

Hamblen County Department of Instruction

ESSENTIAL STRATEGIES HANDBOOK



25 RESEARCH BASED
STRATEGIES FOR EFFECTIVE
CLASSROOM INSTRUCTION

Academic Vocabulary

Description:

Academic vocabulary is the vocabulary critical to understanding the concepts of the content taught in schools. In deciding which words to use in instruction, teachers must remember that not all terms are of equal importance. Some terms are **critically** important. Some terms are **useful or interesting** but not critical. The Tennessee Department of Education has identified academic vocabulary for each assessed course. These terms can be found at <http://www.tennessee.gov/education/ci/vocabulary.shtml>.

***Special Note: Copying definitions from glossaries or dictionaries has been rendered statistically ineffective and is therefore considered “busy work.”**

Research Base:

According to Marzano (2005) the strongest action a teacher can take to ensure that students have the academic background knowledge to understand the content they will encounter is providing them with direct instruction in these terms. When students understand these terms, it is easier for them to understand the information they will read and hear in class.

Example:

Vocabulary Plan for Instructional Unit
Day 1: Discuss the Terms-Provide a description, explanation, or example of the terms identified on Academic Vocabulary list.
Day 2: Ask students to restate the description, explanation, or example in their own words in their vocabulary journal.
Day 4: Ask students to construct a picture, symbol, or graphic of the picture for each term in their vocabulary journal.
Ongoing: Once a week involve students in games that allow them to play with the terms. Engage students every other week in activities that help them add to their knowledge of the terms.

Additional Resources:

Jefferson County Academic Vocabulary Project

<http://jc-schools.net/tutorials/vocab/TN.html>

Thoughtful Classroom Vocabulary Templates

<http://www.marshall.k12.ky.us/Thoughtful%20Ed/ThoughtfulEdtemplates.htm>

Building Academic Vocabulary by Marzano and Pickering

ISBN-13: 978-1416602347

Activating Prior Knowledge

Description:

Activating prior knowledge is something that we do naturally as adult readers. We always relate what we're reading to something we know. Before presenting content, activating prior knowledge is important because it helps students make connections to the new information they will be learning. Students, particularly those in poverty, may lack certain experiences or may not have adequate background knowledge about the content being presented. By tapping into what students already know, teachers can assist students with the learning process.

Research Base:

Research has been conducted to determine the value of providing activities or strategies to assist in providing students with ways to activate their prior knowledge base. It appears that when readers lack the prior knowledge necessary to read, three major instructional interventions need to be considered: (1) teach vocabulary as a pre-reading step; (2) provide experiences; and (3) introduce a conceptual framework that will enable students to build appropriate background for themselves. (Beck, et al, 1982; Kameenui, Carnine, et al, 1982)

Example:

A KWL Chart can be used as an assessment for learning because a teacher can quickly tell what students already know and understand about a topic. Below is an example of a KWL chart that can be used as part of instruction before, during, and after presentation of the lesson.

What I KNOW	What I WANT to Know	What I LEARNED

Additional Resources:

Samples of Activating Prior Knowledge Activities
<http://wvde.state.wv.us/strategybank/activating.html>

Research on Activating Prior Knowledge
<http://www.ericdigests.org/pre-9219/prior.htm>

Additional Activating Prior Knowledge Activities
[http://rusd.marin.k12.ca.us/belaire/BALearningCenter/carewebpage/reading_ha
ndbook/prior_knowl.htm](http://rusd.marin.k12.ca.us/belaire/BALearningCenter/carewebpage/reading_ha
ndbook/prior_knowl.htm)

Anticipation Guides

Description:

An anticipation guide presents a list of statements (not questions) that are related to the reading selection. These statements should be written in a way that makes the student really read the text and think about what they read in order to agree or disagree with the statement. In addition, students have to give proof from the selection to back up their opinions. Some of the statements should be written so that students can agree or disagree depending on how they interpret the information in the reading selection. This will encourage discussion.

Research Base:

Text comprehension can be improved by instruction using comprehension strategies such as the anticipation guide (NIFL, 2001). It is a detailed activity that uses prediction in order to make a connection to comprehension. It can be used in any subject area. The purpose of the guide is to prepare students to read with specific purposes.

Example:

Reading Anticipation Guide for Macbeth

Agree	Mark agree or disagree before reading.	Disagree
	1. There are truly good and truly bad people.	
Evidence from the text:		
	2. You should never compromise your values.	
Evidence from the text:		
	3. One who uses violence to get power is more likely to fall.	
Evidence from the text:		
	4. Greed only leads to bad things.	
Evidence from the text:		
	5. The direction of our lives is decided by something's or someone's actions.	
Evidence from the text:		

Additional Resources:

Guide to Anticipation Guides

teachingtoday.glencoe.com/userfiles/file/anticipation_guide.pdf

Further Information and Examples

http://www.educationworld.com/a_lesson/dailylp/dailylp/dailylp067.shtml

Research and a Printable Blank Anticipation Guide

<http://www.readwritethink.org/classroom-resources/lesson-plans/guided-comprehension-previewing-using-226.html>

Authentic Assessment

Description:

Authentic Assessments involve engaging tasks built around important questions/issues reflecting real world questions or situations. The tasks involve focus on “real-life” problems, generally requiring students to produce some kind of quality product and/or performance. Effective use of authentic assessment means going beyond mastery-style drill and practice and making consistent use of real-world application questions and problems.

Research Base:

A considerable body of research on learning has found that we cannot simply be fed knowledge. We need to construct our own meaning of the world, using information we have gathered and were taught and our own experiences with the world (e.g., Bransford & Vye, 1989; Forman & Kuschner, 1977; Neisser, 1967; Steffe & Gale, 1995; Wittrock, 1991). Thus, assessments cannot just ask students to repeat back information they have received. Students must also be asked to demonstrate that they have accurately constructed meaning about what they have been taught.

Example:

Math Assessment: Unit Rate
STANDARDS <ul style="list-style-type: none">• Round numbers to given place values• Solve problems involving decimal values• Calculate rates• Give evidence of work done to solve a problem• Make conclusions from given data
TASK <p>Find an ad that gives the price of an item as a rate that is not a unit rate (for example \$1.29 for 3 candy bars). The price should include cents. Show work as you determine how much you pay per one item, remember to round answer to the nearest cent. *Double check your set up...be careful not to determine how much of an item you get per one dollar! State the unit rate as a phrase (for example \$0.43 for 1 candy bar). Attach ad to computation work.</p>

Additional Resources:

Authentic Assessment Toolbox

<http://jonathan.mueller.faculty.noctrl.edu/toolbox/examples/authentictaskexamples.htm>

Authentic Assessment Online Resources

<http://www.uwstout.edu/soe/profdev/assess.shtml>

Authentic Assessment Tools

www.calpro-online.org/eric/docs/custer/custer5.pdf

Backward Design

Description:

Backward design is a method of designing instruction by setting goals and developing the assessment piece first, before choosing activities or content to teach. The idea is to teach towards those goals, which ensures that the content taught remains focused and organized, promoting a better understanding for students.

