Components of an Effective Lesson

### Introduction
- Daily Review
- Daily Objective

### Concept Development
- Concept Linkage In Discipline
- Concept Linkage Outside Discipline

### Guided Practice
- Group Practice
- Independent Practice

### Long-Term Memory Review
- Closure
- Homework

### Teacher Expectancies
- Over Teach and Over Learn
- Student/Teacher Relationships
- Use Simple Examples

- Assessment
- Student Note-taking
- Vocabulary is Stressed

- Reading and Writing
- Facts and Procedures
- Technology Implementation

- Problem Solving
- Memory Aids
- Questioning Strategies

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Credits and Corrections: John Hawk for layout/design // Kim Cash for editing // Jeff Bostic for photos (cover). Last issue of Shop TALK (Spring 2008), the following credit was omitted: the model for cover page was identified as Brandy Adamski photographed by Jeff Bostic.
High-Impact Leadership for High-Impact Schools: The Actions that Matter Most

The educational challenge of the 21st century is to achieve high levels of learning for each and every student. As increased accountability becomes the norm, leadership becomes more challenging and demanding. In today's complex world, in schools beset with new kinds of issues and problems, the ability of the principal to improve the effectiveness of the school becomes the critical element in determining the kind of impact that the school will have on its students.

LEADERSHIP OF HIGHLY EFFECTIVE PRINCIPALS

High-impact schools are typically led by highly effective principals—principals whose leadership positively impacts the school’s success. And schools that achieve higher than expected results and achieve them faster are led by higher-impact principals than schools that do not achieve high results. There is an abundance of research that concludes that school leadership has a significant effect on student learning. In fact, nearly 25% of the in-school factors affecting student achievement can be attributed directly to the quality and effectiveness of the principal. This is second only to the effects of teacher instruction, which is shaped by the way principals select, support, and develop their teachers. And, since principals select, train, manage, support, develop, evaluate, and create the culture for teachers, the quality of teachers is greatly dependent on the effectiveness of the principal. The bottom line is that the quality and effectiveness of school principals determine the impact that schools have on students.

"Some schools do succeed at helping all their students achieve, regardless of their background or socioeconomic conditions."

BREAKING THE PATTERN

We have learned much about high performing schools over the past ten years. Some schools do succeed at helping all their students achieve, regardless of their background or socioeconomic conditions. The challenge is to determine how high-achieving schools break the usual pattern of low achievement. And the bigger question is what lessons can we learn from these schools that can be transferred to other schools that are struggling to meet the needs of every student? In particular, what leadership behaviors and decisions are different in high-impact schools than in average-impact schools?

FINDING THE EXCEPTIONS

Although public schools are responsible for educating all students, they historically have had greater success educating middle-to-upper income and white students than they have had with poor and minority students. Nearly all the worst-performing schools across the country are high-poverty schools. But there are also striking exceptions to the low income/low performance pattern. There are enough schools that defy the trend to prove that the background of the student body does not have to determine achievement results.

So, what practices make the difference? What separates high-impact schools from average-impact schools? What seems to contribute to high student performance? There are no shortcuts to school success, but a serious examination of leadership practices that can drive the quality and effectiveness of our schools appears to be the most significant way we can offer our neediest students better support to help them reach high standards of excellence. Effective educational success depends on high-impact leadership.

CREATE POWERFUL, EQUITABLE LEARNING OPPORTUNITIES

High-impact leadership means creating powerful, equitable learning opportunities for both students and teachers and motivating individuals to take advantage of those opportunities. Making an impact means taking action. How do we implement the needed reforms in a deliberate high-quality way? How can we take powerful ideas and implement them to meet the urgent educational needs of children as quickly as possible? High-impact leaders can accomplish these outcomes by focusing on five areas for action that together make it more likely that every student will have access to a high-quality and equitable learning opportunity.

In the book High-Impact Leadership for High-Impact Schools, I expand on these key ideas. We look at specific knowledge and practical strategies that point leaders toward promising possibilities of becoming high-impact leaders. The overall framework offers perspectives, tools, and tactics to make student learning more powerful and equitable with the focus on becoming a high-impact school.

High-Impact Leadership for High-Impact Schools can be found at eyeoneducation.com

Pamela Salazar
Assistant Professor in the Department of Educational Leadership at UNLV

1. It’s about the mission not the mission statement. It all starts with beliefs and values—principals cannot expect results if there is not a whole school commitment to every student’s success. Principals must focus everyone’s attention persistently and relentlessly on learning and teaching.

2. High expectations for each and every student. In high-impact schools, teachers engage students in a learning process that maximizes excellence and equity. Because teachers make no assumptions about why students cannot learn, no self-fulfilling prophecies prevail. Principals must focus on a learning agenda that ensures a rigorous standard of student performance and provides the needed supports for students to succeed.

3. Building communities of learners. Strong learning-focused communities offer professional support and provide learning opportunities and mutual accountability for improving instruction. Principals must build a work culture that promotes collaboration, knowledge sharing, and collective responsibility for improving teaching and learning.

4. Teachers are the silver bullet. Competent, caring, and qualified teachers must be in every classroom. Individual teachers have a profound influence on student learning, and the strategies they use to guide classroom practice should maximize the possibility of enhancing student achievement. Principals must help teachers succeed through supervision practices and reflective dialogue.

5. Creating a coherent system for continuous improvement. Organizational processes and practices are critical to the development of a coherent system of support for the improvement of teaching and learning. School effectiveness and the level of impact on student learning are dependent on the alignment of resources, structures, time, and decisions with each other and with a focused improvement agenda.
As professionals, we are constantly seeking ways to refine our lessons in order to improve student achievement. We spend many hours planning, looking for just the right activities to enable our students to understand the concepts and skills they need to know. After all that time and effort, picture this at the end of a science lesson:

- “Clean up. Let's get ready for…”
- “Any questions about the lesson?”
- “Let’s touch on one more idea.”

