Developing Effective Study Skills: Busting Myths and Sharing Best Practices

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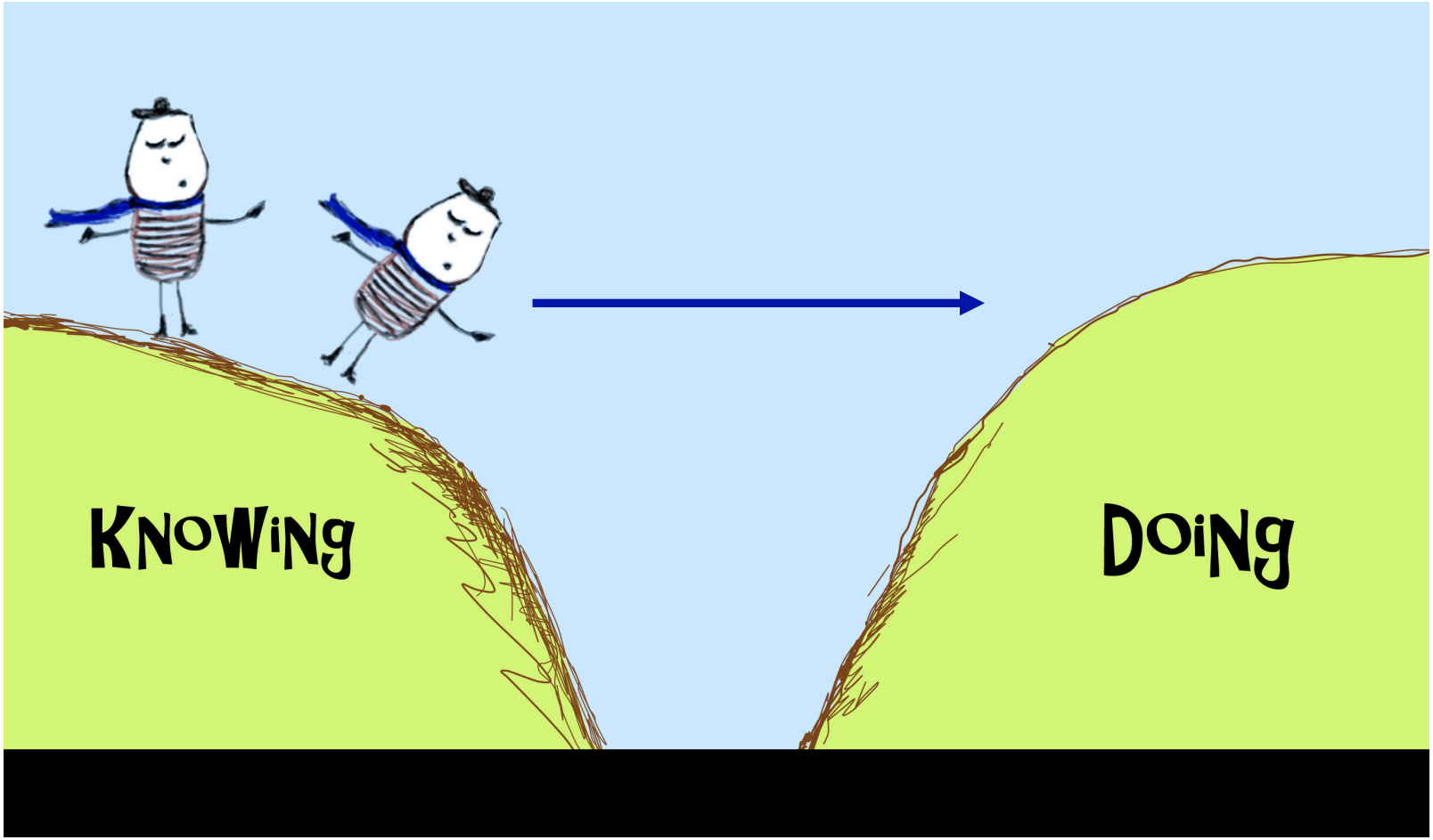
Department of Food Science and Human Nutrition
ACES Student Success Workshop [09.14.2022]

Both knowing and doing must be in sync to be successful!



Stop and make a promise to yourself: "I will put into practice at least one of the study practices I learn about in this workshop!"

It might be painful at first, but it will pay off in the end. Remember: No pain, no gain!

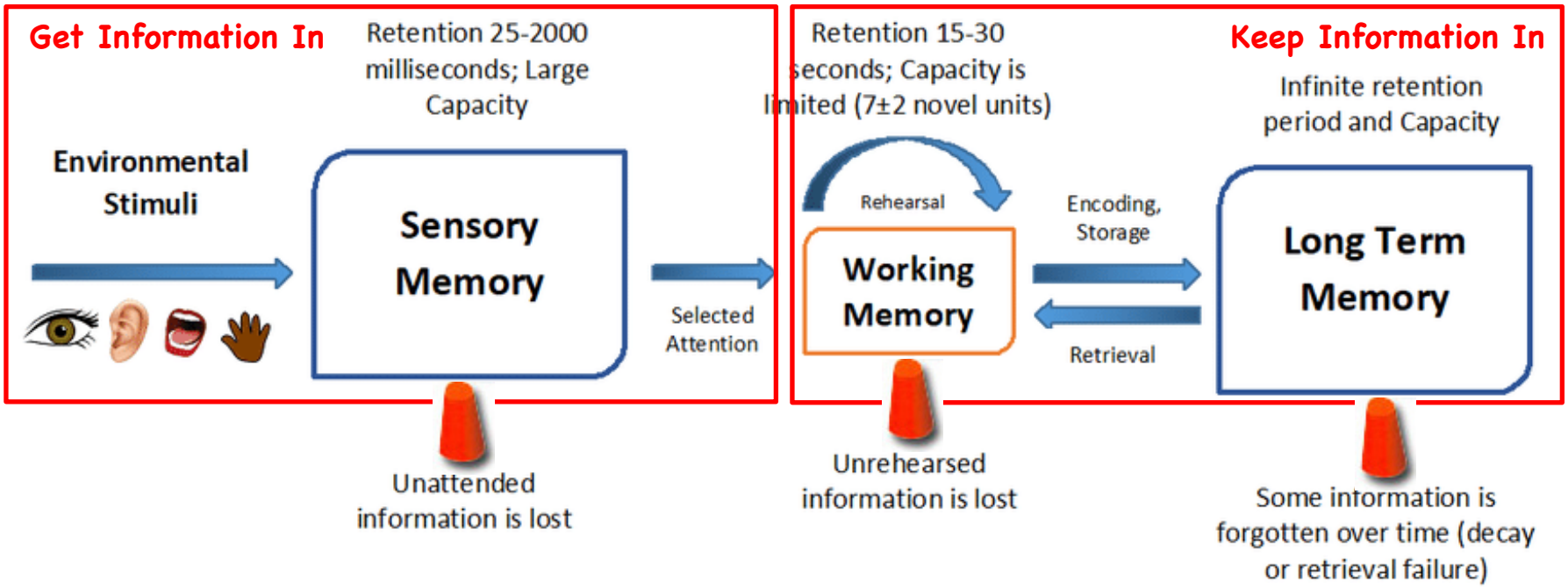
4 Common Misconceptions that Undermine Learning

1. Learning is fast

Dr. Sam Chew's How to Study video series
at http://www.samford.edu/how-to-study/

Q. What does it take to really learn something?

Atkinson & Shiffrin Information Processing Model



Plug the Leaks! Increasing attention and focus; eliminate distractions, increase engagement, make learning active, develop traits of importance to academic success