A metaphor used by proponents of backward design is a roadmap: with backward design, one chooses the destination first and then follows the map to go directly there. With traditional curriculum planning, one just hits the road hoping to reach the final destination.

Research Base:

A considerable body of research on learning has found that we cannot simply be fed knowledge. We need to construct our own meaning of the world, using information we have gathered and were taught and our own experiences with the world (e.g., Bransford & Vye, 1989; Forman & Kuschner, 1977; Neisser, 1967; Steffe & Gale, 1995; Wittrock, 1991). Thus, assessments cannot just ask students to repeat back information they have received. Students must also be asked to demonstrate that they have accurately constructed meaning about what they have been taught.

Example:

Planning a Unit of Study Using Backward Design
<ol style="list-style-type: none">1. Identify the curriculum or unit to be taught using state standards.2. Establish the goals of the curriculum3. Design the assessment piece.4. Identify essential questions to be considered throughout the unit5. Identify the enduring understandings students should have after being taught (Students will understand...)6. Identify content knowledge students will acquire (Students will know...)7. Identify skills students will acquire (Students will be able to...)8. Design lessons and activities leading up to the assessment piece which will guide students in mastering the assessment.

Additional Resources:

Introduction to Backward Design

www.ascd.org/ASCD/pdf/books/mctighe2004_intro.pdf

Principles of Backward Design

www.wku.edu/.../Designing_lesson_plans_using_Backwar_Design.pdf

Understanding Backward Design, Wiggins and McTighe

ISBN-13: 978-1-4166-0035-0

Bellringers

Description:

Bellringers (also known as “Do Now,” Coming In Activities, morning work, etc.) are important, instruction-based classroom management tools that help you to establish yourself as a proactive teacher. These activities help you prepare your students for the day’s work and set the tone for an instruction-centered day. Having brief work on the board when students enter the room can create clarity about what students are to be working on and eliminate the excuses that lead to distraction. Additionally, when these activities are relevant to the learning of the day, students have done the anticipatory set and are thinking about what is coming.

Research Base:

Utilization of Coming In Activities helps teachers to:
Transition from hallway leisure to classroom learning
Review and Preview a lesson
Review And Preview
Meet Student Needs
Focus students on the Learning
(Braves and Sealock, 2008)

Example:

Suggestions for Bellringer Activities

- Items from the TCAP sampler and/or practice tests
- Think Link Probes
- ACT/Gateway Question of the Day
- Political Cartoons: Historical and Current
- Daily Oral Language
- Mountain Math/Mountain Language
- Games and Activities
- Analyze Arts and Images
- Analyze
- Pre-assessment and/or Review
- This Day in History
- Short Readings

Additional Resources:

Education World Article on Bellringers

http://www.educationworld.com/a_lesson/lesson/lesson336.shtml

Articles on Bell Ringer Activities

http://www.suite101.com/reference/bell_work_or_bell_ringer_activities

Additional Information on Do Now Activities

http://classroom-activities.suite101.com/article.cfm/five_fantastic_starters_donows

Brain-Based Teaching

Description:

Knowledge is stored in the brain in two modes: linguistic (words) and imagistic (pictures and sensations). Brain based teaching helps students make connections for long-term memory and recall. Typically the left hemisphere of the brain is associated with verbal skills and the right with spatial skills. The three instructional techniques associated with brain-based learning are:

- Orchestrated immersion – creating learning environments that fully immerse students in an educational experience.
- Relaxed alertness – trying to eliminate fear in learners, while maintaining a highly challenging environment.
- Active processing – allowing the learner to consolidate and internalize information by actively processing it.

Research Base:

Research has shown that presenting information in non-linguistic representations stimulates and increases brain activity. Non-linguistic representations may take different forms (see examples). It is important to remember, however, that the goal must be to provide the knowledge in the mind of the student and have the non-linguistic representation add to the student's knowledge.

Suggested Brain Based Strategies and Activities	
Physical Movement	<ul style="list-style-type: none"> • Strengthens learning and improves memory retrieval • Enhances learners' confidence Activities include: role-playing for one minute, ball-toss for review, stretching, and cross-lateral movement activities.
Images	<ul style="list-style-type: none"> • Eyes can process 36,000 visual messages an hour • Attracts learners' attention Activities include project-based assignments, computers, art supplies, graphics, charts, bulletin boards, and video segments
Color	<ul style="list-style-type: none"> • Brain-based motivation to learn • Every color has a wavelength and affects the brain differently Activities include: using colored handouts, overhead transparencies, colorful posters, and encouraging the use of color on student assignments (colored pencils/pens).
Emotion	<ul style="list-style-type: none"> • Contributes to attention, perception, memory, and problem solving • Effective emotions to evoke include risk, excitement and urgency. Activities include: public speaking exercises, debates, public performances, races, discussion, and helping the teacher for a day.
Change	<ul style="list-style-type: none"> • The brain's tendency is to learn from new or contrasting experiences. • Once we have become accustomed to an environment, our brain begins to operate at a lower level. Activities include: multisensory aromas, music, seating changes, room arrangement, lighting changes, and relevant real-world field trips and guest speakers.
Teach Thinking Skills	<ul style="list-style-type: none"> • Allows the brain to make decisions that promote creative, meaningful, and productive judgment • Modeling and organizing projects that require higher-order thinking Activities include: allowing students to gather information, conceptualize their problem, generate possibilities, and encourage a public presentation of their final results.