Now imagine the frustration the teacher feels because students suddenly lose interest. To avoid this, careful consideration must be given to the lesson’s closure.

Do you have the students quickly clean up and get ready for whatever comes next? Do you just ask if they have any questions about the lesson? Do you try to squeeze in one more idea or concept, only to be frustrated when they no longer seem interested? As professionals, we are constantly seeking ways to refine our lessons in order to improve student achievement. We spend many hours planning, looking for just the right activities to enable our students to understand the concepts and skills they need to know. But when we do our planning, we often forget to give careful consideration to how we will bring closure to our lesson.

Anyone who has ever attended a science class through RPDP has seen a document called “Components of an Effective Science Lesson.” This document explains how to develop a quality science lesson by focusing on three essential parts: first, an introduction, then concept/skill development, and finally, a closure. Each part of a science lesson needs to be thoughtfully developed in order to improve student achievement.

Teachers recognize the importance of a strong introduction or anticipatory set. We know we need to hook our students’ attention, guide them to connect to prior knowledge in order to transfer old learning to the new learning, and state the objective for the new lesson. We also realize we need to pay very close attention to the concept and skill development part of our lesson. We stimulate curiosity, develop vocabulary, incorporate scientific process skills and thinking, do formative assessment, etc., all with the intent of helping students learn the content and skills they need. But at the end of the lesson, we are often so pressed for time that closure is rushed or simply not done. We truly want our students to retain information that has meaning for them, so we must give serious thought to how we will close our lesson.

Assessing Student Learning

Not only does closure benefit students, it helps the teacher as well. As the students show us, in some way, what they have learned, we are able to assess their thinking and use that feedback to plan where to begin our next lesson. We are also given the opportunity to immediately address any misconceptions the students may have formed during the lesson. Thus, closure is an essential component of every science lesson and has importance for both the teacher and the students.

A quality closure does not have to be long; five to ten minutes is sufficient time to enable students to reflect on what they have learned. In order to keep students from tuning out during this part of a lesson, we need to use a variety of closure ideas. (See the following column for ideas.)

Closure is important to the retention and application of new learning. At the end of a lesson, students must be given time to prove to themselves and to you that they did indeed “get it.” When planning a lesson, serious thought needs to be given to how the closure will be structured so student achievement can improve.

References:
http://www.teachnology.com/forum

Written by: Lois Bloom,
RPDP Elementary Science Trainer
### Closure Ideas to Use in the Science Classroom

1. Have the students use their science notebooks to reflect on their thinking. They could answer a question you give them, write the most important thing they learned that day, write a question they still have, make a connection to previous experiences, etc. When using this idea, it is best to have them talk with a partner before actually writing. This will give everyone a chance to form their thinking before putting their thoughts on paper.

2. Have students reflect on the recorded data charts they may have done during an investigation, and then write their thinking in their science notebooks.

3. Give the class a question to answer: Allow pairs or teams to discuss the answer; then have each group share orally.

4. Use thinking maps to have students reflect on something they have learned. For example, if students were observing the properties of something, such as liquids, they could use a double-bubble map to compare two of the liquids.

5. Give each person an exit ticket. On the ticket you could have a question about the lesson. Or you can put generic headings, such as:
   - a. I still don’t get _______.
   - b. The most important thing I learned today is _______.
   - c. A question I now have is _______.

6. As each person walks out the door, ask him/her to tell you something they learned during this lesson. Or have several questions about the lesson written on cards; you pull a new card for each person.

7. Gather the class together to do a group chart of new understandings. Ask pairs or teams of students to talk about things they learned. As each group shares, you write their ideas on the chart. Keep this posted in the room so it can be used in future lessons.

8. After completing a science investigation, have students fill out a “3-2-1” card. They write three interesting facts about the investigation, two things they learned, and one question they now have. Or use an overhead with these ideas on it; read one part at a time to the students and have them discuss with their partners or teams.

9. Do a quick “think, pair, share.” Tell the students what you want them to think about, allow time to reflect, and then have them talk with their partners.
   - a. Ask these three “what” questions: What did we learn today? So what? (relevant or useful?) Now what? (relationship to what we are studying?)
   - b. The students can either write or discuss their thinking.

### Math Problem Solving

<table>
<thead>
<tr>
<th>1. What do I know?</th>
<th>2. What do I need to find out?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Information from problem</strong></td>
<td><strong>Restate the question</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. What do I need to do to find an answer?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Make a plan</strong></td>
</tr>
</tbody>
</table>

**Find an answer using your plan; Check your answer**

**Math Problem Solving**

1. **What do I know?**
   - Students write a complete sentence about the information provided in the story problem. The sentence must begin with, “I know that…” followed by information.

2. **What do I need to find out?**
   - Students write a complete sentence about the question the story problem is asking. The sentence must begin with, “I need to find out...” followed by what he/she needs to find.

3. **What do I need to do to find an answer?**
   - Students write a complete sentence or complete sentences about what mathematical operations he/she will need to use to solve the problem. The sentence must begin with, “I will...” followed by the mathematical operation(s).

4. **Solve the problem and look back.**

   **This is the square where the child actually solves the problem. The final answer MUST be labeled and circled.**

   Why the first three boxes?
   - This process causes a child to slow down and think about the problem solving process.
   - This process provides structure for a student to approach problem solving and feel more comfortable in a variety of situations.
   - This process allows a teacher to clearly see where a child is making mistakes.
   - This process integrates writing into mathematics.

Written by: Michael Blume
Steven Schorr Elementary
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Why teach science in kindergarten? Kindergarteners are full of wonder and curiosity, trying to make sense of the world around them. Science presents opportunities for them to explore their sense of awe about the world. Shelley Brunskill, a kindergarten teacher at Jay Jeffers Elementary School, shares some insights for making this happen in her kindergarten classroom.

Engaging in meaningful, hands-on activities in science is appropriate for my English Language Learner students. Concepts, vocabulary, and investigations are clearly stated, introduced, and applied in hands-on activities and experiences. My kindergarten students are able to illustrate, title, and label vocabulary for the investigations we perform in the classroom.

