those they respect have confidence that they will."

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"Success in tomorrow's job market will require more than computational competence. It will require the ability to apply mathematical knowledge to solve problems."

National Research Council
Helping Children Learn Mathematics
ISBN 0-309-08431-8

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SESSION GOALS:

1. Ask the essential questions - how do we know what we are doing is working and what we are going to do about it?
2. Use your data to identify areas of greatest potential growth.
3. Learn math interventions and strategies for “double dosing” in math to improve student achievement.
4. Intentionally pre-teach vocabulary in context.
5. Implement hands-on learning and performance assessment to replace “drill and kill.”
6. Be a “warm demander” so that all students rise to high expectations.

The following table shows the prices for items sold at the school's bake sale, sponsored by the student council.

Item	Price Each	Price by the Box
Doughnuts	\$.50	\$5.00
Cookies	\$.10	\$1.00
Cakes	\$5.00	-----
Pies	\$8.00	-----

By the end of the first day, the student council had sold 20 single doughnuts, 5 boxes of doughnuts, 5 single cookies, 20 boxes of cookies, 11 pies and 10 cakes.

SOLVE IT

Mathematically Write a math sentence	In Contrast Write a story to match
Graphically Create a graph	Explanation Explain the —what, —how, —why to solve the problem

5 STRATEGIES OF MATHEMATICAL PROFICIENCY:

1. Understanding: comprehending mathematical concepts, operations and relations...knowing what mathematical symbols, diagrams and procedures means.
2. Computing: carrying out mathematical procedures, such as adding, subtracting, multiplying and dividing numbers flexibly, accurately, efficiently and appropriately.
3. Applying: formulating problems mathematically and devising strategies for solving them using concepts and procedures appropriately.
4. Reasoning: using logic to explain and justify a solution to a problem or to extend from something known to something not yet known.
5. Engaging: seeing mathematics as sensible, useful and doable, if you work at it, and being willing to do the work.

To overcome inequities in math instruction, NCTM recommends:

1. High expectations for all students.
2. A coherent standards-based curriculum of important mathematical concepts, articulated across grade levels.
3. Teachers who understand what students need to learn and then challenge and support them.
4. Instruction that builds new knowledge from experience and prior knowledge.
5. Assessment that supports learning and provides useful information to both students and teachers.
6. Technology that influences the mathematics taught and enhances students' learning.

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Sentence Skeletons

Level I. Knowledge

1. What is the definition for _____?
2. Trace the pattern.
3. Review the facts.
4. Name the characteristics of _____.
5. List the steps for _____.

Level II. Comprehension

1. Tell why these ideas are similar.
2. In your own words retell the story of _____.
3. Classify these concepts.
4. Relate how these ideas are different.
5. What happened after _____?
6. Tell some examples.
7. Make a model of _____.
8. Take notes on _____.
9. Draw a picture to _____.
10. Give the proper sequence for _____.
11. If A is related to B, then X is related to _____.
12. Act out what happened.

Level III. Application

1. Graph the data.
2. Demonstrate the way to _____.
3. Which one is most like _____.
4. Practice _____.
5. Act out the way a person would _____.
6. Use whatever means necessary to _____.
7. Calculate the _____.
8. Complete the solution for _____.
9. Use the technique of _____ to solve the problem.

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Level IV. Analysis

1. What are the component parts of _____ ?
2. Which steps are important in the process of _____ ?
3. If _____ then _____.
4. What other conclusions can you reach about _____ that have not been mentioned?
5. The difference between the fact and the hypothesis is _____ ?
6. The solution would be to _____ ?
7. What is the relationship between _____ and _____ ?
8. What is the pattern of _____ ?
9. How would you make a _____ ?
10. Which material is the most valuable in enabling _____ to _____ ?

Level V. Synthesis

1. Create a model that shows your new ideas.
2. Devise an original plan or experiment for _____.
3. Finish the incomplete _____.
4. Make a hypothesis about _____.
5. Change _____ so that it will _____.
6. Propose a method to _____.
7. Prescribe a new way to _____.
8. Give the book a new title.
9. Speculate on questions that experts in the field need to answer to solve the problem of _____.

Level VI. Evaluation

1. In your opinion _____.
2. Appraise the chances for _____.
3. Grade or rank the _____.
4. What do you think will be the outcome?
5. What solution do you favor and why?
6. Which systems are best? worst?
7. Rate the relative value of these ideas to _____.

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"The clear message from the research is that schools can and do make a difference. If the knowledge and skills that students from advantaged backgrounds possess is learned rather than innate, then students who do not come from advantaged backgrounds can learn it too.