Additional Resources:

Links on Brain-Based Education

<http://www.uwsp.edu/education/wilson/links/Brainbasedlinks.htm>

Classroom applications of current brain research

<http://www.brains.org/>

Compare and Contrast

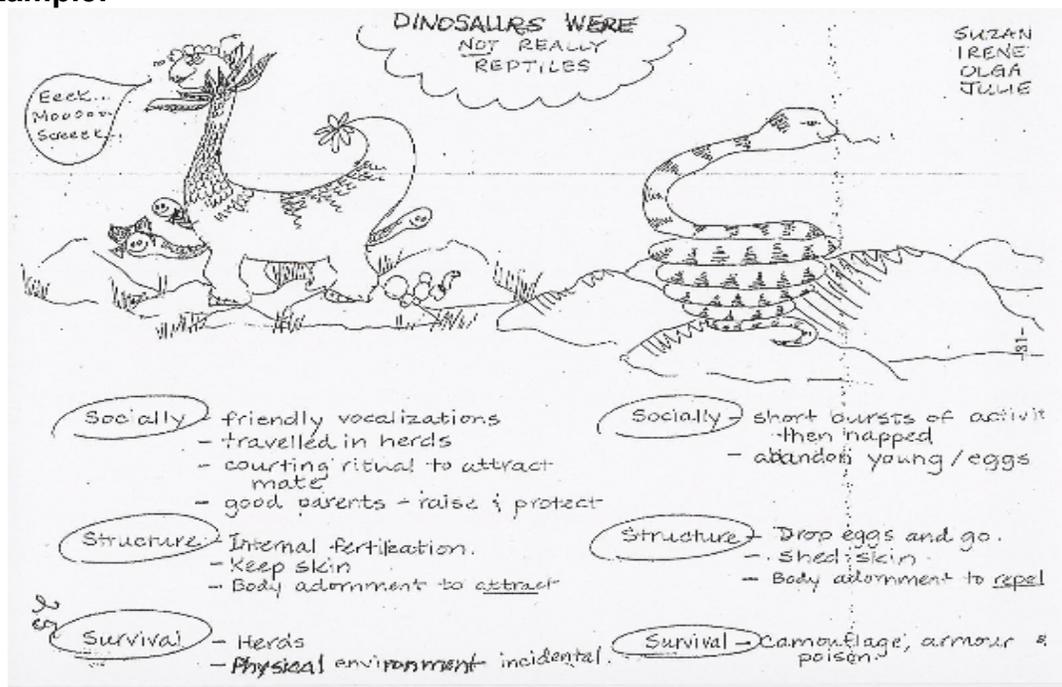
Description:

Classroom activities that ask students to identify similarities and differences result in understanding content at a deeper level. It is critical that the teacher gives the students the criteria or characteristics for which information needs to be collected rather than allowing students to determine their own criteria. After collecting information based on the given criteria and sorting the information into similarities and differences, students are asked to use their knowledge in a synthesis task, or application activity.

Research Base:

Marzano, Pickering and Pollack (2001) recommend that teachers both present students with explicit guidance in identifying similarities and differences and have students identify similarities and differences independently. Instruction of each process should begin with a teacher-directed model that uses familiar content to teach students the steps involved. Graphic organizers, particularly for comparisons and classifications, and guidance should be provided throughout the process.

Example:



Synthesis task: Write a pet store advertisement for your new product, pet dinosaurs, which explains to potential buyers why it is both similar and different than the reptiles you have always sold.

Additional Resources:

Technology Resources for Compare and Contrast

http://www.tltguide.ccsd.k12.co.us/instructional_tools/Strategies/Strategies.html#similar

Marzano Research on Similarities and Differences

http://www.marzanoresearch.com/research/researched_strategies.aspx

Powerpoint on Similarities and Differences

sddial.k12.sd.us/esa/doc/teachers/marzano/SimDiff.ppt

Cooperative Learning

Description:

Cooperative Learning is an instructional approach in which students work together as a team with each member contributing to the completion of the task or project. Membership of each group should be based on instructional effectiveness rather than allowing students to choose their friends. Cooperation is most effective when high achieving students are grouped with average achieving students, and average achieving students are grouped with low achieving students. Students could be asked to make a team project or discuss and combine ideas and then work on individual parts. Members can be assigned roles. (1-one who guides discussion, 2-one who records, 3-one who makes sure everyone participates, 4-one who keeps all on task, 5 one who keeps up with time). It is important that these roles rotate to each student in the group as new activities are assigned so that each student eventually assumes each responsibility.

Research Base:

Of sixty-four studies of cooperative learning methods that provided group rewards based on the sum of group members' individual learning, fifty (78%) found significantly positive effects on achievement, and none found negative effects. (Slavin, 1995).

Example:

Partnering Strategy: Think-Pair Share
1. With students seated in teams of 4, have them number them from 1 to 4.
2. Announce a discussion topic or problem to solve. (Example: Which room in our school is larger, the cafeteria or the gymnasium? How could we find out the answer?)
3. Give students at least 10 seconds of think time to THINK of their own answer. (Research shows that the quality of student responses goes up significantly when you allow "think time.")
4. Using student numbers, announce discussion partners. (Example: For this discussion, Student #1 and #2 will be partners. At the same time, Student #3 and #4 will talk over their ideas.)
5. Ask students to PAIR with their partner to discuss the topic or solution.
6. Finally, randomly call on a few students to SHARE their ideas with the class.

Additional Resources:

Further Information and Activity Ideas

<http://edtech.kennesaw.edu/intech/cooperativelearning.htm>

The Cooperative Learning Center

<http://www.co-operation.org/>

Cooperative Learning Strategies Online

<http://olc.spsd.sk.ca/de/pd/instr/strats/coop/index.html>

Differentiated Assessment by Learning Style

Description:

Just as a student tends to favor a certain learning style, or approach to learning, student equally favor a means by which to exhibit what they have learned. One way to accommodate lessons to work with different types of learners is to use an activity menu, or task rotation. In this type of assignment, tasks are consciously varied to make sure all students' styles and preferences are utilized. There are many ways to assign a task rotation. Students can be required to complete all activities, choose an activity, choose one from the left and one from the right, or the teacher assigns one and the student chooses one.

Research Base:

In a general school population:	Of those students labeled "at-risk"
35% are Mastery learners	12% are Mastery learners
35% are Interpersonal learners	63% are Interpersonal learners
15% are Understanding learners	1% are Understanding learners
15% are Self-Expressive learners	25% are self-expressive learners

Example:

Fraction Task Rotation

<p style="text-align: center;">Mastery</p> <p>Students are required to pass a four-minute, 24-problem speed test on fraction computation based on the most common fractions.</p> <p>Passing score required: 90%</p>	<p style="text-align: center;">Interpersonal Learners</p> <p>Students need to use fractions to analyze their family's weekly grocery shopping.</p> <ul style="list-style-type: none"> • Make a complete list of all items • Categorize items into 5 groups • Determine what fraction of items belong to each group • What fraction of total cost is spent on items in each group?
<p style="text-align: center;">Understanding Learners</p> <p>Students are given 12 previously solved fraction computations. Four of the answers are mistaken. Students need to locate the mistakes, correct them, and write a brief explanation of the errors in thinking that led to the mistake.</p>	<p style="text-align: center;">Self-Expressive Learners</p> <p>Students work together in teams to create a board or card game based on fractions. All games need to deal with equivalents and require either the addition and subtraction, or the multiplication and division of fractions.</p>

Additional Resources:

Thoughtful Classroom Task Rotation Online Resources

<http://www.boyd.k12.ky.us/curriculum/>

Sample Task Rotations

<http://www.carroll.kyschools.us/Curriculum/taskrotation/index.html>

The Strategic Teacher, Silver, Strong, and Perini
ISBN-13: 978-0135035849

Essential Questions

Description:

Essential questions spark our curiosity and sense of wonder. They derive from some deep wish to understand something that matters to us. For students, essential questions are a clear statement of expectations - what they will know and be able to do, allowing them to take more responsibility for taking learning away from every lesson.