INDIVIDUAL AND CLASS SCIENCE NOTEBOOKS
For example, we get an amazing wealth of observations from digital pictures taken during investigations. Pictures are printed in black and white on the printer in our classroom. The children trim them and glue them in their science notebooks. I also make a class science notebook using these pictures and samples from the students. Last year I began keeping our class science notebook on poster size construction paper, displaying the pages in the hallways; later, I bind the pages into a book at the end of our unit of study.

SCIENCE BUDDIES
Our fourth and fifth grade friends have been invaluable in our classroom when they help us with some of the investigations. To prepare, I go into fifth and sixth grade classrooms during my prep and teach them how to appropriately assist kindergarteners during the investigation. Many times the older students’ homework is to do an investigation, and then prepare it for their kindergarten friend.

SCIENCE LEARNING, FULL CIRCLE
Additionally, when we do the sewing investigation in the fabric kit, our older buddies cut out two pieces of fabric and sew them together for homework, and then they cut out the two pieces for their kindergarten friend to sew with them. Also, they cut the strips of paper for paper weaving—it really helps me with preparation—and the older children enjoy creating and teaching the kindergarteners new skills.

RECYCLING
When it comes time to do the recycling paper investigation, we do that in the classroom in small groups for a week. Then the kindergarteners teach their fourth or fifth grade friends how to make recycled paper. The older kids love that they learned from the kindergarteners!

Hands-on science is a powerful, engaging, and multi-faceted way of teaching kindergarten students about writing, observing, asking questions, answering questions, recording information, and following oral/written directions.

THINKING MAPS
We also implement Thinking Maps in our school. These are developed easily from the students’ science investigations. Some of the ways we use maps include:
- Circle maps are used at the beginning to show what we know,
- Flow maps illustrate the steps in an investigation
- Tree maps sort data we gather
- Double bubble maps make comparisons
- Bridge maps help make connections.

It’s remarkable how they develop naturally out of the investigations! Science enables our classroom to work across the curriculum. You should see us in action!! Happy investigating!!!

Shelley Brunskill
Jay Jeffers ES
Quick Picks

The bell rings! It is time to go to lunch or a specialist, but you haven’t done a closure activity yet. What can you do? Here are a few, quick, closure activities that can be done either before leaving the room or when coming back.

Quick pick ideas from Laura Hooser

Strategy One
3 - 2 - 1
On an index card, write 3 interesting items about today’s lesson, 2 items learned, and 1 question.

Strategy Two
Timeline
Plot out the events of the lesson.

Strategy Three
3 Questions
Answer the following questions:
What did we learn today?
Why is it important?
How can the new information be applied?

Strategy Four
Think-Pair-Share
Tell the person next to you 2 or 3 things you learned from the lesson.
Share 1 or 2 things as you walk out the door.
If only one person has time to talk, the other person tells either their thoughts or their partner’s thoughts.

Strategy Five
Sentence Starters
Post sentence starters in the room or on a PowerPoint. These can be used for either verbal or written response. Written response could be done on sticky notes and placed on the door or white board before leaving the room. When the students come back in, they could take another person’s sticky note and respond. Then discuss. This could be done while everyone is getting settled back into the room. Examples:
- I was surprised to learn…
- I am still curious about…
- I would like to know more about…
- I have a question about…
- I feel, think, or wonder…
- Today I learned…
- I was fascinated by…
- This lesson was valuable to my learning because…
- I do not understand…
- I am beginning to understand…
- I now understand…

Quick Picks

ElEmEntAry litErAcy

Quick pick ideas from Laura Hooser
Every year there is a new educational technology product creating a buzz. Last year it was the “Elmo,” and this year, “Smartboards” are the attention-getters. Before jumping on the industry bandwagon, however, educators must ask, what makes a particular technology an effective cross-curricular tool rather than just a passing fad? Even more importantly, what makes the technology effective in differentiating instruction for the inclusive classroom, especially the ever-increasing English Language Learner (ELL) population of the Southwest? To answer this question, educators must consider a given product’s “buy-in factor” for students, realia (real-life), twenty-first century applications, ability to scaffold brain development, and cost.

**BRIDGING THE CULTURAL SCHEMA**
Technology is particularly effective with our ELL population, especially in Sheltered Instruction Observation Protocol (SIOP) classrooms where content is delivered alongside language because ELL students have often had experience with these technologies longer than they have experience with English. Many take to new computer applications faster than do their native English-speaking peers because of the heavy push toward the inclusion of technology education abroad. In fact, technology is so omnipresent among young people around the world in general, that by the time the average student graduates college he/she will log 10,000 hours on computers, 10,000 hours on cell phones (Institute for Social Research), and will write 200,000 emails or IM’s (Prensky). By the end of this year, more than 50% of the world’s population of 6.6 billion people will own a mobile phone (Garreau). As of 2007, Apple has sold 100,000,000 iPods, offering over 90,000 podcasts from reputable sources like National Public Radio, CNN, countless schools, and many universities. These tools are already available, widely used, and can bridge the cultural schema of native students and language learners.

**ENGAGING THE BRAIN: WEBQUESTS**
WebQuests, an inquiry-oriented Internet activity in which educators guide student learning through online and PowerPoint presentations, are commonplace in many classrooms. They are extremely successful tools for activating prior knowledge and graphically representing concepts to aid ELL students who have language limitations (Burns).

**ENHANCED LECTURES**
Also valuable is the use of multimedia lectures that stimulate visual learning by incorporating moving images into the common direct-teaching lecture, such as using stock footage of events and pop-culture while delivering a lecture. While most content-area teachers will not have time, or necessarily the expertise, to edit film clips, educators can play a documentary or time-period-specific film downloaded from YouTube or streaming video and synced to their lecture with the volume muted. With the direct instruction guiding students’ media consumption, I have often been delighted to see students actually laughing at Charlie Chaplin in City Lights and booing when the Ku Klux Klan rides across the screen in the D.W. Griffith’s infamous Birth of a Nation.