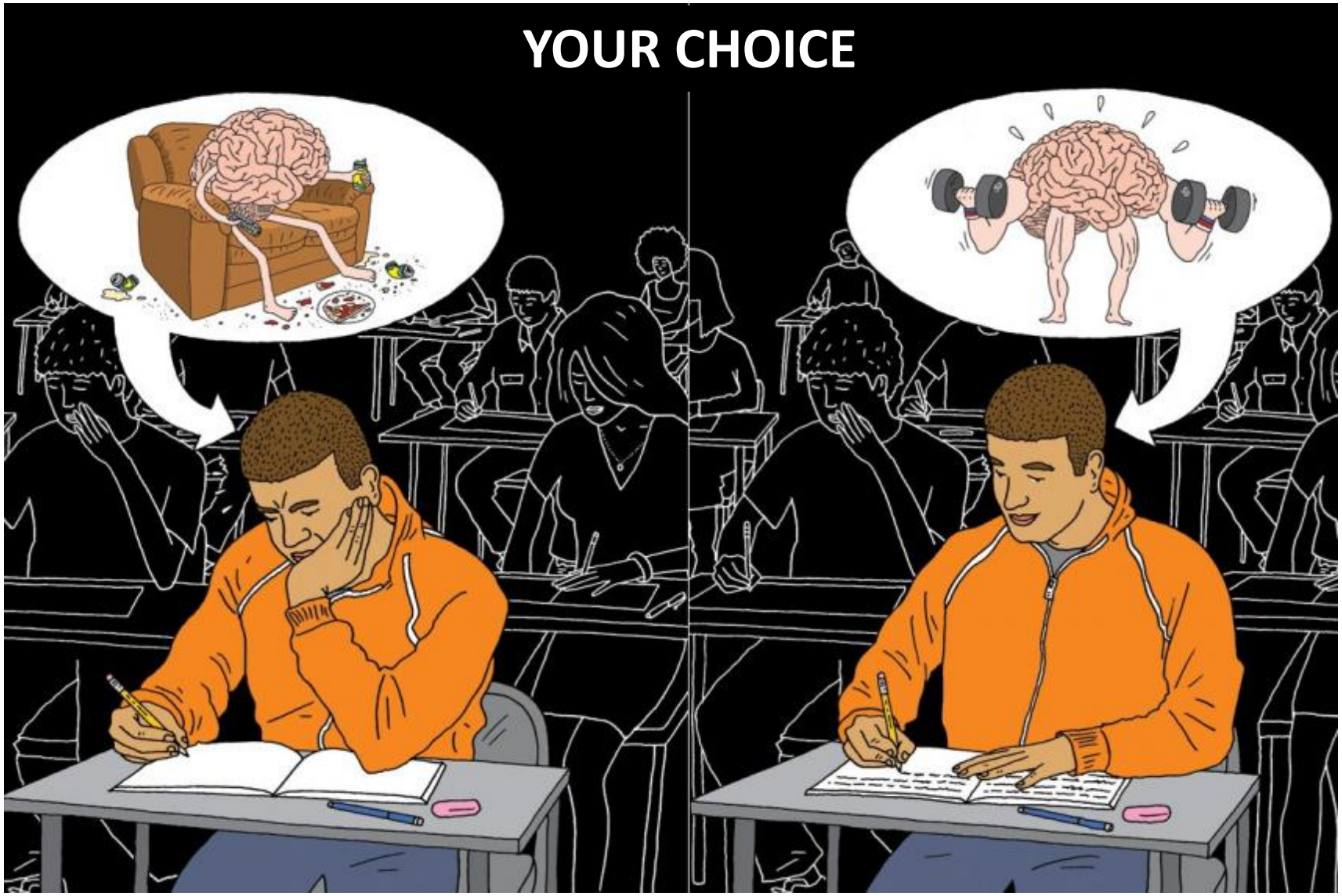
Plug the Leaks! Implementing effective evidenced based learning practices and develop traits of importance to academic success

Traits of importance to academic success (Tough 2012): grit, curiosity, character, conscientiousness, self control, resilience, perseverance, self-confidence, and optimism

Schmidt, 2019a,b; Schmidt, 2020

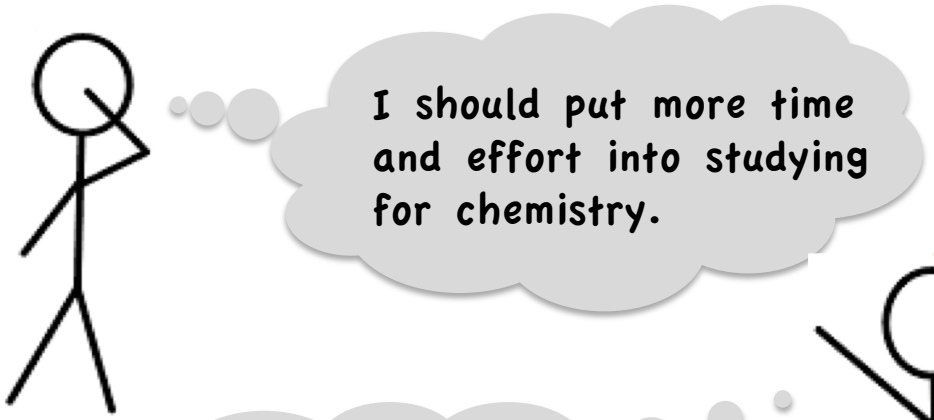
Noushad and Khurshid 2019

Deep, Durable Learning Takes LOTS of Time and is Hard Work – Hard Work that no one else can do, but YOU!

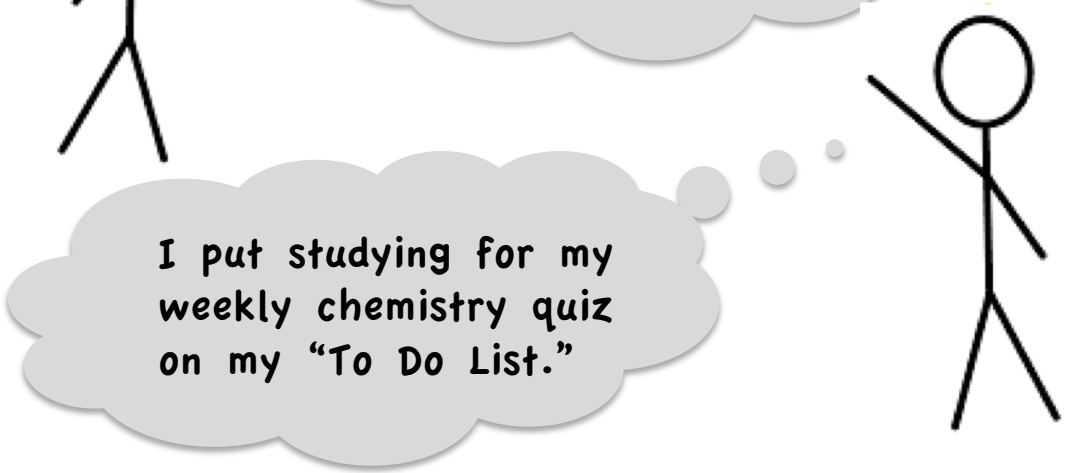


Goal: Put more time, effort, and intentionality into studying

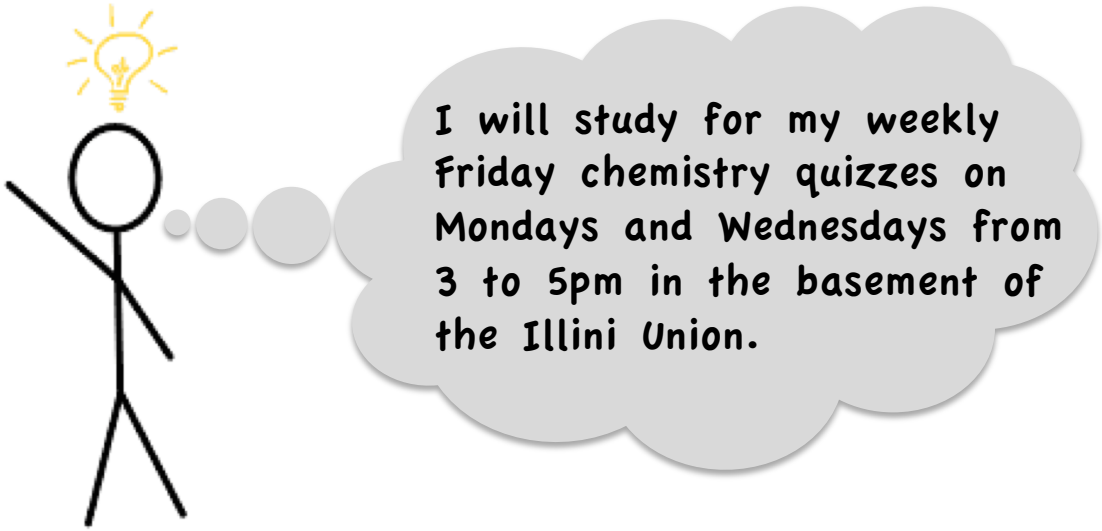
Good intentions, but no specific plan of what needs to be done



To Do List is what needs to be done, but does not include when it will get done



Implementation intention is a plan made beforehand about **what** we are going to do, **when** we are going to do it, and **where** we are going to do it.