The most straightforward way to enhance students' academic background knowledge is to provide academically enriching experiences, particularly for students whose home environments do not do so."

Building Background Knowledge for Academic Achievement...
Research on What Works in School.

"We can defend the past or the status quo, or we can get on with creating the future. No matter how good we are today, we need to become even better tomorrow."

Ten Trends: Educating Children for
a Profoundly Different Future

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PROBLEM SOLVING STRUCTURE

1. State the problem in your own words.
2. List the important information.
3. What do you need to find out? What information do you not need?
4. What strategy would you use?
5. Solve the problem. Show your work. Use words, numbers, and/or visual representations.
6. Tell how you solved it. Explain your thinking.
7. Write the answer in a complete sentence.

MATH PROBLEM SOLVING

1. Understand the Problem

- Read the problem carefully; re-read if necessary
- Identify what the question is; highlight or circle key words
- Restate the problem in your own words
- Identify the information needed to solve the problem; is there missing information?

2. Make A Plan

- | | |
|-----------------------------|-------------------------|
| — try a simpler problem | — make a table |
| — make an organized list | — look for a pattern |
| — act it out | — guess and check |
| — use logical reasoning | — work backwards |
| — make a picture or diagram | — use an equation |
| — explain using words | — explain using numbers |

3. Use Your Plan

Solve the problem using the strategies you selected. You may need to change strategies.

4. Evaluate Your Plan

Did you...

- answer the questions being asked?
- check for reasonableness of solution?
- check the accuracy of your work?
- try another method to solve the problem; compare the results?
- generalize or extend your solution to other solutions or to solve other problems?

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PROBLEM SOLVING STRATEGIES ACROSS THE CONTENT AREAS

1. Guess, check, revise
2. Make a list
3. Draw pictures
4. Look for a pattern; generalize
5. Use or make models, objects, graphs
6. Act it out
7. Use a logical sequence of events
8. Work backward
9. Write an equation
10. Make a table or chart
11. Experiment with different solutions
12. Reread the problem; look for key words
13. Ask questions
14. Locate important information
15. Make a similar, simpler situation

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K-N-W-S Worksheet

K What facts do I KNOW from the information in the problem?	N Which information do I NOT need?	W WHAT does the problem ask me to find?	S What STRATEGY operation/tools will I use to solve the problem?

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Problem Solving Strategies...Teaching Mathematics in Multiple Ways

1. Act it out or use objects (manipulatives). This helps students develop visual images of the data and problem solving.
2. Draw a picture or create a diagram; this leads to greater understanding and helps the student sort out what is important and what is not!
3. Make or use a table to organize data; this becomes an organizer for problem solving.
4. Make an organized list; this helps the student organize what has been done and what still needs to be completed.
5. Guess, check and revise; the student can use multiple strategies.

6. Use or look for a pattern; by identifying a pattern, the student can make predictions and it is an important problem solving strategy.
7. Work backwards.
8. Use logical reasoning...key words
 - If...then
 - If...then...else
 - If something is true, then...
 - If something is not true, then...
9. Make it simpler...reading large numbers to small numbers, reducing the number of items in a problem allows the student to focus on the operation.
10. Brainstorm...looking at problems in new ways when you don't know what else to do. Encourage students to take a risk.

Problem Solving

1. Restate the problem/question.

2. Find needed data:

3. Plan what to do:

4. Find the answer:

Step 1

Step 2

Step 3

Answer: _____

5. Check. Is your answer reasonable?

6. How do you know?

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Writing Steps in Math

Five Step Method

Prompt= What am I being asked to do?

I need to find out...



Information: What are the facts?

I know...



Picture: What strategy will I use? What is the picture inside my head?

Show my thinking by drawing a picture of using numbers. Label it!



Explanation: Explain what I did in my picture. (Tell strategy and the steps you used.)

The strategy I used...First...Then...Next...After that...Finally...



Conclusion: Look back. Use words from the question to tell your answer. Check to be sure it makes sense!

Therefore...

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WRITING AND MATH...a direct connect!

- Students construct knowledge and understanding
- Writing creates meaning to help students fit new learnings into existing structures
- Writing allows students to communicate their ideas and thinking processes
- Writing allows students to "show what they know"...to clarify, record and demonstrate their learning
- Writing allows students to apply new concepts
- Writing allows students to synthesize their ideas
- Writing helps students organize their ideas and evaluate new concepts.

Ideas for Writing in Math:

- What is a fraction?
- Tell how to solve these problems
- Write and illustrate their own story problems
- Plan a field trip to include directions, transportation, menus, and budget
- Describe how a problem has been solved
- Make predictions
- Explain an incorrect answer
- What did I learn in math today?
- What is your favorite shape and why?
- What is multiplication?