Essential questions reside at the top of Bloom's Taxonomy. Essential questions have no simple answers. Rather, they require students to evaluate (make a thoughtful choice between options, with the choice based upon clearly stated criteria), to synthesize (invent a new or different version) or to analyze (develop a thorough and complex understanding through skillful questioning).

Research Base:

They point to the heart of a subject or topic, especially its controversies. They generate multiple plausible answers, perspectives, and research directions-leading to other questions. They cast old knowledge, ideas, and texts in a new light; they make the familiar strange and the strange familiar. They lead to discovery as opposed to "coverage." (Ciardiello 1998)

Example:

Sample Essential Questions

Science

How do chemicals benefit society?
Are animals essential for man's survival? Explain.

Math

When is multiplication most useful? Can multiplication make things smaller?
How is geometry used in the real world?

Social Studies

How have ancient Greeks affected our society?
Why would the Europeans want to come to the colonies?

Language Arts

Why read?
What is the connection between reading and writing?

Physical Education

Why should you spend time stretching before and after an athletic event?
What are the top three rules in basketball? Why?

Additional Resources:

Information and Examples of Essential Questions

www.oakcrest.net/news/essential.pdf

Using Essential Questions

<http://www.techforlearning.org/essquest.html#Characteristics%20for%20writing>

Questioning Toolkit

<http://www.fno.org/nov97/toolkit.html>

Formative Assessment

Description:

Formative assessment gives information to teachers *and students* about how students are doing relative to classroom learning goals. Feedback is an important component of the formative assessment process. From the student's point of view, the formative assessment "script" reads: "What knowledge or skills am I trying to develop? How close am I now? What progress have I made? What do I need to do next?" Mastering the skill of good feedback an important component of effective formative assessment. In order for formative assessment to be effective, it *must* change or inform the teacher's practice.

Research Base:

The evidence shows that high quality formative assessment does have a powerful impact on student learning. Black and William (1998) report that studies of formative assessment show an effect size on standardized tests of between 0.4 and 0.7, which is larger than most known educational interventions. Formative assessment is particularly effective for students who have not done well in school, thus narrowing the gap between low and high achievers while raising overall achievement.

Example:

Formative Assessment Techniques
• Homework and quizzes
• Exit Tickets
• One minute papers
• Concept Mapping
• Surveying Students
• Learning Logs/Journals

Additional Resources:

Examples of Formative Assessment Strategies

www.lincoln.k12.or.us/.../Formative%20Assessment%20Strategies.pdf

Formative and Summative Assessment in the Classroom

<http://www.nmsa.org/Publications/WebExclusive/Assessment/tabid/1120/Default.aspx>

Research on the Value of Formative Assessment

<http://www.fairtest.org/value-formative-assessment-pdf>

Graphic Organizers

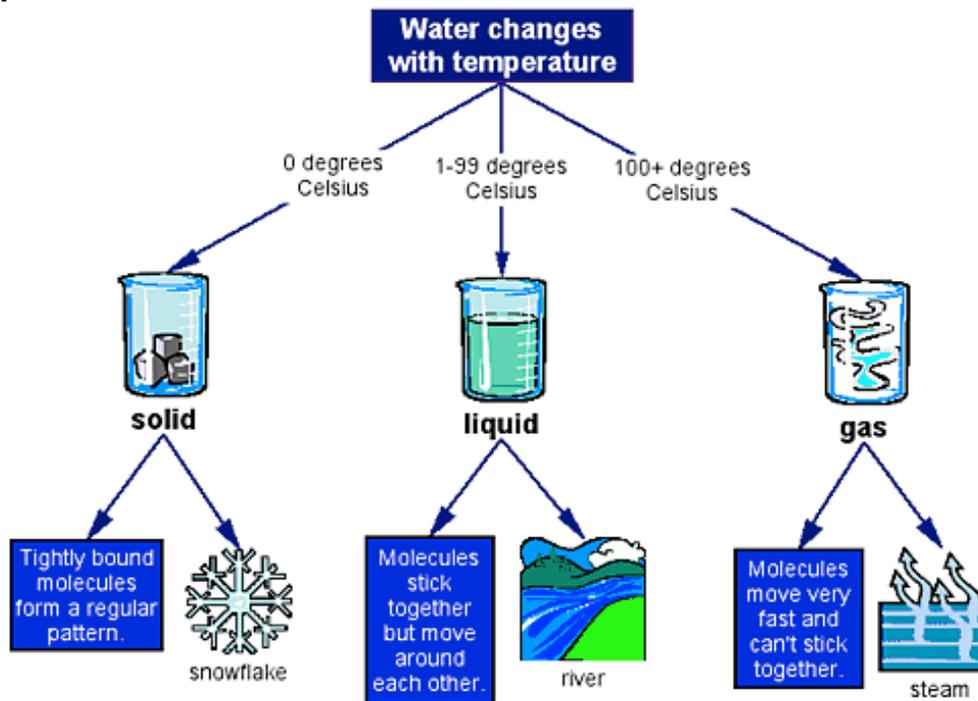
Description:

A graphic organizer is a visual and graphic display that depicts the relationships between facts, terms, and/or ideas within a lesson. Graphic organizers support the content being presented by allowing students to create powerful visual representations of what they are learning. The ability to read and complete graphic organizers is now an assessed skill on TCAP.

Research Base:

Lovitt (1994) attests to the use of graphic organizers to organize and highlight essential content information and/or vocabulary. Fountas and Pinnell (2001) cite that when content is illustrated with diagrams, the information can be maintained by students over a period of time. Organizers portray knowledge in a meaningful way, which helps bring clarity to ideas as connections are made.