**VISUAL AND AUDITORY PROPS**
Using moving visual and auditory props engages all learners because it allows students to store information in their long-term memories more effectively (Lasley). The most effective memory storage technique for the adolescent brain is to introduce curricular content through multiple memory lanes, or utilizing several sections of the brain at once. Educators can most effectively help students to process information through episodic memory, which is accessed through storytelling and can be thought of like a movie film running from reel to reel. Episodic memory...
is a visual process; it is one of the oldest processes the human brain developed for storage. However, most classroom content is stored in semantic memory, which includes abstract concepts, facts, and rote questioning. Semantic memory develops more fully after adolescents. It is the weakest, and a newly evolved, part of memory storage and improves as we move past adolescence. Just think about the limited information our hunter/gather and agrarian ancestors used for communication: such as danger or sources of food. Humans have only relatively recently needed to store complex mathematical formulas, think critically and process abstract concepts. By chunking information into smaller segments and engaging the episodic memory, educators can more effectively help students to grasp foreign concepts and store them for later access in their semantic memory.

Enhanced lectures are also useful for clarifying slang and culturally embedded context. When presenting an enhanced lecture on the 1920s, my ELL students did not need to have prior knowledge of acronyms such as KKK because it was explained on the screen as I spoke. Similarly, my use of potentially confusing phrases with embedded cultural context, such as “whites in blackface” was clarified by accompanying footage. Educators cannot expect ELLs to listen to lectures with the same cultural schema of native speakers.

NUISANCE OR AID: IPODS AND CELL PHONES
Kathryn Patteren and Dorothy Valcarcel Craig, authors of “iPods and English-language Learners: a great combination,” claim that iPods, while not a traditional tool, are an effective lesson enhancer, and prove their observation-based conclusion through standardized pre- and post-test evidence. Even though most educators discourage students from bringing MP3 players to school for fear of their misuse, countless studies have shown that moving visual and auditory props, as the authors state, “engaged all learners because this type of teaching was new to them” and a “hot commodity” for language learners. Therefore, the very popularity of the teaching tool has become the student motivator for learning academic content.

Additionally, Patteren and Craig conducted their research in two elementary schools and two middle schools in rural and urban locations. All four participating teachers noted a growth in the “...quality of writing, (and a) higher frequency of descriptive language, writing (quantity). Thus, focused findings indicate that overall writing skills and vocabulary development” improved in the classroom and on standardized tests. Accelerated Reader and state writing assessments improved from 60%-90% pre-test to post-test with the iPod as a classroom aid.

“By empowering ELLs to take control over the direction of their learning, managing the speed of their learning, maintaining their own pace, and developing their own identity as English speakers, they are more easily integrated into academic social worlds.”

Educators should not overlook the potential value of the iPod in assisting students who are in an alien environment learning a new language and cultural norms. Technology aids students in creating what developmental psychologist, Len Vygotsky describes as the cultural tools and symbols needed to help people in a society communicate, think critically, and create communal knowledge. By utilizing the cultural capital of the iPods, educators let students buy into learning and the symbols and language that create understanding.

EXPERIMENT WITH INTEGRATING TECHNOLOGY
Many teachers are experimenting with integrating iPods into instruction by creating their own podcasts for student use or purchasing audio-books to guide students through novels at their own pace. According to Patteren and Craig, “using the iPod as a language lab to record vocabulary, conduct question-and-answer conversations, check pronunciation, and store language exercises for instant replay” have all been effective accommodations. Podcasts can be created and downloaded to many websites for free and only require the microphone built into most computers and freeware applications such as iTunes. Best of all, most students already carry the expensive part of the technology, the MP3 player, with them daily. However, these devices can be purchased for as little as $20, thereby making them affordable for most students—or school districts.

Educators must consider what makes a particular technology an effective cross-curricular tool, rather than just a passing fad. There are three main criteria to answer this query:

Does the tool have novelty, buy-in, and real-life 21st Century application for students?

Does the tool aid students in storing information in their long-term memory?

Does the tool bridge the cultural schema of native students and language learners?

If the answer to these questions is “yes,” the technology will aid educators in effectively differentiating instruction for our inclusive classroom population.

Written by: Brian Lisko
Sierra Vista High School

Sources


Ideas for Integrating Ipods and Cell Phones

Classroom Use #1
Cell phones, while many teachers consider them a nuisance item, can be used productively in a controlled environment. Business teachers can prompt students to access stock reports in real-time on their cell phones, if they do not have access to a computer lab. If short on calculators, math teachers can tap into the calculator function. For those students who complain that they cannot afford a pocket translator, they can access Google English as if babelfish.com, online translators that help with vocabulary. PowerPoint presentations and educational videos can also be downloaded into an iPod for teachers or students to present in the classroom. This will be especially useful for my colleagues who do not have a home classroom and are teaching from a cart. These teachers know it is impossible to lug around computers, dictionaries, and stacks of newspapers for current event-issues. All they will need is an iPod and a projector.

Classroom Use #2
Cell phone text messaging (SMS) can be used for specific assignments in all core subjects including pop-quizzes, student polls, peer tutoring, and class presentations (t4.jordandistrict.org). A geography or sociology lesson may include giving students ten minutes to text a parent or relative in another country or region of the world. Give students ten minutes to receive a text message from the region asking in the text what the weather is like, what they last purchased, or what they ate for their last meal. Students can earn bonus points for contact with other countries answering questions such as: What is the dominant religion and language of that country? What is the name of the money? What are the most important values in that culture?
A classroom is more than four walls; it is where “real life” learning takes place. Research has shown that there are many factors that play a role in student learning. These factors include the educational expertise of the instructor, the passion that instructor brings to the classroom, how well the lessons are organized, presentation styles used, and opportunities for interaction between students during a lesson.

