Meeting the Challenges of Providing Effective Tutoring and Study Groups!

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(Ret) Assistant Vice Chancellor & Professor of Chemistry
Past Director, Center for Academic Success
Louisiana State University
2004 National College Learning Center Association
Frank L. Christ Outstanding Learning Center Award
Delta State University Academic Resources

Academic Support and Developmental Studies

What are study skills workshops?

Spring 2012

Student Success Center
Presidential Recognition
White House Oval Office
November 16, 2007
Reflection Questions

• What’s the difference, if any, between teaching and tutoring?

• What do you think your students want you to do in a tutoring session?

• What do you think your students need you to do in a tutoring session?
Email from Joshua in Spring 2011

“...Personally, I am not so good at chemistry and unfortunately, at this point my grade for that class is reflecting exactly that. I am emailing you inquiring about a possibility of you tutoring me. I can even pay you for tutoring. I need any and all help I can get at this point. I apologize for the inconvenience.”

April 6, 2011

“I made a 68, 50, 50, 87, 87, and a 97 on my final. I ended up earning a 90 in the course, but I started with a 60. I think what I did different was make sidenotes in each chapter and as I progressed onto the next chapter I was able to refer to these notes. I would say that in chemistry everything builds from the previous topic”

May 13, 2011

Semester GPA: 3.8
Help Students Make the Transition from Passive to Active Learners!

Help students identify and close “the gap”

Passive learners → current performance

Active learners → desired performance
Turn Your Students into Expert Learners!

- Show them **how** to learn by teaching them metacognitive learning strategies

- Motivate them to **use** the learning strategies
Desired outcomes

• We will identify challenges faced by tutors
• We will understand the role of metacognition in helping students develop independence
• We will have concrete strategies that will increase our effectiveness as tutors
• Our students will take more responsibility for their own learning
• We will view students differently
• We and our students will have a more satisfying experience!
Two More Reflection Questions

• What’s the difference, if any, between *studying and learning*?

• For what task would you work harder?
  A. Make an A on an upcoming test  
  B. Teach a review session for an upcoming test
To Help Your Students Excel

• Help them stay in *learn* mode, not *study* mode

• Help them study as if they have to *teach* the material, not just make an A on the test
The Story of Three Students

- Travis, junior psychology student
  47, 52, 82, 86  B in course
- Dana, first year physics student
  80, 54, 91, 97, 90 (final)  A in course
- Joshua, first year chem student
  68, 50, 50, 87, 87, 97 (final)  A in course
How’d They Do It?

They became expert, strategic learners by using *metacognition*!

They studied to LEARN, not just to make the grade!
Metacognition*

The ability to:

• think about one’s own thinking
• be consciously aware of oneself as a problem solver
• monitor and control one’s mental processing (e.g. “Am I understanding this material?”)
• accurately judge one’s level of learning

Let’s Revisit Travis

47, 52, 82, 86

Problem: Reading Comprehension

Solution: Preview text before reading*
Develop questions*
Read one paragraph at a time and paraphrase information

*Develop anticipatory set
Voyage of Christopher Columbus

WITH HOCKED GEMS FINANCING HIM/ OUR HERO BRAVELY DEFIED ALL SCORNFUL LAUGHTER/ THAT TRIED TO PREVENT HIS SCHEME/ YOUR EYES DECEIVE/ HE HAD SAID/ AN EGG/ NOT A TABLE/ CORRECTLY TYPifies THIS UNEXPLORED PLANET/ NOW THREE STURDY SISTERS SOUGHT PROOF/ FORGING ALONG SOMETIMES THROUGH CALM VASTNESS/ YET MORE OFTEN OVER TURBULENT PEAKS AND VALLEYS/ DAYS BECAME WEEKS/ AS MANY DOUBTERS SPREAD FEARFUL RUMORS ABOUT THE EDGE/ AT LAST/ FROM NOWHERE/ WELCOME WINGED CREATURES APPEARED/ SIGNIFYING MOMENTOUS SUCCESS

Anticipatory set CAN interfere!