Example:



Additional Resources:

Printable Graphic Organizers

<http://www.eduplace.com/graphicorganizer/>

Graphic Organizers for Writing

<http://www.writedesignonline.com/organizers/>

EdHelper Free Graphic Organizers

http://edhelper.com/teachers/graphic_organizers.htm

Homework and Practice

Description:

Effective homework and practice provide opportunities for students to practice, review, and apply knowledge. It also enhances a student's ability to reach a level of expected proficiency for a skill or concept. Homework should not simply be "more of the same" of what was completed in class. Teachers should assign appropriate homework at instructional levels that match students' skills and provide positive consequences for homework completion. Students should receive feedback on their homework. Grading homework is critical to convey the importance of the work, but homework in which a teacher has embedded instructive comments has the greatest effect on learning.

Research Base:

Homework enhances a student's ability to reach a level of expected proficiency for a skill or concept. Research referenced in Marzano, Pickering, and Pollock's book (2001) indicated students need to practice a skill 24 times to reach 80% competency, with the first four practices yielding the greatest effect.

Example:

Four Types of Effective Homework
<ul style="list-style-type: none">• Memorization of basic rules, algorithms, or laws so the skill becomes rote.
<ul style="list-style-type: none">• Increase in skill speed, used for improving students' abilities to apply these skills in more complex problem solving.
<ul style="list-style-type: none">• Deepening understanding of a concept—providing students time to read further, elaborating on a new idea and expanding their understanding.
<ul style="list-style-type: none">• Preparation for the following day's learning, such as an advance organizer or cue to increase readiness for new information.

Additional Resources:

Research on Homework and Practice

<http://www.netc.org/focus/strategies/home.php>

Integrating Technology into Homework and Practice

http://www.tltguide.ccsd.k12.co.us/instructional_tools/Strategies/Strategies.html

Classroom Instruction that Works, Marzano, Pickering, Pollock

ISBN# 13- 978-0-87120-504-9

Lesson Hooks and Bridges

Description:

The hook of a lesson (also known as the anticipatory set) is a way to compel the students to want or need to know and learn the content the teacher is presenting. A hook focuses thinking and opens up memory banks closely associated with the new content. After students process, respond to, and discuss the hook, the teacher “bridges” the hook to the content of the lesson. In the bridge, the teacher shows students how their ideas discussed in the hook relate to the new material.

Research Base:

The hooks and bridge strategy helps students gain a frame of reference for their learning, thus enabling them to recognize how the new material they are learning fits into the conceptual frameworks they already have, an ability that Vacca and Vacca (2008) denotes as an important technique in helping students focus their attention.

Example:

Solar System Hook and Bridge
Hook: Have you ever lain down and looked up at the sky during a dark and starry night? What did you see? Did you find any constellations? Do you know what you saw? How did it make you feel?
Bridge: Today we are going to take time to study more about our solar system so the next time you gaze at the stars you will be able to spot and recognize even more phenomenal heavenly bodies.

Additional Resources:

Thoughtful Classroom Hooks and Bridges

www.marshall.k12.ky.us/Thoughtful%20Ed/.../HooksandBridges.pdf

Learning About Tasks and Hooks

http://ed.fnal.gov/lincon/act/el/ml_taskhook.shtml

Sample Unit Hooks

<http://www.lessonplanspage.com/LACreatingTheHookInOpeningSentencesUsingRoaldDahlBooks47.htm>

Integrated Technology

Description:

Properly used, technology will help students acquire the skills they need to survive in a complex, highly technological knowledge-based economy. Effective tech integration should happen across the curriculum in ways that research shows deepen and enhance the learning process. In particular, it must support four key components of learning: active engagement, participation in groups, frequent interaction and feedback, and connection to real-world experts. Effective technology integration not only teaches content, but authentic skills that students will use in their lives.

Research Base:

In a 2000 study commissioned by the Software and Information Industry Association, Sivin-Kachala and Bialo (2000) reviewed 311 research studies on the effectiveness of technology on student achievement. Their findings revealed positive and consistent patterns when students were engaged in technology-rich environments, including significant gains and achievement in all subject areas, increased achievement in preschool through high school for both regular and special needs students, and improved attitudes toward learning and increased self-esteem.

Example:

How-To Project
Students tell the audience "How to" do something.
Organizational outline includes:
a) Select topics (Sample How-To Topics),
b) Write steps on a practice sheet
c) Create storyboard using clip art or digital pictures
d) Create Powerpoint Presentation-one slide per step,
e) Include title page, materials, and credits
f) Present products using Smartboard

Additional Resources:

Internet for Classrooms Technology Lesson Plans

http://www.internet4classrooms.com/integ_tech_lessons.htm

Education World Technology Center

http://www.educationworld.com/a_tech/tech/tech146.shtml

Research on Using Technology to Increase Student Achievement

<http://www.ncrel.org/sdrs/areas/issues/methods/technlgy/te800.htm#researchres ult>

Interactive Lecture

Description:

Interactive lectures are discussions in which the teacher breaks the lecture/content presentation at least once per class to have all of the students participate in an activity that lets them work directly with the material. Rather than presenting content in a single sitting, the teacher will typically divide the content into topic segments. After directly presenting content, students are asked to participate in an activity that reinforces information from the previous segment. The interactive lecture is particularly effective in breaking up a 90-minute block scheduled class.

Research Base:

We learn best in interactive, student-centered environments that are not based solely on a model of the instructor as a transmitter of knowledge (Bransford, Brown & Cocking, 1999.)

Example:

Interactive Lecture Plan On Types of Rocks
Teacher presents lecture segment on Igneous Rock. Students take notes in graphic organizer. ↓
Activity: Students “Think-Pair-Share” an answer to the following question: “How are igneous rocks formed?”
Teacher presents lecture segment on Metamorphic Rock. Students continue taking notes in graphic organizer. ↓
Activity: Students sketch a flow chart showing the formation of metamorphic rock.
Teacher presents lecture segment on Sedimentary Rock. Students complete graphic organizer with notes from the segment. ↓
Activity: Instructor shows flowchart describing formation of sedimentary rock in which a mistake is made. Teacher asks students to identify and correct the mistake.
Other suggested segment activities include: Question of the day, Exit Ticket, Pro/Con grid, viewing brief video clips to enhance segment.