- Problem solving journal
- Create a word web - i.e., square
what it looks like
places squares are used
characteristics
how do you make one
- 10 things you do every day with math
- How to use a ruler; write directions and
create measurement problems
- Ideas about circles
- What is money and how do I use it?
- What is probability?

Reading Math Textbooks

1. Model how to read text and how to make sense of it.
2. Slow down reading rate.
3. Read and re-read with pen and paper; take notes, draw a diagram, use a graphic organizer, etc.
4. Add pauses to help you slow down and clarify what you have read; tell a partner; add additional ideas.
5. Draw and label diagrams as you read; solve a problem and label parts.
6. Think about related problems you already know how to do.
7. Follow the instructions carefully; don't skip steps!

8. Read figures and tables; they are important.
9. Re-read; stop and ask yourself what the question is really asking. Look for questions that answer the question.
10. Try to answer the question for yourself before looking at the multiple choice answers.
11. Circle back and check again what you have read. Underline important information and circle or square what you are supposed to do.
12. Answer the questions in the order that works for you...just save enough time to complete your task!!
13. If you are using an answer sheet, check it. If you are writing answers, check to see that you have written what you were actually thinking.

Learning Logs

Before learning – to activate and assess prior knowledge:

- Why do we use rulers (or scales or other measuring devices)?
- What do these symbols mean?
- Describe instances when you use addition at home.
- How is multiplication similar to addition?
- Make a web to describe some uses of fractions.

During learning – to help students identify how well they understand what is being covered in class:

- Explain how you know that $7 + 3 = 11 - 1$
- How do you know what a story problem is asking you to do?
- Write a story problem where you need to calculate 5×7 .
- Find examples in our classroom of the geometric shapes we are studying.
- Draw three pictures that demonstrate the concept of multiplication.

After the lesson – to help students reflect on their learning:

- I have trouble understanding....
- Write a note to a student who was absent from class and explain what we learned in class today about right triangles.
- Write a note to your parents explaining how you know when a shape has a line of symmetry.
- My favorite kind of story problem is....
- Explain how you could do the calculation $65 - 19$ in your head.

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THINKING AT HIGHER LEVELS...

Describe how you would solve _____

Analyze how this problem helps us to use mathematical thinking and problem solving.

Compare this problem to one on page _____
Contrast it to _____

Demonstrate how you could apply this problem at work or in real life _____

Change one or more numbers in the problem. Give a rule for what that change does.

Create an interesting and challenging word problem from the number problem. Show how to solve the problem.

Diagram or illustrate the solution to the problem...

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IMPROVING STUDENT ACHIEVEMENT FOR EVERYONE IN MATHEMATICS GRADES 3-12

It is about:

- analyzing our data and using it to guide our decisions
- implementing vision, intentionality and focus
- using quality instruction linked to our standards
- students showing what they know on a daily basis
- becoming a "warm demander"

- using interventions
 - "double dosing" in reading and math
 - before and after school interventions
 - skill groups for targeted "deficits"
- starting with the end in mind and striving for conceptual understanding
- using visualization to "cement" new learning and
- building relationships for learning.

VOCABULARY NEEDS TO BE INTENTIONALLY TAUGHT... BUT NEVER IN ISOLATION!

1. Students need to encounter words in context more than once to really learn them. Research shows that students need to be exposed to a word at least six times before they have enough experience to develop and remember meaning. Simply using "wide reading" is insufficient to develop new vocabulary.
2. Instruction in new words enhances learning words in context. When students have prior instruction on new words, their ability to comprehend new words increases by one-third. Even superficial instruction improved students' chances of understanding new words in context.
3. One of the most effective ways to learn new words is to associate an image (imagery). Research studies show a 37 per unit gain in achievement when imagery is used rather than having students focus on continual review of definitions; a 27 percent gain using imagery as opposed to having students write novel sentences that demonstrated use and understanding of new words was evident.
4. Systematic and direct vocabulary instruction works. Teaching vocabulary directly increases student comprehension of new material by a minimum of 12 percent.
5. Direct instruction on words that are critical to understanding new context generates the most powerful learning. Student achievement will increase by 33 percent when vocabulary instruction focuses on specific words that are essential to what the student is learning.