However, what is truly unique to student learning is the way the instructor is able to make connections between the lesson objectives and the lives of the students. Journalist and critic Norman Cousins once said, “A book is like a piece of rope; it takes on meaning only in connection with the things it holds together.” This is also true about learning. Connections between content and real life can be easily accomplished through opening and closure activities within every lesson.

Just the other day I was speaking with my mother about game shows, and we began to speak about current shows on television. I mentioned that I enjoyed watching “Are You Smarter Than a Fifth Grader?” My mother said she hated that show because it reminded her of how much “stuff” she was taught…and just forgot. I questioned her further about whether she just forgot it or perhaps she just not use or need the information. She was quick to respond that in “her day” most of the lessons had been of rote instruction. The majority of interaction and connection she experienced was between her and the teacher’s lecture or worksheet. The lessons were clinical and isolated. There was no “What would you have done in this situation?” or “Where would you go from here?”

Learning is about connections. We do not learn in isolation; furthermore, we do not learn, or at least we will not remember, what we do not use. That is why it is critical as the instructional leader in the classroom to identify, create, and investigate connections between our content and our students. Gus Tuberville, President of William Penn College stated, “For learning to take place with any kind of efficiency, students must be motivated. To be motivated, they must be interested. And they become interested when they are actively working on projects which relate to their values and goals in life.” In other words, students are motivated to learn when the lesson directly relates to their lives.

**THE OPENING OF A LESSON**

The opening of a lesson allows the instructor to connect the theme or objective to the person within the student. The opening of a lesson gives the instructor the opportunity to actively engage and motivate students in the lesson by developing connections between the lesson and the lives of the students.

“Why should an instructor care about trying to “hook” the students on a personal level at the onset of the lesson?”

For one very good reason: A personal investment is important in the retention of information. Connecting the content or objective to each individual student stimulates interest in the content of the lesson.

“What is in it for me?”...

“Why is this lesson important to me?”

**THE CLOSING OF A LESSON**

“What can I do with the information from this lesson?”

The closing of the lesson is crucial to the ultimate success of the lesson by allowing for connections between the student and the world around him or her. In the closing of the lesson, the instructor is sort of “passing the torch” of the learning to the
Closure is necessary for students to experience the learning practiced in the classroom.

This is where students get to use what they have learned. Therefore, closure is not the end, but the beginning. It is an extension of the learning. Goethe once said, “Knowing is not enough; we must apply. Willing is not enough; we must do.” This is as it should be for our students.

British novelist, Arthur Bennett, in a journal entry from 1897 wrote, “There can be no knowledge without emotion. We may be aware of a truth, yet until we have felt its force; it is not ours. To the cognition of the brain must be added the experience of the soul.” It is in the opening of our lessons that we must meet the emotional need of personal connection to the lesson for our students. It is in the closing that we give voice to the lesson by allowing students to “feel its force.”

Written by: Karyn Steffensen
RPDP Secondary Literacy Trainer
Thinking, Writing, and Talking!

We are all familiar, by now, with the Components of an Effective Lesson. Many teachers incorporate them into their lessons automatically, without a second thought. Unfortunately, in the rush of the daily routine, seasoned and new teachers alike sometimes skip one of the most important elements: closure.

According to the Components of an Effective Lesson, closure is defined in simple terms—have students explain what they have learned and apply it. Why is this important? First, it forces students to spend a few moments thinking about what their instructor has just spent the last thirty to forty minutes explaining. As teachers, we need to give them some time to do this.

• A minute or two of silent thinking time should be allotted so this can take place. It might feel awkward at first, but once the teacher establishes it as routine, students quickly adapt to the expectation.

• Second, students begin to learn the fine art of paraphrasing language. The impact of this is enormous, extending to all other disciplines. Our job as teachers is to make sure our students realize the importance of all subjects.

• Writing is an important element of every course. Paraphrasing also helps them with the constructed response and essay portions of standardized tests.

• Teachers must make it a priority to ask questions that must be answered with something more elaborate than a simple yes or no. If we don’t establish this as a valued practice, students won’t value it either.

MANy mINI-CLOSURES

So, what are some different ways we as instructors can incorporate closure into our lessons? You can ask any teacher, and I’m sure each one has an effective method or two that they use regularly. For example, one method I like to use is mini-summaries throughout my lessons. What are these? After going through the introduction and daily review / warm-up portion of my lesson, I summarize how these are going to help us with our daily objective(s). Once I begin on the concept, skill development, and application portion of my lesson, I take several opportunities throughout the lesson to “close” the current concept or objective before starting on the next one.

FInAL CLOSURE

Finally, at the end of the lesson, I actually tell the students to put down their pencils and listen. I take a minute or two to review the main points of the lesson and then ask students to tell me in their own words (paraphrase) what they have learned, and to give an example of it. This is where I find out if they “got it” or not. I can usually gauge what is difficult for them right there, and then make plans to spend more time on the concept the next day if it’s needed.

vERBAL AND WRITTEN CLOSURES

I also know of several teachers that use a “ticket out the door” as their method of closure. This, too, is effective and gives the teacher a good gauge
The Southern Nevada Regional Professional Development Program (RPDP) is seeking original articles identifying strategies that work in education. Article submissions will use the following as a guide:

- Referencing appropriate individuals/works when applicable
- Focusing on educational strategies that can be immediately implemented/developed
- Having a practical and easy to follow writing style
- Keeping to a 500 to 1200 word count
- Highlighting and breaking out important areas by bold type, initializing, or outline formatting
- Putting an appropriate title and credit to your article
- Editing your article before submitting
- Submitting articles in MS Word format
- Sending articles to John Hawk hawk@interact.ccsd.net between M: 6/23/08 and F: 6/27/08
- Indicating the level you are writing for (Elementary or Secondary) and the discipline you are writing for including: administration, math, science, social studies, English, technology, other

Whatever method you use as closure, the point here is to make sure you are using closure as part of your daily instructional technique. I’ve given you two examples, but there are many more. Whether methods are discussed formally at a meeting or an inservice, or informally at lunch, colleagues can offer a variety of expertise, experience, and different approaches to implementing closure. Closure is not only a valuable tool we can use to assess student understanding, but it is more importantly advantageous to the student. In using closure effectively, the teacher presents the student with a summary of the lesson. This in turn, reinforces for the students the value of the lesson, equips them with established tools to do the assigned homework problems, and then to move on to other concepts.