Additional Resources:

More information on Think-Pair-Share

<http://serc.carleton.edu/introgeo/interactive/whatis.html>

More information on Question of the Day

http://www.internet4classrooms.com/question_day.htm

Thoughtful Classroom New American Lecture Planning Forms

www.meadowviewmiddle.com/.../port-NewAmericanLecture-WS.pdf

Learning Logs/Class Journals

Description:

Learning logs are a simple and straightforward way to help students integrate content, process, and personal feelings. Learning logs operate from the stance that students learn from writing rather than writing what they have learned. The common application is to have students make entries in their logs during the last five minutes of class or after each completed week of class. The idea is that short, frequent bursts of writing are more productive over time than are infrequent, longer assignments. Properly understood and used, learning logs become a vehicle for exchange among parents, teachers, and students.

Research Base:

A learning log can serve as an ongoing laboratory notebook for learning. Diagnostic learning logs provide faculty with information and insights into a student's awareness of and skill at identifying strengths and weaknesses as a learner. The teacher can scrutinize a student's metacognitive skills, such as observing, evaluating, and criticizing their own learning. (Caviglioli, Oliver; Ian Harris, 2002)

Example:

Logs can include problem-solving entries from mathematics or science, observations from lab experiments, questions about lectures or readings, lists of books students have read or would like to read and homework assignments.

The following questions could be used to guide students in making thoughtful entries in their learning logs:

- What did I do in class today?
- What did I learn?
- What did I find interesting?
- What questions do I have about what I learned?
- What was the point of today's lesson?
- What connections did I make to previous ideas of lessons?

Additional Resources:

Adapting Learning Logs to Math, Science and Social Studies

<http://olc.spsd.sk.ca/de/pd/instr/strats/logs/>

Various Types of Learning Logs

<http://www.wku.edu/3kinds/mfillmpg.html>

Information and Links about Using Learning Logs

<http://wvde.state.wv.us/strategybank/LearningLogs.html>

Learning Styles

Description:

Learning styles are various approaches or ways of learning. Recognition of learning styles means understanding that students learn in different ways and perform best when allowed to express their learning in a style that is comfortable for them. Teachers need to recognize their own learning style and the style in which they have a tendency to teach so they can make conscious decisions about teaching to all students.

Research Base:

Teachers know that students learn in different ways; the experience in the classroom confirms this every day. In addition, well-accepted theories and extensive research illustrate and document learning differences. Learners bring their own individual approach, talents, and interests to the learning situation. These beliefs, principles and theories have an important impact on the opportunities for success for every student in our schools. (Burke, 2001)

Example:

<p style="text-align: center;">Mastery</p> <p>Prefer activities that focus on: organizing and managing information; repetitive exercises that provide practice. Prefer assessments that are: made on the basis of clarity and correctness. Tasks include listing, describing, sequencing, following the procedure, recalling, and restating.</p>	<p style="text-align: center;">Interpersonal Learners</p> <p>Prefer activities that focus on: helping students identify and make use of their feelings, empathizing, examining beliefs and values, cooperative learning. Prefer assessments that are: made on the basis of honesty, vividness, expressiveness, and ability to participate and work cooperatively.</p>
<p style="text-align: center;">Understanding Learners</p> <p>Prefer activities that focus on: explaining, defining concepts, determining criteria, explaining relationships, cause and effect, testing theories. Prefer assessments that are: judged on comprehensiveness quality of reasoning, and use of evidence.</p>	<p style="text-align: center;">Self-Expressive Learners</p> <p>Prefer activities that focus on: creating unique products, using art to express ideas, speculating, designing or creating solutions, using metaphors to see things in new and different ways. Prefer assessments that are: judged on originality and creativity, relevant to the purpose being addressed.</p>

Additional Resources:

Articles, Recommended Reading, and Links about Learning Styles

http://www.newhorizons.org/strategies/styles/front_styles.htm

Learning Styles Information and Inventory

<http://www.ldpride.net/learningstyles.MI.htm>

Learning Styles and Strategies, Silver and Hanson

ISBN# 1-58284-001-6

Nonlinguistic Representations

Description:

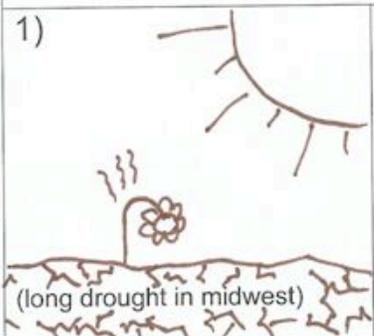
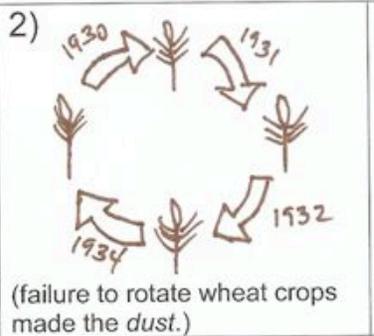
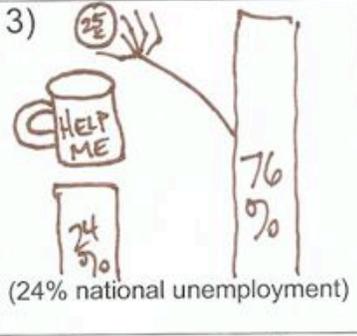
Nonlinguistic representations are expressions of student understanding that involve more than just written words. These expressions can include, but are not limited to, concept maps, idea webs, dramatizations, and illustrations. When students are then asked to explain their models, they are putting their thinking into words, which may lead to new questions, and discussion that promotes deeper thinking and thus better understanding.

Research Base:

Learners acquire and store knowledge in two primary ways: linguistic (by reading or hearing lectures), and nonlinguistic (through visual imagery, kinesthetic or whole-body modes, and so forth). The more students use both systems of representing knowledge, the better they are able to think about and recall what they have learned (Marzano, Pickering, & Pollock, 2001).

Example:

What are three different influences (global, national, personal) that forced some Americans to become part of the group known as Okies?

Introductory sentence: A lot of American citizens were forced to become Okies in the 30's thanks to several causes.		
1)  (long drought in midwest)	2)  (failure to rotate wheat crops made the dust.)	3)  (24% national unemployment)
Summary or conclusion sentence: With unemployment on the rise today, I wonder if America might have another forced migration again in the future.		