Where are your study places?

Top 5 Places Around Campus

5. Caffe Bene – Gregory & Nevada Street

4. Huff Hall

3. Main Library

Where are your study places?

2. ACES Library

1. Illini Union

4 Common Misconceptions that Undermine Learning

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2. Knowledge is composed of isolated facts

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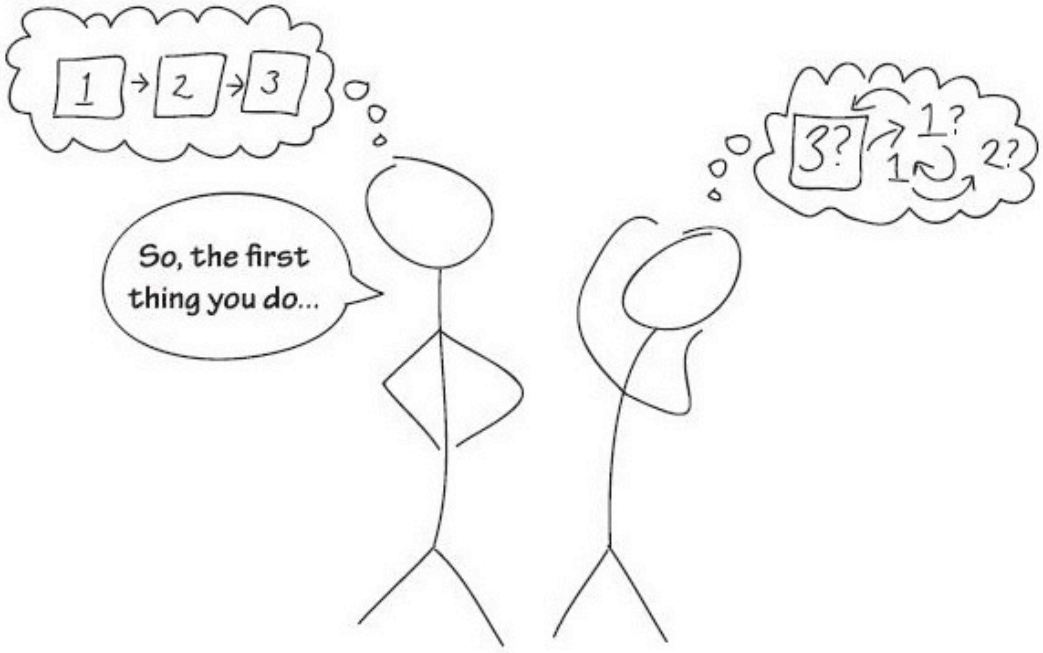
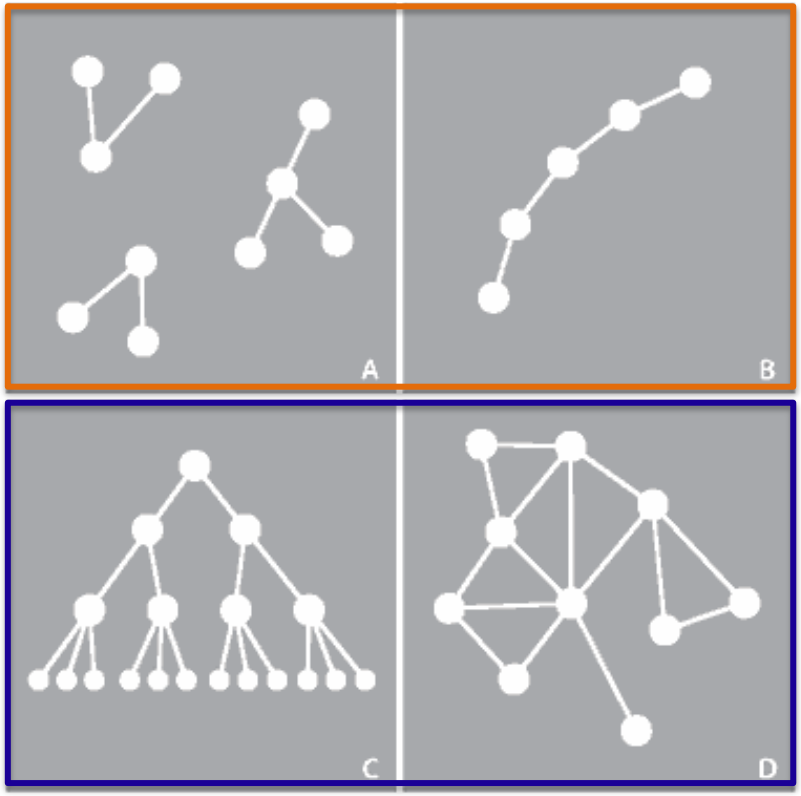
Knowledge is Interconnected and Structured





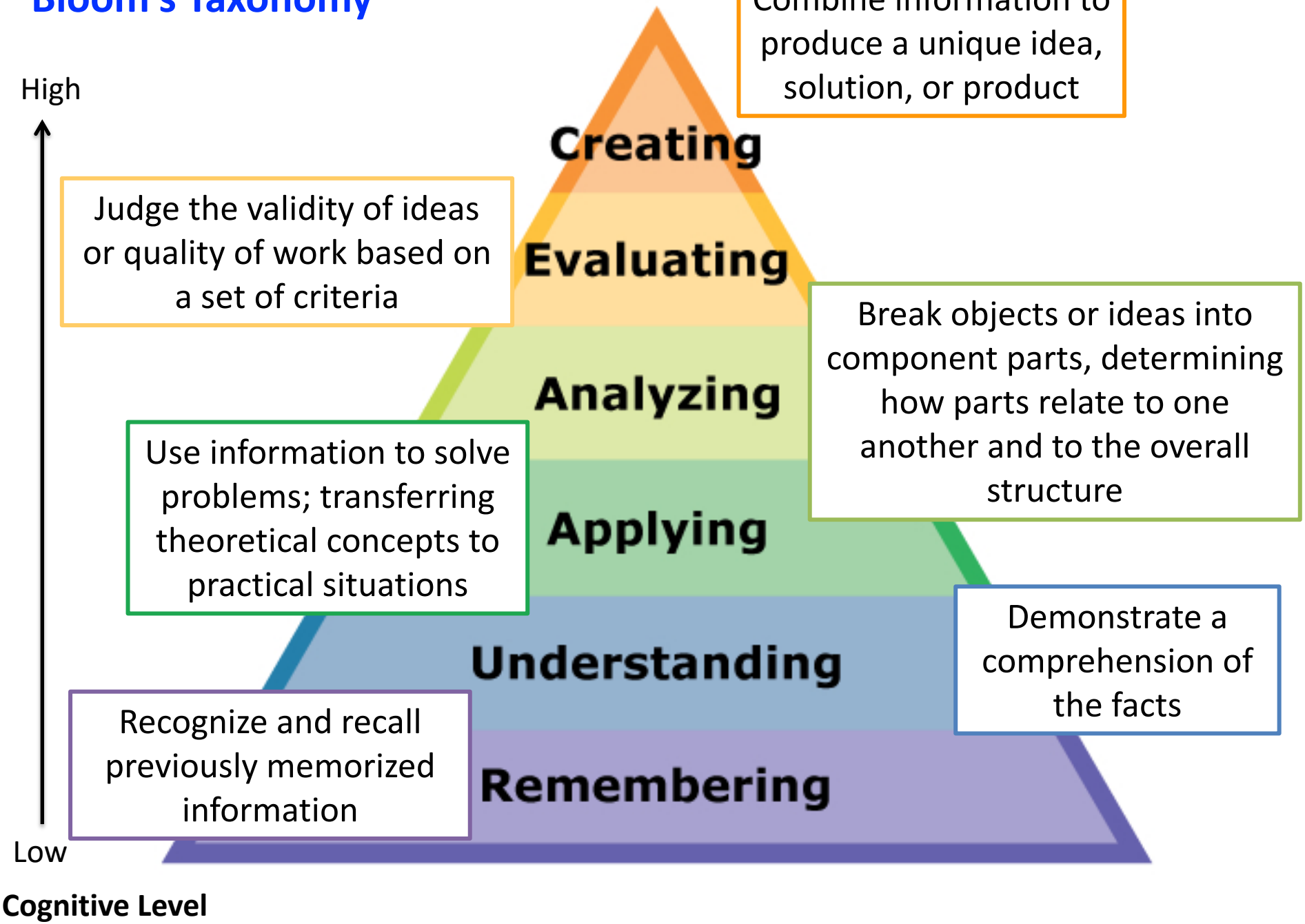
Expert: C and D **Novice: A and B**

Work on building rich, meaningful, connected, and flexible ways of knowledge organization

How?