TEACHING NEW VOCABULARY AND PHRASES ... WHAT DOES IT LOOK LIKE IN THE CLASSROOM

1. Present student with a brief explanation, description, demonstration, or scenario of the new term or phrase.
2. Present students with a non-linguistic (this is where imagery fits!) representation of the new term or phrase.
3. Ask students to generate (remember Bloom's Taxonomy?) their own explanations or descriptions of the term or phrase. (This is a great time for students to use journals or work in pairs).
4. Ask students to create their own non-linguistic representation of the term or phrase. (Graphic organizers or creating metaphors are effective at this step!)
5. Periodically ask students to review the accuracy of their explanations and representations. (Using this as an entry task or pre-reading task can be very effective.)

**STUDENTS NEED TO BE TAUGHT HOW TO READY
FOR DETAILS ...FACTS, DATES, CAUSE AND
EFFECT, TIME SEQUENCES, EPISODES AND MORE.**

1. Students need systematic, multiple exposures to details. Students need to be exposed to details at least three to four times if they are to be expected to remember details or use them in a meaningful way. The "time window" for details is usually no more than a two day delay. The key, however, is to decide which details are relevant to enhance student learning and understanding. Exposure to details needs to allow students an opportunity to "manipulate" the details in different ways, i.e. discussion, generating additional details, video clips, time lines with narrative, additional reading, journaling, etc.
2. Details and "dramatic" instruction go hand in hand. When compared with verbal (lecture) and visual (reading, graphic organizers), dramatization significantly increased student achievement gains, short and long term.

WARMUP - TRANSITION ACTIVITY
MATCH VOCABULARY TO WASL ASSESSMENT

MATH VOCABULARY

a = addend, add

n =

b =

o =

c =

p =

d =

q =

e =

r =

f =

s =

g =

t =

h =

u =

i =

v =

j =

w =

k =

x =

l =

y =

m =

z =

Intentionally Teaching Math Vocabulary

Directions: Rate the following statistics terms as follows:

1. I've never heard of the word before.
2. I've heard the term, but I don't know how it applies to mathematics.
3. I understand the meaning of this term and can apply it to a mathematics problem.

mean _____

median _____

mode _____

weighted average _____

line of best fit _____

correlation _____

range _____

normal distribution _____

bimodal distribution _____

skewed distribution _____

flat distribution _____

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IDEAS FOR MATH ASSESSMENT

- 3-2-1 things I know, concerns I have, questions I want answered
- comprehensive quizzes
- create and perform a math map
- create a video tape of how to solve problems
- create pictures, diagrams and charts for specific math concepts
- critical friends to share math problems or math solutions
- daily oral math (DOM)
- daily "tortures" or a problem a day related to content for warmup activity
- dear diary (math solutions)
- discuss how to solve the problem before you actually work it out with paper and pencil
- exhibitions of learning
- graph and/or table ... write the story the data represents
- graphic organizer for solving math problems
- K W L D sheet
- learning logs - what did you learn? - what do you still want to learn and explore?
- math vocabulary and spelling
- math portfolios
- math learning logs
- math manipulatives - model building using specific math concepts
- math scoring rubrics
- math solutions using think-pair-share

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- math dictation: how to solve problems
- math portfolio on computer disk - one for each student - travel from grade to grade
- math cartoons and captions
- math essays
- math logs/journals
- math research report with conclusion and why
- math goal setting
- math knowledge bowl
- math portfolio
- math scoring rubrics
- open ended student comment sheet
- open ended questions
- open ended problems - students need to supply missing information and solve
- participation points
- problems with errors - students trouble shoot
- quarterly parent newsletter about math
- re-telling how to solve problems
- read thinking stories; have children write solutions
- responding to essential questions
- revise and edit math journal to include reflections of learning
- solve in writing without using numbers
- solve in a different way
- solving math case studies
- student developed problems and solutions - have class discuss, with author as facilitator

- student led parent conferences
- student demonstrations of problem solving
- student authored story problems
- student notes to parents with work samples (positive)
- student self assessment
- student developed progress report of skills
- survey of skills checklists
- student note to parents
- student reflection
- "take a risk" - go to the board, solve and explain why (give students bonus participation points)
- teacher observation and anecdotal records
- teacher made tests
- tell a story and then write it
- think alouds
- think-pair-share
- timelines of progress
- unit tests
- vocabulary bingo or quizzes
- what do you think and why?
- write a summary of new math learning
- word mapping with math vocabulary words
- write to a math prompt
- write a math poem
- write math jokes and commercials
- write math concept connections

WHAT ELSE CAN YOU ADD?