Additional Resources:

Focus on Effectiveness: Research Based Strategies

<http://www.netc.org/focus/strategies/nonl.php>

Integrating Technology into Classroom Instructional Strategies

http://www.tltguide.ccsd.k12.co.us/instructional_tools/Strategies/Strategies.html

Writing Fix: Nonlinguistic Representations Across the Curriculum

http://www.writingfix.com/WAC/nonlinguistic_reps.htm

Notemaking

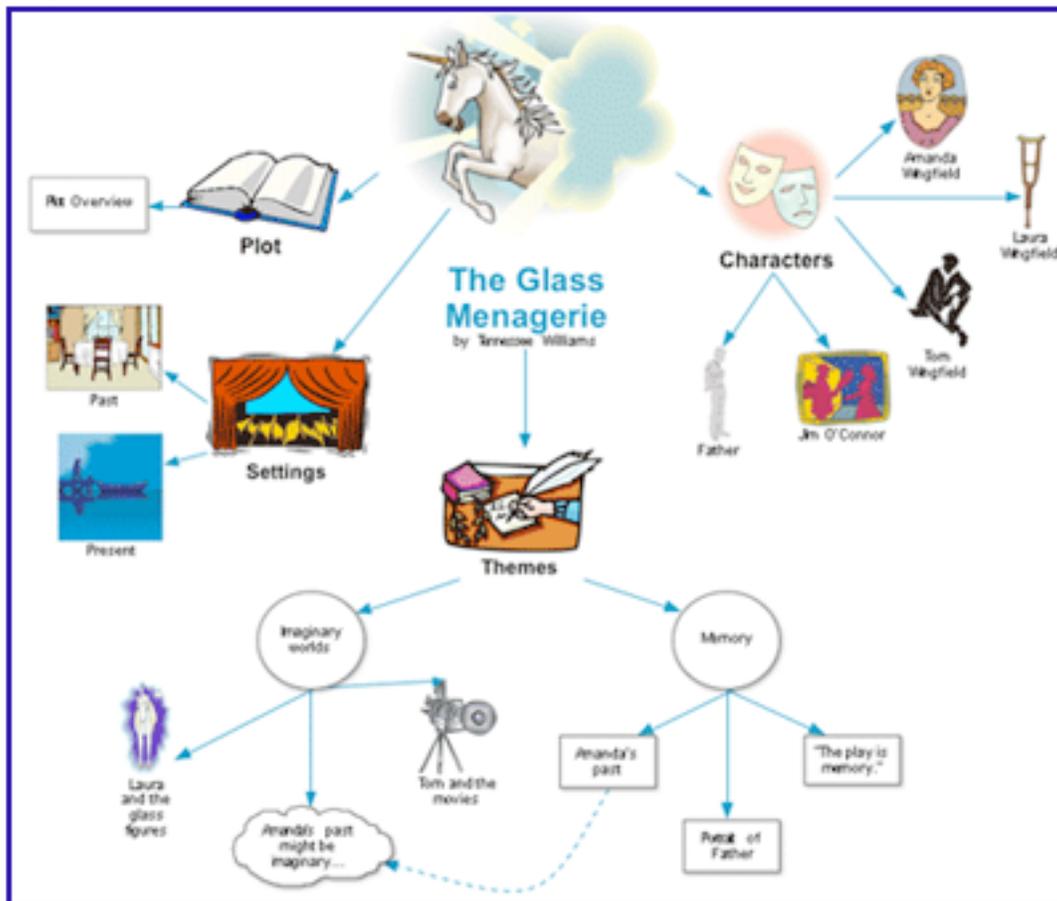
Description:

Being a successful student requires various skills, among them the ability to know and use a variety of tools and techniques to generate and organize information and ideas. While "taking notes" (or copying notes) is passive and statistically ineffective, "notemaking" involves reorganizing and regenerating information and representing it in a way that is meaningful to the student and his/her thought process. Notemaking activities can include cluster notes, creating nonlinguistic representations, flow charts, concept maps, writing on photocopies of stories or articles, and/or use of webs. After making notes, students use their notes in a synthesis task.

Research Base:

Marzano, Pickering, and Pollock (2001) found that note-savvy students saw an average percentile gain in academic achievement of over 30 points.

Example:



Additional Resources:

Start Webbing

http://interactives.mped.org/view_interactive.aspx?id=127&title=

Graphic Maps

<http://www.readwritethink.org/files/resources/interactives/graphicmap/>

Reader's Theater

Description:

Reader's Theater involves students taking virtually any piece of literature, analyzing it, and adapting it into a script. The students read directly from the scripts and are able to tell a story in an entertaining and dramatic form, without props, costumes, or sets. This is a reading activity, and students are not asked to memorize their lines. They are, however, encouraged to use intonation, fluency, and gestures appropriate to their characters and their characters' words.

Research Base:

Reader's Theatre helps to build fluency and is valuable for providing the motivation to read text multiple times: an authentic reason to reread text. (Strecker, Roser, & Martiez, 1999) For many struggling readers, the motivating factor is very strong and a critical component of helping them develop into fluent readers. Benefits include:

- Helps develop accuracy, rate, and prosody
- Helps students understand the importance of intonation and how it relates to context
- Improves student's comprehension of text through repeated readings and variations in interpretation
- Requires teamwork among students
- Sanctions peer interaction and fun

Example:

Day 1: Teacher reads a story and/or primary source document and the script is developed through discussion of characters, setting, plot, and student responses. Students put script in a ring binder. Teacher reads script to students, modeling reading with expression and attention to phrasing while students follow along.

Day 2: Students practice reading scripts while listening to a tape recording of the script. Students read their parts multiple times in pairs or small groups to give and receive feedback. Teacher circulates and provides instruction as needed.

Day 3: Teacher listens to whole group performance with focus on volume, expression, phrasing, and transition from one part to another and offers advice and help as needed. Group rereads script again. Students take script home to practice.

Day 4: Rehearsal of story script with whole group. Individuals practice parts with tape, peer, or teacher.

Day 5: Students perform reader's theatre script for class or grade level.

Additional Resources:

Readers Theater Scripts and Plays

<http://www.teachingheart.net/readerstheater.htm>

Reader's Theater for Middle School and High School

<http://www.aaronshp.com/rt/RTE.html>

Reader's Theater Tips and Titles

<http://www.timelessteacherstuff.com/>

Reciprocal Teaching

Description:

Reciprocal teaching refers to an instructional activity that takes place in the form of a dialogue between teachers and students regarding segments of text. The dialogue is structured by the use of four strategies: summarizing, question generating, clarifying, and predicting. The teacher and students take turns assuming the role of teacher in leading this dialogue. The purpose of reciprocal teaching is to facilitate a group effort between teacher and students as well as among students in the task of bringing meaning to the text.