Written by: Mark Glaser
RPDP Trainer

Begin Planting Seeds for Science in Kindergarten
By: Jill Buckland, Kindergarten Teacher
Jay Jeffers Elementary School

Why teach science in kindergarten? Kindergarteners are all of wonder and curiosity. They need opportunities to question, explore, and investigate. Science presents opportunities for them to explore their own view of the world.

Engaging in meaningful hands-on activities in science is appropriate for my English Language Learner/English Language Development (rpdp) students. My kindergarten students are able to illustrate, list, and label vocabulary for the investigations we perform in the classroom.

INDIVIDUAL AND CLASS SCIENCE NOTEBOOKS
For example, we get in amazing wealth of observations from digital pictures taken during the investigation. I review digital pictures taken during the investigation with the students. I project big print and will discuss the children’s ideas and ideas from the students. Last year I began keeping our class science notebook on poster size construction paper displaying the pages in the hallways. I bind the pages into a book at the end of our unit of study.

SCIENCE BUDDIES
Our fourth and fifth grade friends have been invaluable in our classroom when they help us do experiments in our classroom. For example, my prep fifth and sixth grade classrooms do my prep and second grade classes do their own. We have been doing this for years! We also do an investigation, and then prepare it for their kindergarten friends.

SCIENCE LEARNING FULL-CIRCLE
Additionally, we do the second grade investigation in the fabric to our older buds do just second grade can find their investigation file that day and our the next day. Our older children do the investigation. The paper weaving-it really helps me with preparation-and the kindergartners keep weaving and teaching the kindergartners new skills.

RECYCLING
When it comes time to do the recycling paper investigation, we do that in the classroom in small groups for a week. Then the kindergartners teach their fourth or fifth grade friends how to make recycled paper. The older kids love that they learned from the kindergartners!

HANDS-ON SCIENCE IS POWERFUL!
Engaging and multi-faceted way of teaching kindergartners students about weight, direction, force, gravity, answering questions, recording information, and following given directions.

THINKING MAPS
We also implemented thinking maps in our classroom. These are developed easily from the students’ own experiences. Some of the ways we use maps include:
- Mind maps pull-out at the beginning to show what we know
- Their mind maps are sketches as an investigation
- Double bubble maps make comparisons
- Bridge maps help make connections

It’s remarkable how they develop naturally out of the investigation! Science enables our classroom to work across the curriculum. You should see it in action! Happy investigating!
It is one of the sections on the administrator’s evaluation sheet where teachers can get dinged—CLOSURE. Perhaps the teacher lost track of time, or the students were engaged in an independent practice activity, or the students spent the last five minutes of class cleaning up after a lab. Regardless of the reason, closure is a vital portion of a well-developed lesson.

Closure is included in the Components of an Effective Lesson (CEL) because it clarifies the key points of the lesson and provides an opportunity to reinforce long-term memory review. Each lesson is designed with the intent to teach a specific objective. Teachers need a method to assess if their lesson plan was effective at teaching the target objective(s). Effective closure provides teachers with a tool necessary to assess if the students understood the purpose of the lesson. It also gives students the opportunity to process the information that was presented. Effective closure requires practice and planning by the teacher.

**QUESTIONING TECHNIQUES**

Questioning at the end of a lesson enables teachers to determine if the students understood the objective(s), if more time is needed to reinforce a concept, and to help them make sense of what was taught. Stating “Does anyone have any questions? Okay, then your homework is…” does not qualify as closure. Closure does not need to be a teacher-centered activity. In fact, the main purpose of closure is to assist students in transferring the recently learned material into their long-term memory. Closure provides students with the opportunity to reflect and internalize the daily objectives.

Instead, incorporating higher-level questions, rather than focusing on the rote recall of information helps students organize their thoughts and link information to previously learned concepts. Anticipating the needs of the students by providing links to the big ideas they are trying to teach helps students understand the purpose of the lesson.

**Cueing the students may provide the guidance necessary to process and summarize the information presented in the lesson, as well as encourage the students to ponder concepts that will be included in the next lesson.**

Many schools have incorporated interactive notebooks or science journals into their lessons. The “OUT” question written in the interactive notebook/science journal provides an opportunity for closure.

Teachers may also have students write a summary paragraph explaining the key points of the lesson. Some teachers utilize the “ticket out the door” practice.

Instead of writing the answer to a question or a summary statement in a notebook, the students write their response on a sheet of paper or an index card which is collected before the students exit the classroom. Their response serves as their “ticket” as they leave for the next class.

The teacher could instruct the students to create a timeline for the lesson. In this case, the students would start at the beginning of the period and recall as much information about the lesson. The students write down as much as they can remember and it encourages them to review their notes from class as well. Then, the students write questions that they have regarding the lesson based on the timeline they constructed.

Teachers can also use the 3-2-1 summary, in which students are instructed to recall, process information, and develop questions about the recently learned material. The 3-2-1 summary is flexible and can be changed to match a specific topic. A general example of the 3-2-1 summary is: Explain three facts from the lesson, ask two questions about the topic, and define one newly introduced vocabulary term.

Another activity is the ABC summary which requires the students to list vocabulary terms or phrases associated with each letter of the main topic. For example, if the general topic is weather, then the students may generate an ABC summary such as WEATHER: W= Water cycle, E= Eye of a storm, A= Atmosphere, T= Tornado, H= Heat Index, E= Easterlies, R= Rain shadow.