Start with Bloom's Taxonomy: A Secret Decoding Device

Bloom's Taxonomy



Bloom's Taxonomy Quiz

1. What is the definition of socialization? Remember (L)
2. Carry out an authentic research project. Create (H)
3. What will happen if the steps in the mixing process are changed? Analyze (M)
4. Calculate the number of calories in a taco. Apply (M)
5. Summarize the steps in the scientific method. Understand (L)
6. Is chicken from free range farming superior to the other farming techniques? Explain. Evaluate (H)

Remember Understand Apply Analyze Evaluate Create

Connecting Bloom's Taxonomy to Learning Activities

Level of Bloom's Taxonomy	Explanation of Level	Example Verbs Used for Learning Objectives	Learning Activities (What students can do!)
Remembering	Recognize and recall previously memorized information, such as facts, terminology, problem-solving strategies, rules	Arrange, define, identify, label, list, match, name, recall, recite	Quiz self on vocabulary words using flash cards Practice labeling a diagram or picture
Understanding	Demonstrate a comprehension of the facts, such as explaining a concept in your own words	Classify, compare, contrast, differentiate, discuss, distinguish, describe, explain, rewrite	Explain a concept in your own words Discuss course content with peers
Applying	Use information to solve problems; transferring theoretical concepts to practical situations	Apply, calculate, demonstrate, examine, illustrate, solve, use	As you review a process ask what would happen if you changed a step or level in the process
Analyzing	Break objects or ideas into component parts, determining how parts relate to one another and to the overall structure	Analyze, breakdown, deconstruct, examine, infer, model, question, select	Analyze and interpret data Compare and contrast two ideas or solutions
Evaluating	Judge the validity of ideas or quality of work based on a set of criteria	Appraise, argue, assess, critique, evaluate, grade, judge, recommend	Develop or use a rubric to provide a written peer assessment of strengthens and weaknesses of another student's work
Creating	Combine information to create a unique idea, solution, or product	Assemble, create, combine, compose, construct, hypothesize, reorganize, synthesize	Generate a hypothesis or design an experiment based on the topic area you are studying

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2. Knowledge is composed of isolated facts
3. Being good at a subject is a matter of inborn talent rather than hard work

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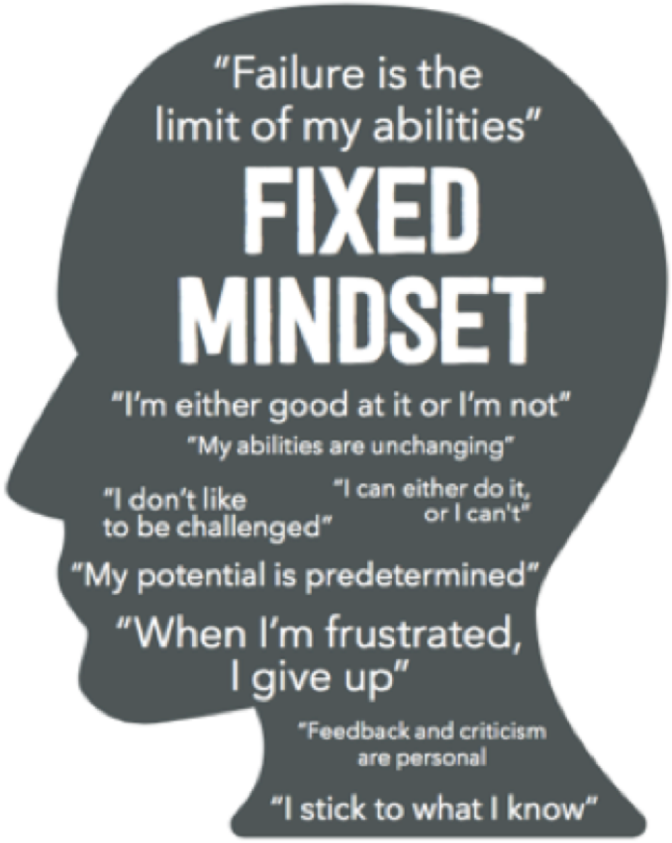
Growth vs. Fixed Mindset

Mindset (2007) book by Carol Dwek

Growth Mindset: Believing your talents can be developed through hard work, good strategies, and input from others.

Fixed Mindset: Believing your talents are innate, fixed gifts that cannot be developed.



Individuals with a growth mindset tend to achieve more than those with a more fixed mindset, partly because they worry less about looking smart and they put more energy into learning.

4 Common Misconceptions that Undermine Learning

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4. I'm really good at multi-tasking, especially during class or when I am studying

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The Bottomline: Evidence from psychology, cognitive science, and neuroscience suggests that when students multitask while doing schoolwork (Paul, 2013):

- Learning is far spottier and shallower than if the work had your full attention
- Remembering and understanding is substantially decreased
- Concentrating and applying your learning to new contexts is more difficult
- Studying is not only less effective, it is also less efficient

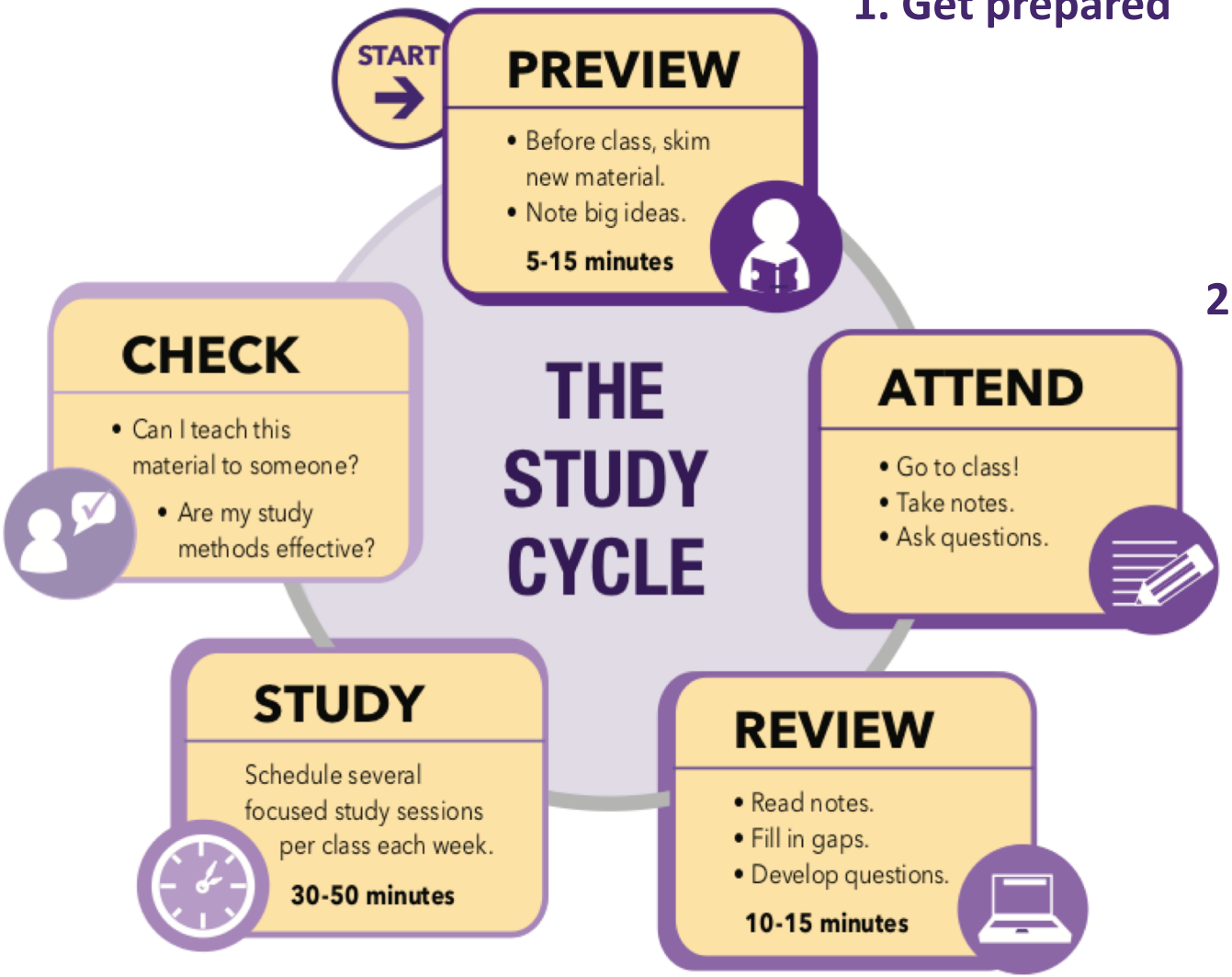
Replace Distracted Learning with The Study Cycle and Focused Study Sessions!