Research Base:

(Palincsar & Klenk, 1991) have conducted a series of studies to determine the effectiveness of reciprocal teaching. Reciprocal teaching was implemented in classes with groups ranging in size from 8 to 18, 71 percent of the students achieved reading goals as opposed to 19 percent of the control students who were involved in individualized skill instruction. Furthermore, teachers observed fewer behavior problems in their reciprocal teaching groups than in their control groups.

Example:

1. Put students into groups of four. Distribute one notecard to each member of the group identifying each person's unique role.
 - a. Summarizer
 - b. Questioner
 - c. Clarifier
 - d. Predictor
2. Have students read a few paragraphs of the assigned text selection. Encourage them to use note-taking strategies while reading.
3. At the given stopping point, the Summarizer will highlight the key ideas up to this point in the reading.
4. The Questioner will then pose questions about the selection:
 - o unclear parts/puzzling information
 - o connections to other concepts already learned

The Clarifier will address confusing parts and attempt to answer the questions that were just posed.

The Predictor can offer guesses about what will happen next or, if it's a literary selection, the predictor might suggest what the next events in the story will be.

The roles in the group then switch one person to the right, and the next selection is read. Students repeat the process using their new roles. This continues until the entire selection is read.

Additional Resources:

More information on Reciprocal Teaching

<http://www.sdcoe.k12.ca.us/score/promising/tips/rec.html>

More Research and Examples of Using Reciprocal Teaching

<http://www.greece.k12.ny.us/instruction/ela/6-12/Reading/Reading%20Strategies/reciprocal%20teaching.htm>

Additional Information and Downloadable Prompt Cards

<http://www.adrianbruce.com/reading/room4/recip/>

Six-Trait Writing

Description:

The Six Trait Model of Writing Instruction and Assessment breaks down the complex task of learning to write into a group of teachable and assessable skills. This model provides a framework that emphasizes the writing process. In addition, the use of published literature examples to teach writing helps illustrate specific traits, provides stimulus for writing, and promotes the connection between reading and writing.

High-quality written works exhibits evidence of the following traits: good ideas, organization, personal voice, colorful word choice, sentence fluency, proper conventions.

Research Base:

A watershed of writing research came in 1986 with the publication by George Hillocks (1987) when he reviewed 2000 studies on the process of composing writing to produce a list of six instructional methods commonly adopted as curriculum or program focuses. The six instructional strategies are: grammar, the presentation of good pieces of writing showing particular structures or modes, sentence combining, use of rubrics, inquiry, and having students write freely about whatever interests them. From this research, the Northwest Regional Writing Laboratory of Nevada developed the 6-Trait Writing Model.

Example:

Trait	Characteristics of an Exemplary Sample
Ideas	This paper is clear and focused. It holds the reader's attention. Relevant details and quotes enrich the central theme.
Organization	The organization enhances and showcases the central idea or theme. The order, structure, or presentation of information is compelling and moves the reader through the text.
Voice	The writer speaks directly to the reader in a way that is individual, compelling, and engaging. The writer crafts the writing with an awareness and respect for the audience and the purpose for writing.
Word Choice	Words convey the intended message in a precise, interesting, and natural way. The words are powerful and engaging.
Sentence Fluency	The writing has an easy flow, rhythm, and cadence. Sentences are well built, with strong and varied structure that invites expressive oral reading.
Conventions (Grammar and Mechanics)	The writer demonstrates a good grasp of standard writing conventions and uses conventions effectively to enhance readability. Errors tend to be so few that just minor touchups would get this piece ready to publish.

Additional Resources:

The Writing Fix

<http://www.writingfix.com/>

OWL-Online Writing Lab

<http://www.edina.k12.mn.us/concord/teacherlinks/sixtraits/sixtraits.html>

The 6-Traits of Writing: The Complete Guide

By Ruth Culham ISBN-13 978-0439280389

Trade Books as a Teaching Tool

Description:

Trade books, which are primarily designed to entertain and inform outside the classroom, can be used successfully in the classroom to heighten motivation in your students. Dolores Durkin defines a trade book in *Teaching Them to Read* [ED 090 501] as “a book written for the library and bookstore market rather than for text use.” By selecting a trade book that aligns with content standards, teachers can enhance instruction outside the regular text. Students may show a keener interest in the lively way a trade book presents material over the stilted writings in a textbook.

Research Base:

Rop and Rop (2001) state that using trade books can fuel interest, increase curiosity, and extend textbook learning. Rice (2002) states that trade books are becoming widely popular because they tend to be more current than textbooks, more focused on a single concept, and unlike textbooks, provide for variations in reading ability and learning styles.

Example:

In order to teach the writing trait “Ideas” the class reads Alexander and the Terrible, Horrible, No-Good, Very Bad Day to hear an example of how an author uses voice in her writing. Students then begin brainstorming their own story using the following questions with Alexander as a mentor text.

What bad things might happen to you before you go to school?

Catch phrase:

What other bad things might happen to you at school before your picture is taken?

Catch phrase:

What other bad things might happen to you after you get home from school?

Catch phrase:

Conclusion-What can you say about your day?

Additional Resources:

The Writing Fix

http://www.writingfix.com/picture_book_prompts.htm

Research on Using Trade Books

http://www.writingfix.com/picture_book_prompts.htm

Suggestions for Using Trade Books

<http://www.eslteachersboard.com/cgi-bin/lessons/index.pl?read=2760>

Hamblen County Lesson Plan Template

Department of Instruction

Teacher's Name:

Grade Level/Subject Area:

Unit Title:

Lesson Title:

Goals/Objectives of the lesson in terms of student learning and behavior¹:

Academic vocabulary terms essential to the lesson²:

How will students' progress toward the achievement of the goals/objectives be measured³?

List material/media/technology and how it will be used⁴:

Description of organization of student learning (classroom structure, facility arrangement, centers, etc.):

Instructional Strategies to be used:

Page 1 of 2

¹ See "Backward Design" and/or "Essential Questions"

² See "Academic Vocabulary"

³ See "Formative Assessment"

⁴ See "Integrated Technology" and/or "Differentiated Assessment"

Instructional Procedure

Hook/Activating Prior Knowledge: *(should include strategies for demonstrating the relevance and importance of the learning)*

Teaching Procedure⁵: *(should include all of the following: variety in task structures⁶, student practice/review⁷, authentic assessment⁸, opportunities for thinking beyond recall, learner involvement, and procedures check for understanding during the lesson⁹)*

Assessment/Homework and Practice:

Page 2 of 2

⁵ See "Interactive Lecture" for upper grades

⁶ See "Learning Styles" and/or "Brain Based Teaching"

⁷ See "Homework and Practice"

⁸ See "Authentic Assessment"

⁹ See "Formative Assessment"