Regardless of the method that is used to incorporate closure into your lessons, be sure that students are given opportunities to engage in activities that promote retention through verbalizing the concepts and reflecting on the objectives of the lesson. Providing the students with an opportunity to demonstrate mastery of a concept gives the students a chance to recognize what they have learned. Effective closure is a skill that must be developed through proper planning and practice.

Elizabeth Marconi
RPDP Secondary Science Trainer
**RPDP Highlights**

**Administrative Highlights**

**Freddie Breen**

Freddie Breen has been in the Clark County School District for twenty years. She was a teacher for thirteen years and taught grade levels K-6. Her first administrative assignment was Assistant Principal at RE Tobler ES, and she served in that position for two years. She was promoted to Principal at Tobler ES and was in this position for two years. Her administrative career continued as Principal of Detwiler ES. Her exceptional work as a principal was rewarded with the honor of opening Kay Carl ES. Ms. Breen is currently preparing to open her second new school. O’Roarke ES will open this fall under the leadership and direction of Ms. Breen.

The vision for O’Roarke ES has been created by the newly hired staff with the guidance of Ms. Breen. According to it, “This school is located near Tule Springs and at the base of the Sheep Mountains which affords a great opportunity to do extraordinary things.” There will be a focus on science and technology along with the opportunity to create art in the heart of a desert landscape. Students and staff will engage in teamwork, collaboration, and community service. Ms. Breen states, “Academics at this school will enrich and encourage learning but will also be enjoyed by the students.”

Congratulations to Ms. Breen for her efforts in creating new, exciting, and challenging learning environments for her students and for her contributions on behalf of all CCSD students.

**Milana Winter**

Milana Winter is from Hiawatha, Kansas (population 5,000) and has been in the Clark County School District for seventeen years. After teaching in Oklahoma for nine years, she started her career in CCSD as a counselor at Del H. Robison MS. She was dean at Robison MS and then served as an Assistant Principal at KO Knudson and at Monaco MS. She was promoted to Principal at Jim Bridger MS — The Academy of Math, Science and Technology and has been in this position for four years.

Choice is the philosophy at her school. The Jim Bridger Magnet School is recognized for its magnet programs; however, Bridger’s zoned students also have the opportunity to take the magnet school curriculum. This is a motivating endeavor that helps build a strong community throughout the school. There is a major focus on college readiness, and all students are encouraged to continue learning beyond high school. The single most important element of this focus is hope: hope for success and hope for the future.

Ms. Winter enjoys traveling and has recently visited Korea and Italy. Her travel interests, however, are the students at her school. There have been tremendous efforts by Ms. Winter to increase student achievement which would not have been possible without the hard work and dedication of the students, teachers and staff.

Kudos to Ms. Winter for her efforts on behalf of the students, teachers, and staff at Jim Bridger MS.

**Teacher Highlights**

**Laurie Thompson**

Laurie Thompson has been teaching for eleven years. She started her career in 1996 teaching kindergarten in Indiana. After two years in kindergarten, she taught fifth and sixth grade reading in a departmentalized setting for four years. She then moved to the junior/ senior high school to teach English for two years.

**Denise Romonoski**

Denise, aka Penny, has been teaching for 21 years, 9 of which were in the Clark County School District. She began teaching at the high school level in New York State. Currently, she is teaching Algebra I H and Geometry H. Denise helps students reach their potential by creating a positive environment in her classroom in which students believe in themselves. Denise uses safety and trust to get students to attempt the most difficult problems they face them with. She also utilizes the Components of an Effective lesson and Teacher Expectancies in each of her lessons. Denise has been instrumental in MS and HS Algebra workshops for RPDP as well as a mathematics presenter for the Magnet Schools of America. Denise’s efforts in the classroom have not gone unnoticed, as she is one of three Nevada State Finalists for the 2007 Presidential Award for Mathematics.

**Laurie Winter**

In 2005, she moved to Las Vegas with her husband of thirteen years and her daughter, who is now ten years old. They arrived mid-year, where she was quickly employed with Marion Earl to work with students in a pull out program. The following year she moved into a fifth grade position.

In 2006, Laurie had the opportunity to help open a new school, William Wright Elementary. After a year in a fifth grade classroom, she became the Humanities teacher, which has given her the opportunity to work with students and teachers on writing by introducing the Lucy Calkins program as well as implementing the skills she garnered from her experiences with JoAnn Portalupi and Carl Anderson and the All Write!!! Program. She enjoys inspiring and reading the writings of all her students at William Wright Elementary.

Her goal as a writing teacher is to have students enjoy writing and want to write everyday. Their writer’s notebook will become an appendage students take everywhere and fill with possible ideas to write stories later.

**Sherri Hughston**

Sherri has been teaching high school for nine years—four of which have been at Shadow Ridge High School. She is currently teaching Chemistry Honors and Chemistry AP. Sherri incorporates technology regularly by the use of PowePoints, a Lumens visual presenter, and numerous lab simulations/demonstrations from various websites. Sherri is very effective at developing educational software to enhance her lessons. Sherri keeps her own lab equipment in her classroom, so not only her students and parents can access her class information, daily assignments, and resources at home.

In addition to excelling in the classroom, Sherri maintains the Shadow Ridge website, works as the science department chair, and is a mentor for new teachers. Sherri is an integral part to the success at Shadow Ridge and a great addition to the RPDP staff.

**Michael Blume**

While Laurie was in Indiana she was fortunate to work with several authors in the AllWrite!!! Program founded by the Dekko Foundation. During her first year in the program, she worked with author JoAnn Portalupi. With Ms. Portalupi’s guidance she was really able to get a grasp of the writer’s workshop concepts. Her skills were further honed during the next two years when she had the privilege to work with Mr. Carl Anderson in the program. During her third year in the program she was fortunate to have Mr. Anderson use her classroom as a selected site for teachers to visit.

Michael is the co-creator of the “Four Square Model” for Mathematics. This problem solving model provides a framework designed to support and organize student thinking and reasoning. The use of this model has helped to provide students with strong problem solving skills as evidenced on both the CRT exams and daily classroom activities.