The Study Cycle

A comprehensive 5-step framework to help guide and develop your study practices

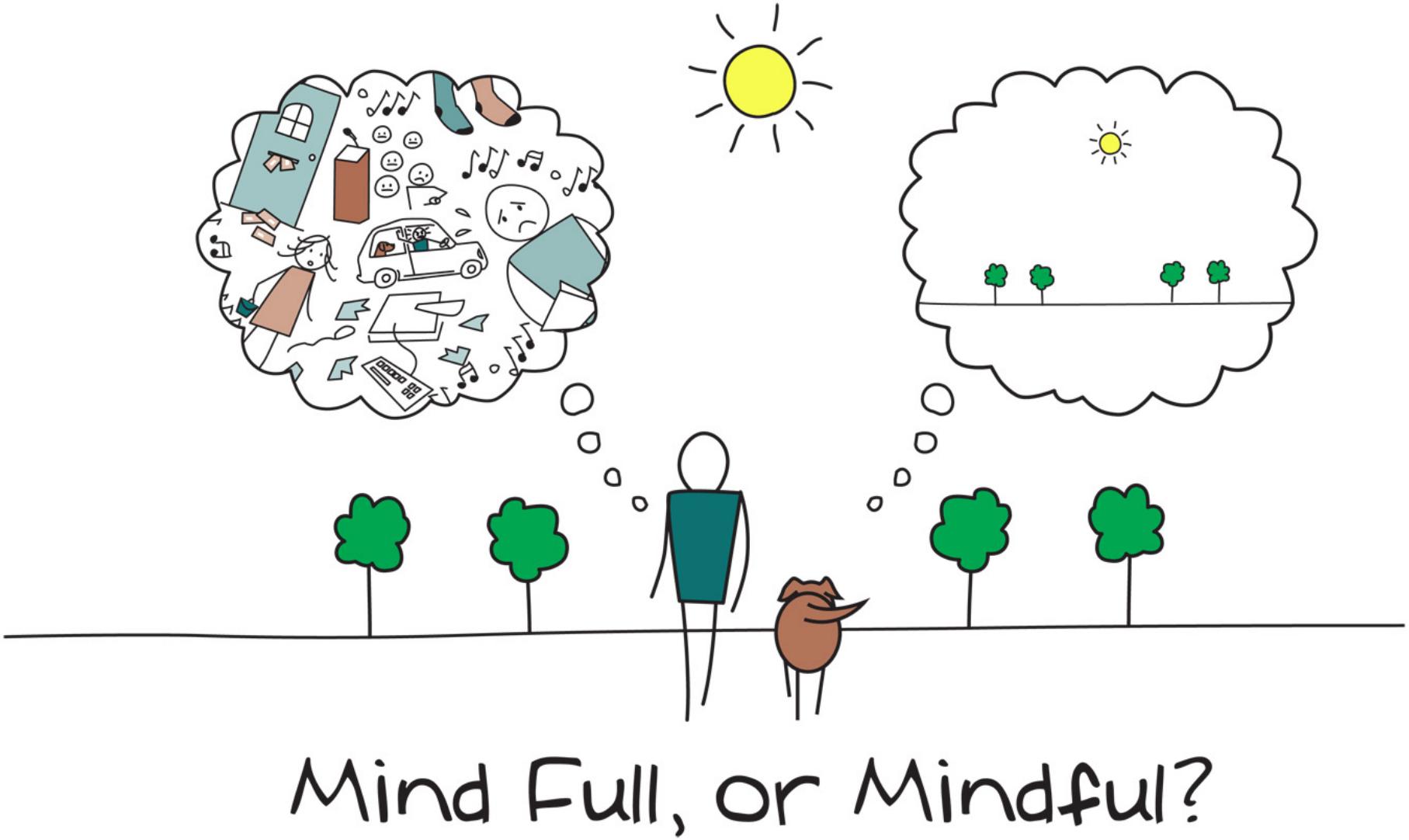
1. Get prepared

2. Be present



From: LSU Student Success Center

Be Present. Maximize your learning DURING lecture. It's Prime Encoding and Note Making Time!



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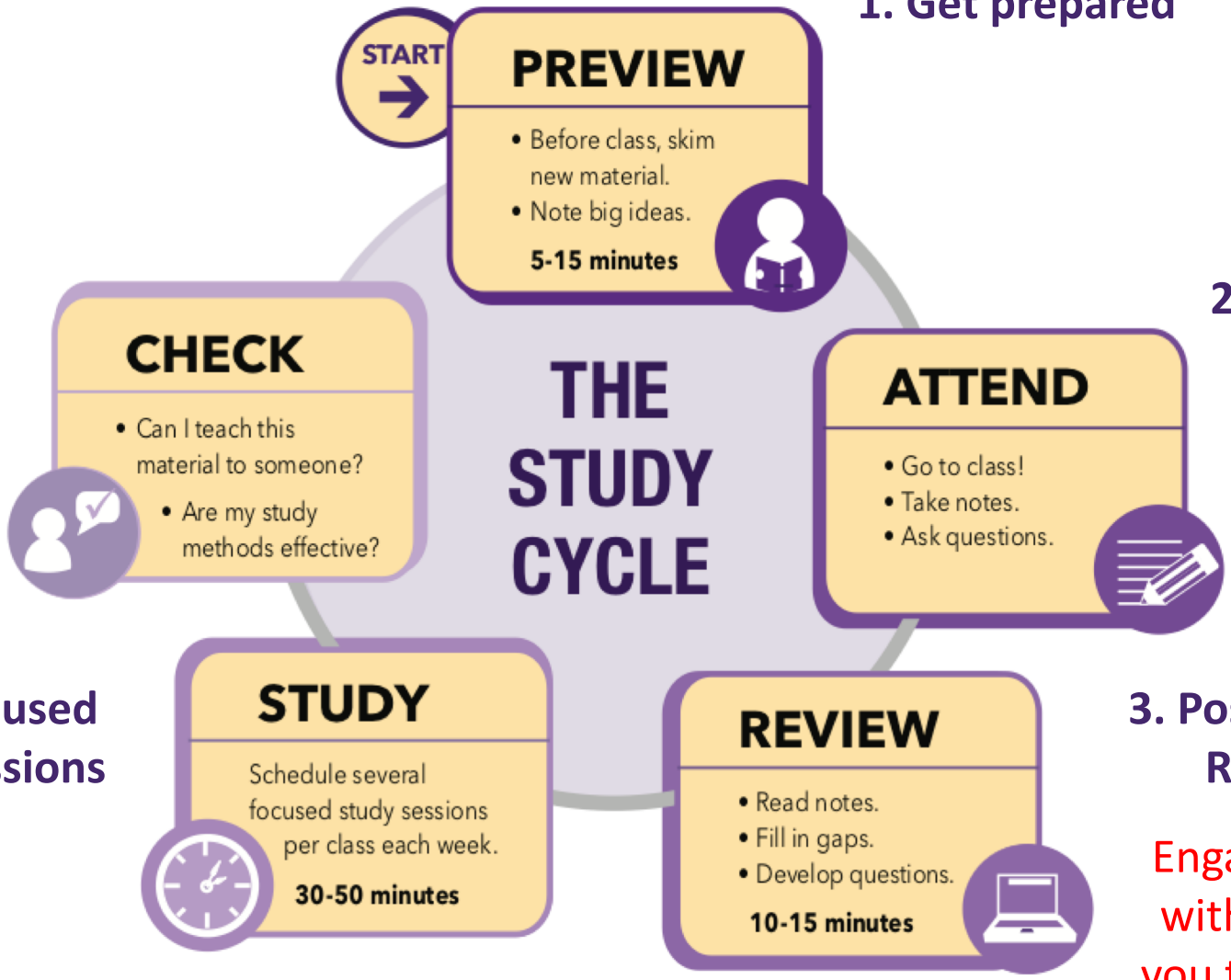
3. Post-Lecture Review