Let’s look at the car on the next slide...
Is this a 2-door or 4-door car?
Counting Vowels in 45 seconds

How accurate are you?
Dollar Bill
Dice
Tricycle
Four-leaf Clover
Hand
Six-Pack
Seven-Up
Octopus

Cat Lives
Bowling Pins
Football Team
Dozen Eggs
Unlucky Friday
Valentine’s Day
Quarter Hour
How many *words or phrases* do you remember?
Let’s look at the words again…

What are they arranged according to?
<table>
<thead>
<tr>
<th>Dollar Bill</th>
<th>Cat Lives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dice</td>
<td>Bowling Pins</td>
</tr>
<tr>
<td>Tricycle</td>
<td>Football Team</td>
</tr>
<tr>
<td>Four-leaf Clover</td>
<td>Dozen Eggs</td>
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<td>Unlucky Friday</td>
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<tr>
<td>Six-Pack</td>
<td>Valentine’s Day</td>
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<tr>
<td>Seven-Up</td>
<td>Quarter Hour</td>
</tr>
<tr>
<td>Octopus</td>
<td></td>
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</tbody>
</table>
NOW, how many words or phrases do you remember?
What were two major differences between the first attempt and the second attempt?
1. We knew what the task was

2. We knew how the information was organized
Turning Your Students into Efficient, Expert Learners

• Have them constantly ask “why” and “what if” questions
• Have them test their understanding by verbalizing or writing about concepts, and practicing retrieval of information during the tutoring session
• Have them move their activities higher on the *Bloom’s taxonomy* scale by comparing and contrasting, thinking of analogies, thinking of new pathways, etc.
Bloom’s Taxonomy

- **Remembering**: Retrieving, recognizing, and recalling relevant knowledge from long-term memory.
- **Understanding**: Constructing meaning from oral, written, and graphic messages through interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining.
- **Applying**: Carrying out or using a procedure through executing, or implementing.
- **Analyzing**: Breaking material into constituent parts, determining how the parts relate to one another and to an overall structure.
- **Evaluating**: Making judgments based on criteria and standards through checking and critiquing.
- **Creating**: Putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing.

This pyramid depicts the different levels of thinking we use when learning. Notice how each level builds on the foundation that precedes it. It is required that we learn the lower levels before we can effectively use the skills above.

http://www.odu.edu/educ/llschult/blooms_taxonomy.htm
When we teach students about Bloom’s Taxonomy...

They GET it!
At what level of Bloom’s did you have to operate to make A’s or B’s in high school?

1. Remembering
2. Understanding
3. Applying
4. Analyzing
5. Evaluating
6. Creating

How students answered (2013)
How students answered (in 2013)

At what level of Bloom’s do you think you’ll need to operate to make A’s in college?

1. Remembering
2. Understanding
3. Applying
4. Analyzing
5. Evaluating
6. Creating
A Learning Strategy that can be quickly and easily implemented to help students think at higher levels:

The Study Cycle*

*adapted from Frank Christ’s PLRS system
The Study Cycle

Preview

*Preview before class* – Skim the chapter, note headings and boldface words, review summaries and chapter objectives, and come up with questions you’d like the lecture to answer for you.

Attend

*Attend class* – GO TO CLASS! Answer and ask questions and take meaningful notes.

Review

*Review after class* – As soon after class as possible, read notes, fill in gaps and note any questions.

Study

*Study* – Repetition is the key. Ask questions such as ‘why’, ‘how’, and ‘what if’.
  - Intense Study Sessions* - 3-5 short study sessions per day
  - Weekend Review – Read notes and material from the week to make connections

Assess

*Assess your Learning* – Periodically perform reality checks
  - Am I using study methods that are effective?
  - Do I understand the material enough to teach it to others?

*Intense Study Sessions*

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<table>
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<tbody>
<tr>
<td>1</td>
<td>Set a Goal</td>
</tr>
<tr>
<td>2</td>
<td>Study with Focus</td>
</tr>
<tr>
<td>3</td>
<td>Reward Yourself</td>
</tr>
<tr>
<td>4</td>
<td>Review</td>
</tr>
</tbody>
</table>
Why are metacognitive strategies so important?

They empower students to learn, even after they’ve been made to believe they can’t!

They help students develop a new mindset.
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Great Strategies for Helping Students LEARN!

- Establish expectations and ground rules
- Help students set goals and timelines
  
  *come prepared, and be ready to learn!*
- Attribute failures to correctable causes
- Attribute success to effective strategies
- Encourage students to form study groups
Metacognitive Get Acquainted Activity*

• What do you believe is important to understand and learn in ____________________?

• What do you believe to be critical characteristics of successful students in __________?

• How will you study and prepare for exams in ________________________________?

Help Your Students Develop the Right Mindset


Mindset* is Important!