Michael’s commitment to education not only rests with his students, but extends to his work as a team leader within his school community. This year Mr. Blume has been instrumental developing a Math Committee at his school site and providing professional development aligned with school-wide goals. He is often found modeling mathematics lessons and sharing instructional strategies with his learning community. Thank you, Michael, for your commitment to education. You are an inspiration to all those whom you come in contact.

**Rebecca Walter**

Meet Rebecca Walter, Second Grade Teacher at Dr. C. Owen Roundy ES. Students in her classroom are always engaged and excited to learn. The classroom is filled with projects, interesting Writing, math stations, and ongoing science projects.

Rebecca has been teaching with Clark County for 8 years. She is originally from Pennsylvania and has a B.A. in Education from Slippery Rock University. Ms. Walter also has a M. ED. in Literacy from UNLV. She has experience in teaching 1st and 2nd grade, as well as being a Literacy Specialist.

Ms. Walter is furthering her content knowledge by attending and presenting RPDP courses. Many colleagues look up to her as a useful resource and mentor. She is always willing to collaborate with others and share her expertise. In addition, Rebecca has been nominated for the 2008 Presidential Award for Excellence in Mathematics and Science Teaching.

Thumbs Up to Ms. Walter for all her hard work and for making a positive impact on our future leaders!!!

**Vicki Switzer**

We would like to highlight Vicki L. Switzer for her dedication to all the students she encounters on any given day. Vicki Switzer has been with the Clark County School District since 1977. She is currently the Library Media Specialist at Findlay Middle School. Vicki believes that as an engineer of education her most important job is to be a role model to her students. Vicki spent her first nine years of teaching in Special Education. Nearly a decade later Vicki had the opportunity to teach her wings and moved to Ira J. Earl Elementary School to team-teach a first/second grade combination class. Vicki states, “This was such an exciting time in my life to see the daily impact and how vital I was to the lives of the children.” Vicki spends time collaborating with her staff and trying to find the correct resources to provide support to all departments. Vicki sums up her day with this, “My role as a librarian affords me the opportunity to reach every student in our school community and contribute to overall student achievement. This is the most fulfilling part of my day.” Thanks, Vicki, for all you do!

**Denise Romonoski**

Denise, aka Penny, has been teaching for 21 years, 9 of which were in the Clark County School District. She began teaching at the high school level in New York State. Currently, she is teaching Algebra I H and Geometry H. Denise helps students reach their potential by creating a positive environment in her classroom in which students believe in themselves. Denise uses safety and trust to get students to attempt the most difficult problems they face them with. She also utilizes the Components of an Effective lesson and Teacher Expectancies in each of her lessons. Denise has been instrumental in MS and HS Algebra workshops for RPDP as well as a mathematics presenter for the Magnet Schools of America. Denise’s efforts in the classroom have not gone unnoticed, as she is one of three Nevada State Finalists for the 2007 Presidential Award for Mathematics.
Summer Institute at RPDP
The Regional Professional Development Program (RPDP) is holding its annual "Summer Institute." Each Department at RPDP will be hosting a week-long institute for teachers at all grade levels. Hundreds of teachers will be taking advantage of this great professional development opportunity. If you have any questions regarding the institute, feel free to call the appropriate contact person listed below. Registration information for each of the departments can be found at: www.rpdp.net

Math (Exeter)
Dates: Monday 6/16/08 to Friday 6/20/08
Times: 8:00 – 3:30
Location: TBA
Contact: Carol Long
Contact Number: 799-0880 x245
Credits: 2
Registration Limited: Call Carol Long

Math, Elementary
Dates: Monday 6/9/08 to Friday 6/13/08
Times: 8:30 – 11:30, 12:15 – 3:15, & 4 – 7:45
Location: Greenspun JHS
Contact: Brenda Pearson
Contact Number: 799-4558 ext. 5345
Credits: 1 credit for each offering
Contact Information: Use InterAct

Literacy, Elementary
Dates: Monday 6/9/08 to Friday 6/13/08
Times: 8:30 – 11:30, 12:15 – 3:15, & 4 – 7:45
Location: Greenspun JHS
Contact: Kathryn Kinnard
Contact Number: 799-0880 x5321
Credits: 1 credit for each offering
Contact Information: Use InterAct

Literacy, Secondary
Dates: Monday 6/9/08 to Friday 6/13/08
Times: 8:30 – 11:30, 12:15 – 3:15, & 4 – 7:45
Location: Greenspun JHS, Henderson
Contact: Sara Lasley/Amy Raymer/Rosanne Richards
Contact Number: 799-3835 x247, x243 or x260

Science, Elementary
Dates: Monday 6/9/08 to Friday 6/13/08
Times: 8:30 – 11:30, 12:15 – 3:15, & 4 – 7:45
Location: Greenspun JHS
Contact: Anna Maria Behuniak/Sandy Davis/Lois Bloom/Becca Kacmar
Credits: 1 credit for each offering
Contact Information: Use InterAct

RPDP: Intro. to TI-83/84
Dates: Monday 6/9/08 and Tuesday 6/10/08
Times: 8:00am – 4:00pm
Location: Arbor View HS, Room 1202
Contact: Becker, Bill
Credits: 1
Contact Information: Use InterAct or bbecker2@interact.ccsd.net

RPDP: Interm. TI-83/84
Dates: Wednesday 6/11/08 and Thursday 6/12/08
Times: 8:00am – 4:00pm
Location: Arbor View HS, Room 1202
Contact: Becker, Bill
Credits: 1
Contact Information: Use InterAct or bbecker2@interact.ccsd.net

Advanced Placement
Dates: Monday 6/23/08 to Thursday 6/26/08
Times: 8:00 – 4:00
Location: Del Sol HS
Contact: David Thiel
Contact Number: 855-9771
Credits: 2
Registration: www.silverstateAP.net

For more offerings and other departments
VISIT: www.rpdp.net