4. Do Focused Study Sessions



Engage actively with the notes you took in class

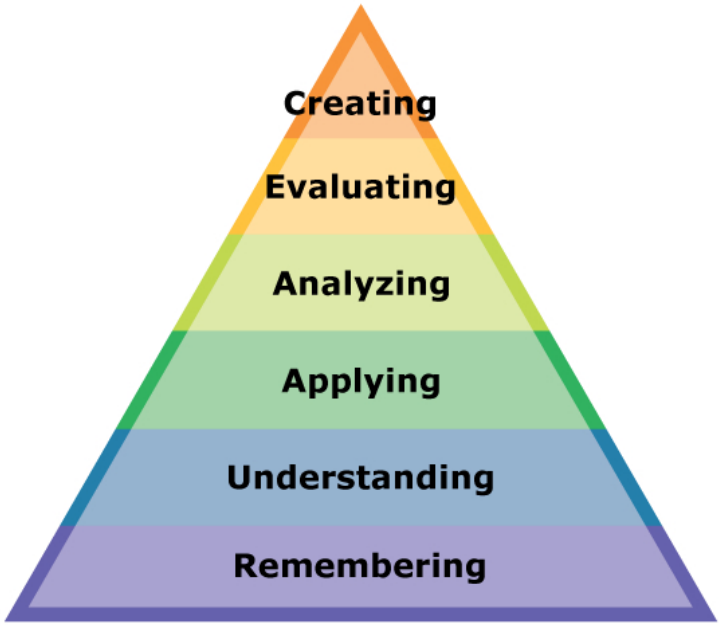
From: LSU Student Success Center

Focused Study Sessions

Spaced out study sessions that allow you to learn the material step-by-step over time, rather than all at once during cramming sessions right before the exam.

Set your **GOALS** for the study session

Make studying **ACTIVE** & at the **REQUIRED LEVEL** of Bloom's Taxonomy!



PLAN
Decide what you will accomplish in your study session and get started.
(Suggested time: 1 - 2 minutes)

STUDY
Interact with material: organize, concept map, summarize, process, read, work problems.
(Suggested time: 30 - 50 minutes)

BREAK
Step away from material to clear your head.
(Suggested time: 5 - 10 minutes)

RECAP
Go back over, summarize, wrap-up and check what you studied.
(Suggested time: 5 minutes)

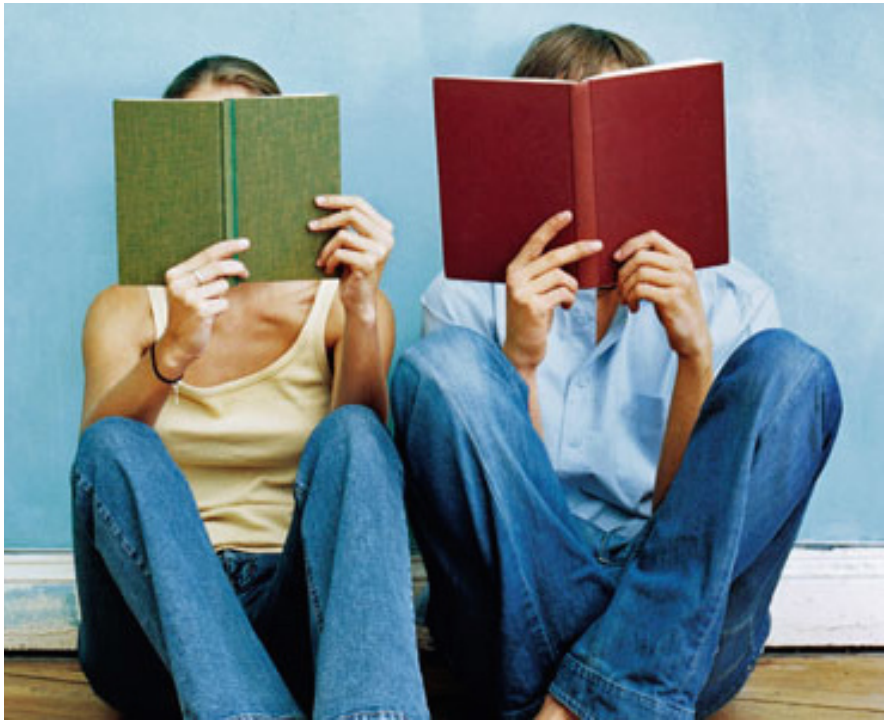
CHOOSE ?
- Should I continue studying?
- Should I take a break?
- Should I change tasks or subject?

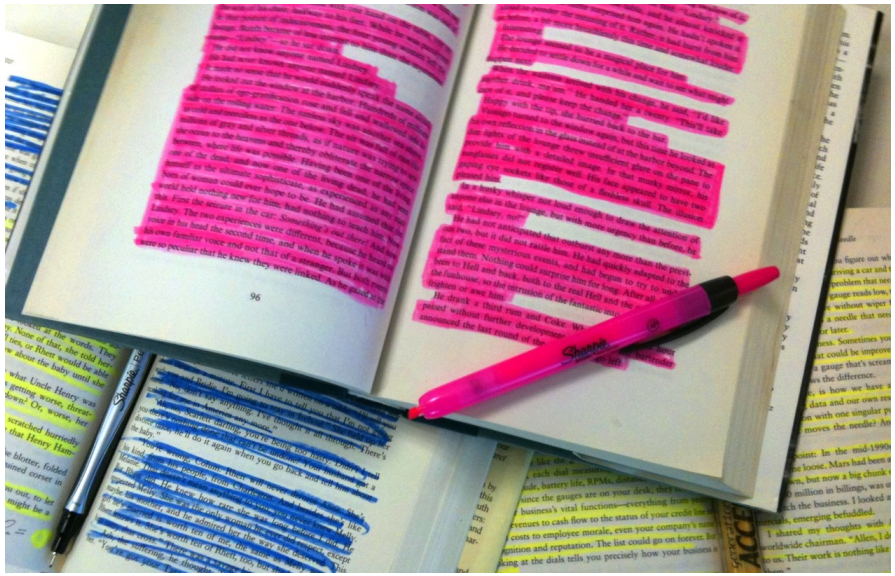
From: LSU Center for Academic Success

Q. What are some of the most commonly used learning practices?

- Re-reading the material
- Underlining and highlighting
- Massed practice (i.e., cramming)
- Blocked practice (studying one topic at a time)
- Looking over problems that have already been worked out

However, they are the least productive!





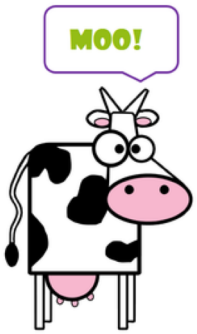
These activities generate a feeling of familiarity, but familiarity ≠ mastery; students must be fully engaged in building course content in their OWN brain to achieve mastery!

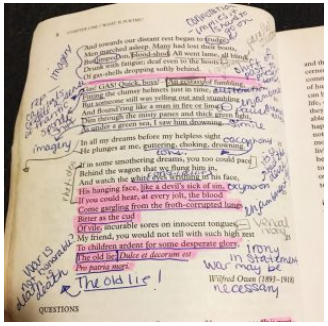
Making Studying ACTIVE: Employing Evidence Based Learning Strategies

These learning strategies **work**, but they are a good deal of **work**. And, truthfully, that's why they **work**!