SOME IDEAS FOR SIMPLE MATH ASSESSMENT

- Show three different drawings for the number five (5).
- Write three story problems that have five (5) as an answer.
- Write about your favorite number. Tell why it is your favorite.
- Make up a pattern and tell about it.
- Find out how many windows are in your home. Tell how you did this.
- Write three story problems for the picture on page 45 of your book. Tell how to solve your problems.
- Find out the favorite ice cream flavor for ten people you know. Invent a way to show this information to our class.
- Spin the spinner ten times. Tell what happened. Tell why you think it happened.
- What was easiest for you in today's math lesson? Why?
- What was hardest for you in today's math lesson? Why?
- What did you like most in math this week? Why?
- Write ten problems that use the number 10.
- Try to solve these problems mentally (no paper, pencil, or calculators). Write how you solved them.
- Write how you would tell a younger child to do the work we learned in math today.
- Make up ten math problems that you think are easy to do without paper, pencil, or calculator. Tell why you think they are easy.
- Tell me what you were thinking.
- How did you get your answer?
- How can you decide if it is right?
- Does it seem to make sense? Why or why not?
- Can you write a problem that is like it?
- Can you act it out?
- Can you show me a model of it?
- Can you draw a picture of what happened?

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Vision into Reality

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TEXT BOOKS DON'T DRIVE INSTRUCTION - TEACHERS DO!

What do we teach?

How do we teach?

Why are we teaching these concepts/content?

How do we know students are learning?

What decision making strategies did we use to pick the particular methodologies in your lesson design?

How does this "fit" with a continuum of learning?

Vocabulary Needs to Be Intentionally Taught...embedded into every lesson, every day!

1. Vocabulary represents important concepts that are unique to each content areas.
2. Students need repeated exposure with words in oral and written contexts to build knowledge and use of word meanings.
3. Frequent exposures to words, through extensive reading in multiple forms, builds vocabulary development.
4. Learning new vocabulary builds in a continuum of learning → not knowing → familiar with the word → deeper meaning → use in many contexts.
5. Students need to encounter words in different contexts to build "mental structures" for word use. Each time new vocabulary is used, more information is added to the "mental structures."
6. Vocabulary can be learned in environmental and "out of school" experiences such as wide reading, discussion and listening, and exposure to appropriate media.
7. Focused and intentional vocabulary instruction is essential to content area learning.

Name _____

Using content area materials, teacher and students preview vocabulary from a teacher selected chapter. Pick at least six words that are new to students. This can be whole class or individual selection.

<p>List of Words</p> <ol style="list-style-type: none"> 1. 2. 3. 4. 5. 6. 	<p>What the Word Makes Me Think Of</p> <ol style="list-style-type: none"> 1. 2. 3. 4. 5. 6.
<p>List of Words Again</p> <ol style="list-style-type: none"> 1. 2. 3. 4. 5. 6. 	<p>What Image Comes to Mind</p> <ol style="list-style-type: none"> 1. 2. 3. 4. 5. 6.
<p>List of Words Again</p> <ol style="list-style-type: none"> 1. 2. 3. 4. 5. 6. 	<p>Draw the Image You are Thinking Of</p> <ol style="list-style-type: none"> 1. 2. 3. 4. 5. 6.

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SKILL OF THE WEEK

Skill of the week has the most impact when the skill is agreed to and taught by grade level in a continuum of scaffolding skills.

Possible Ideas:

Students recognize the importance of those skills when teachers all work together to introduce, reinforce, and evaluate students' progress to cement specific skills.

- Notebook organization checklist
- Assignment sheet/book
- Vocabulary taught in context
- Reference materials, how to use
- Note taking skills
- Use of problem solving strategies
- Read alouds
- Solving a problem with numbers
- Peer conferences
- Use of context clues
- Putting events in sequential order
- Reading for details
- Pre-reading, during reading and after reading strategies
- Explaining math problem solving in words, pictures and sentences
- Homework expectations
- How to read and use math textbooks
- Use of rubrics
- Test taking strategies
- Following directions
- Reading and developing charts and graphs
- Guess, check and revise
- Use of calculators

What else would you add ...?

1. _____
2. _____
3. _____
4. _____
5. _____

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Please respond to the statements below by circling the appropriate number

Key: 5 strongly agree; 4 agree; 3 agree with reservations, 2 disagree, 1 strongly disagree

1. This session met my expectations. Why or why not?
5 4 3 2 1
2. The facilitator was knowledgeable about the topics presented.
5 4 3 2 1
3. The session had enough variety to maintain my interest.
5 4 3 2 1
4. I would recommend this session to a colleague.
5 4 3 2 1

Comments:

What changes would you suggest if this workshop session were offered again?

What are the 5 ideas you are walking away with today?

Testimonial:

I would like Judee to come to my school or district:

Tentative timeline/date _____

Name: _____

District/School: _____

Mailing Address: _____

Work Phone: _____ Home Phone: _____

E-mail address: _____

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