- **Fixed Intelligence Mindset**
  Intelligence is static
  You have a certain amount of it

- **Growth Intelligence Mindset**
  Intelligence can be developed
  You can grow it with actions

New York: Random House Publishing
Responses to *Many* Situations are Based on Mindset

<table>
<thead>
<tr>
<th></th>
<th>Fixed Intelligence Mindset Response</th>
<th>Growth Intelligence Mindset Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenges</td>
<td><em>Avoid</em></td>
<td><em>Embrace</em></td>
</tr>
<tr>
<td>Obstacles</td>
<td><em>Give up easily</em></td>
<td><em>Persist</em></td>
</tr>
<tr>
<td>Tasks requiring effort</td>
<td><em>Fruitless to Try</em></td>
<td><em>Path to mastery</em></td>
</tr>
<tr>
<td>Criticism</td>
<td><em>Ignore it</em></td>
<td><em>Learn from it</em></td>
</tr>
<tr>
<td>Success of Others</td>
<td><em>Threatening</em></td>
<td><em>Inspirational</em></td>
</tr>
</tbody>
</table>
# LSU Analytical Chemistry Graduate Student’s Cumulative Exam Record

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>9/04 Failed</td>
<td>10/05 Passed</td>
</tr>
<tr>
<td>10/04 Failed</td>
<td>11/05 Failed</td>
</tr>
<tr>
<td>11/04 Failed</td>
<td>12/05 Passed best in group</td>
</tr>
<tr>
<td>12/04 Failed</td>
<td>1/06 Passed</td>
</tr>
<tr>
<td>1/05 Passed</td>
<td>2/06 Passed</td>
</tr>
<tr>
<td>2/05 Failed</td>
<td>3/06 Failed</td>
</tr>
<tr>
<td>3/05 Failed</td>
<td>4/06 Passed last one!</td>
</tr>
<tr>
<td>4/05 Failed</td>
<td>5/06 N/A</td>
</tr>
</tbody>
</table>

Began work with CAS and the Writing Center in October 2005
Dr. Algernon Kelley, December 2009
Oct. 17, 2011

Hello Dr. Kelley. ... I am struggling at Xavier and I REALLY want to succeed, but everything I've tried seems to end with a "decent" grade. I’m not the type of person that settles for decent. What you preached during the time you were in Dr. Privett's class last week is still ringing in my head. I really want to know how you were able to do really well even despite your circumstances growing up. I was hoping you could mentor me and guide me down the path that will help me realize my true potential while here at Xavier. Honestly I want to do what you did, but I seriously can't find a way how to. Can I please set up a meeting with you as soon as you’re available so I can learn how to get a handle grades and classes?

Oct. 24, 2011

Hey Dr. Kelley, I made an 84 on my chemistry exam (compared to the 56 on my first one) using your method for 2 days (without prior intense studying). Thanks for pointing me in the right direction. I’ll come by your office Friday and talk to you about the test.

Nov 3, 2011

Hey Dr. Kelley! I have increased my Bio exam grade from a 76% to a 91.5% using your system. Ever since I started your study cycle program, my grades have significantly improved. I have honestly gained a sense of hope and confidence here at Xavier. My family and I are really grateful that you have taken time to get me back on track.
Tutors can Motivate Students to Use Metacognitive Strategies!

*Strongly encourage them to:*

- Consider their goals
- Develop a plan! (e.g. schedule study appointments with themselves; make a study bet with friends; devise a new place to study)
- Commit to Three or More Intense Study Sessions per day (two during daylight hours)
- Believe in themselves!!!
How Can Tutors Convert Students from Passive to Active Participants?

- Teach Students HOW to Learn
- Motivate Them to Engage
- Change Their Mindset!
Useful Websites

• [www.cas.lsu.edu](http://www.cas.lsu.edu)
• [www.howtostudy.org](http://www.howtostudy.org)
• [www.vark-learn.com](http://www.vark-learn.com)
• [www.drearlbloch.com](http://www.drearlbloch.com)
• Searches on [www.google.com](http://www.google.com)


http://academic.pg.cc.md.us/~wpeirce/MCCCTR/metacognition.htm

*Excellent student reference
Acknowledgments

• LSU Center for Academic Success colleagues (especially Sarah Baird)
• Colleagues in the International Learning Support Community
• The thousands of students who changed their attitudes and behaviors, and taught ME that students CAN learn how to learn!