1. Read the Text Book and Course Materials Actively

Preview + Generate Questions + Paraphrase + Annotate + Do Example Problems





- WHAT IS "AMBIENT" TEMPERATURE?
- WHAT DEFINES A "HEAT WAVE?
- WHAT % OF POPULATION EXPERIENCE A MENTAL HEALTH DISORDER?
- WHY IS CLIMATE CHANGE LIKELY TO BE "MORE SEVERE IN DEVELOPING COUNTRIES?" (p.1)

Abstract

We all know that 2014 has been declared as the hottest year globally by the Meteorological department of United States of America. Climate change is a global challenge which is likely to affect the mankind in substantial ways. Not only climate change is expected to affect physical health, it is also likely to affect mental health. Increasing ambient temperatures is likely to increase rates of aggression and violent suicides, while prolonged droughts due to climate change can lead to more number of farmer suicides. Droughts otherwise can lead to impaired mental health and stress. Increased frequency of disasters with climate change can lead to posttraumatic stress disorder, adjustment disorder, and depression. Changes in climate and global warming may require population to migrate, which can lead to acculturation stress. It can also lead to increased rates of physical illnesses, which secondarily would be associated with psychological distress. The possible effects of mitigation measures on mental health are also discussed. The paper concludes with a discussion of what can and should be done to tackle the expected mental health issues consequent to climate change.

Keywords: Climate change, distress, farmer suicide, global warming, mental health

CLIMATE CHANGE → PHYSICAL & MENTAL HEALTH → PHYSICAL ILLNESS & PSYCHOLOGICAL DISTRESS

INTRODUCTION

Climate change refers to relatively stable changes in the meteorological parameters like precipitation and temperature over a period of time in a given region. Such a climate change has been described as a critical global challenge,[1,2] especially due to the fact that human activities have been contributory to changes in global climate. It has been observed that over least few decades the average global temperature has risen by 0.5°C due to anthropogenic emissions,[3] and projections for 2100 AD suggest that average global temperatures will rise by 2.4–5.8°C.[1] Such gradual increase in temperatures is likely to be associated with melting of ice caps, submergence of coastal areas, adverse precipitation events, and floods and droughts in different regions.[4] Such change in climate on a global scale is likely to affect the mankind in many different ways. The effect of global climate change is likely to be more severe in developing countries.[5]

CLIMATE CHANGE DEFINE

TEMP RISE 0.5° C

Attention has been drawn to the variety of health impact of climate change.[Global climate change is likely to be associated with spread of vector borne diseases, injuries and deaths due to extreme weather conditions such as floods, storms, and cyclones, thermal injury due to exposure to heat, risk of spread of water-borne infections due to floods and coastal water warming, and reduction in regional crop yields leading to malnutrition.[1,6,7,8,9] The impact of global climate change on health is likely to be substantial.] Mental health comprises an important component of health and is also likely to be affected by global climate change. The present narrative review discusses the mental health impact of global climate change from the point of view of a developing country.

DISEASE INJURY DEATH ↓ + MENTAL HEALTH

HOW CAN THE CLIMATE CHANGE AFFECT MENTAL HEALTH?

Ambient temperature and effect on mental health

Increased exposure to heat is likely to become more common with the rise in the global temperatures. It has been suggested that there is a relation between temperature rise and aggressive behavior.[10] Increase in rates of criminality and aggression have been observed during the hot summer months, suggesting a link between aggressive behaviors and temperatures.[11,12] With global warming, it is possible that the rates of aggression may increase over time. Association has been also been seen with the rates of suicides and the temperatures. It has been seen that suicides, especially violent ones are more common with the recent increase in temperatures.[13,14,15]

TEMP ↑ • AGGRESSION ↑ • SUICIDE ↑

Heat waves have been associated with mental and behavioral disorders. A study from Australia suggests that heat waves are associated with increased rates of admissions for mental disorders also, in conjunction with other disorders such as cardiovascular and renal illness.[16] Such heat waves have been associated with mood disorders, anxiety disorders, dementia and anxiety related disorders among others.[17] Extreme heat exposure can lead to physical as well as psychological exhaustion.[18] A study from Thailand suggests that occupational heat stress is associated with greater psychological distress among the workers.[19] Similar other studies have found an association between increased temperatures in the work place and greater psychological distress.[20]

TEMP ↑ • DISTRESS • EXHAUSTION (PHYSICAL & PSYCHOLOGICAL)

Psychological consequence due to climate related disasters

Climate related disasters such as floods, hurricanes, and bush-fires are often associated with stress-related psychiatric disorders. People who have been exposed to life threatening situations are at a considerable risk of developing post traumatic stress disorder (PTSD).[21,22] The symptoms of PTSD include flashbacks of the event, and arousal and avoidance of cues to the memory of the event. In many cases, the symptoms of PTSD have a delayed onset, months to years after the experiencing of threatening disaster situations. The development of PTSD is associated with impairment in the quality of life and significant subjective distress.

CLIMATE DISASTERS → PTSD → PSYCHIATRIC DISORDERS

Individuals who have been through the climate related natural disaster are not only at a higher risk of developing PTSD, but also at risk of developing acute stress reaction and adjustment disorder.[26,27] These disorders are another type of disorders which can subside over a period of time with rehabilitations and/or treatment. Other exacerbated disorder includes development of acute and transient psychosis and relapse of bipolar disorder. Faced with the loss of home, environment, social structures and loved ones, an individual may develop bereavement (grief reaction) or depression. The depression is likely to be more pronounced in those living in small rural communities, than those living in big cities.[28] As the impact of climate change seems to be increasing over the time period, it is likely that a greater proportion of the population would be impacted by mental health consequences of climate change related disasters.[29]

WHAT ARE OTHER ANXIETY SPECTRUM DISORDERS ??

Drought and farmer suicide

CLIMATE DISASTER ↑ RISK OF:
- PSYCHOSIS
- BIPOLAR RELAPSE
- BEREAVEMENT
- DEPRESSION

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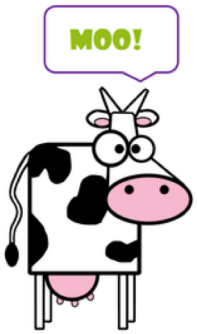
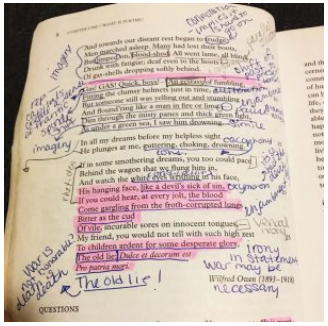




2. Get Questions Answered and Cleared Up Confusion

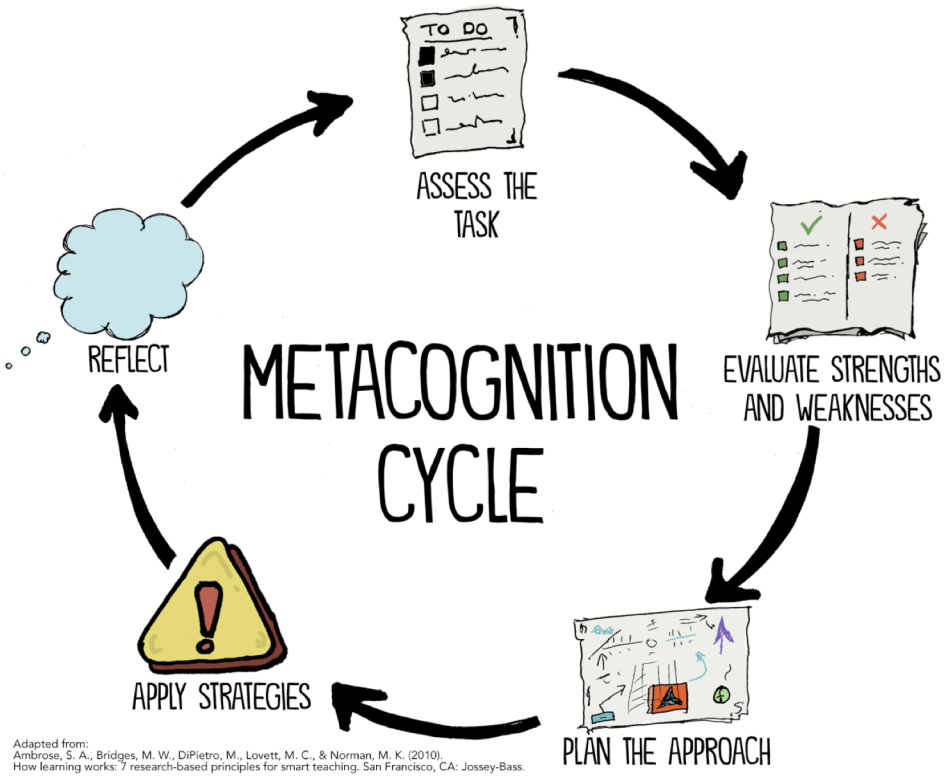
Seek Help!

Making Studying ACTIVE: Employing Evidence Based Learning Strategies

3. Do Homework Like an Exam

4. Teach the Material to a Real or Imaginary Audience

5. Reflect On Your Learning



Adapted from:
Ambrose, S. A., Bridges, M. W., DiPietro, M., Lovett, M. C., & Norman, M. K. (2010).
How learning works: 7 research-based principles for smart teaching. San Francisco, CA: Jossey-Bass.

Focused Study Sessions

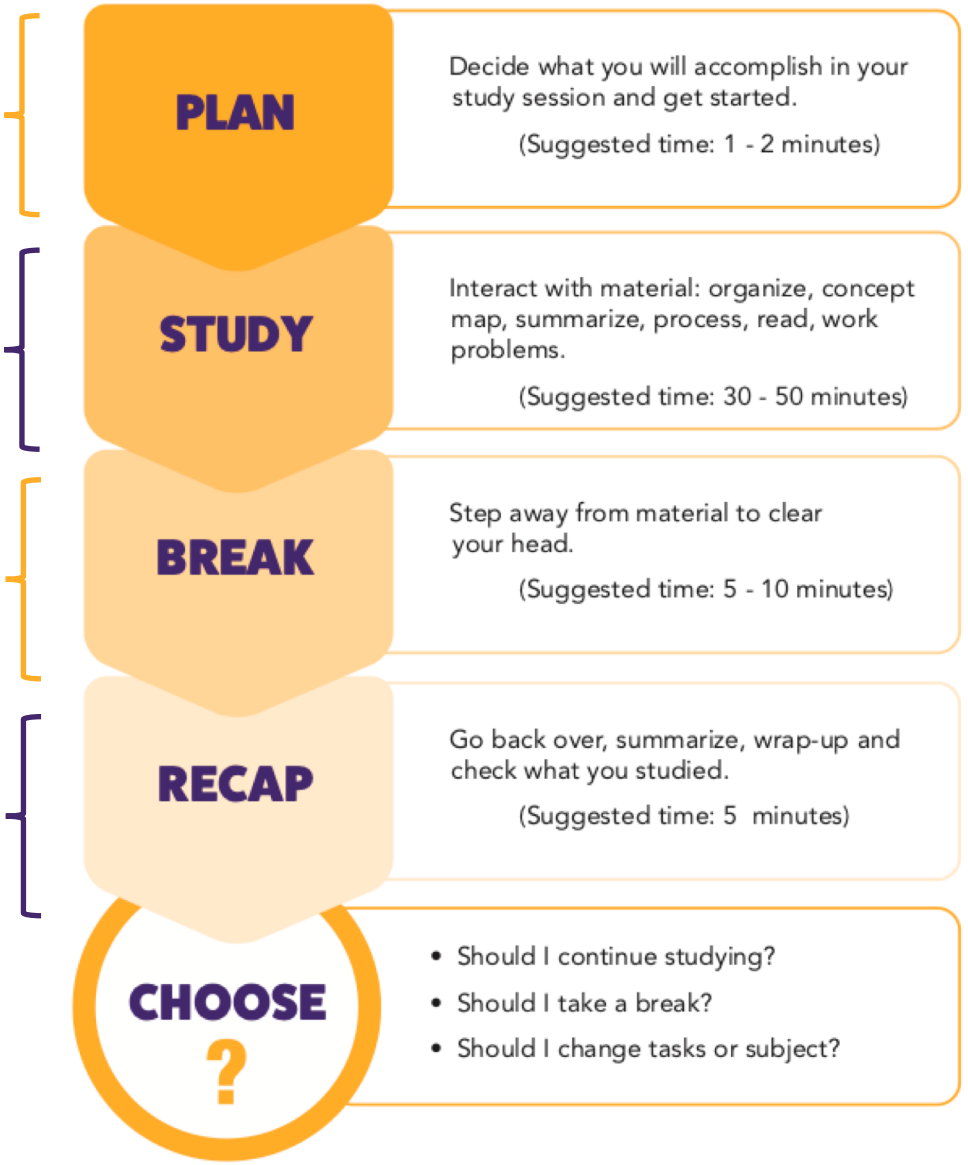
Spaced out study sessions that allow you to learn the material step-by-step over time, rather than all at once during cramming sessions right before the exam.

Set your **GOALS** for the study session

Make studying **ACTIVE** & at the **REQUIRED LEVEL** of Bloom's Taxonomy!

REST following learning is crucial for restoring energy & motivation and for allowing information to "sink in."

SUMMARIZE & CHECK what you have learned



From: LSU Student Success Center

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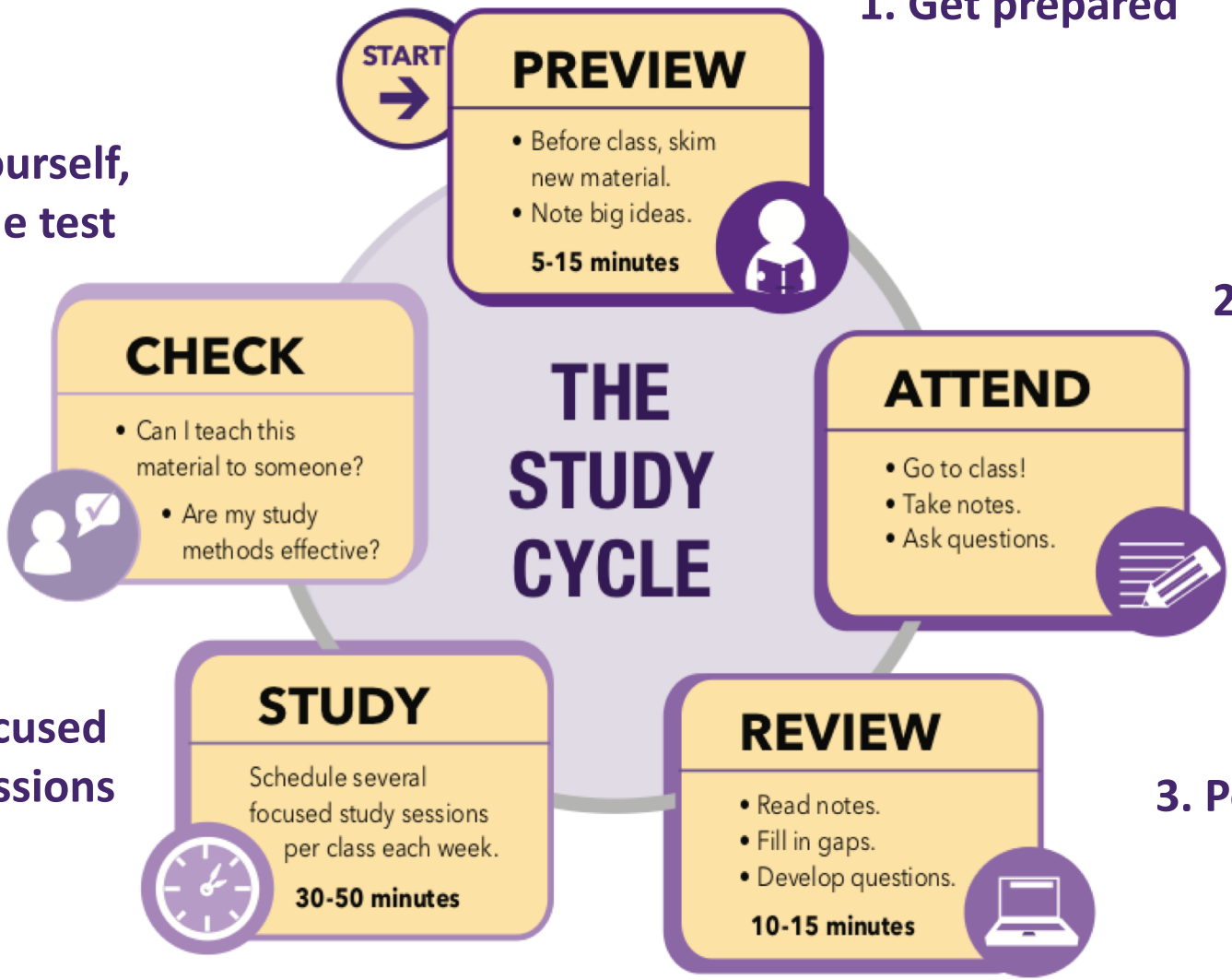
3. Post-Lecture Review

4. Do Focused Study Sessions

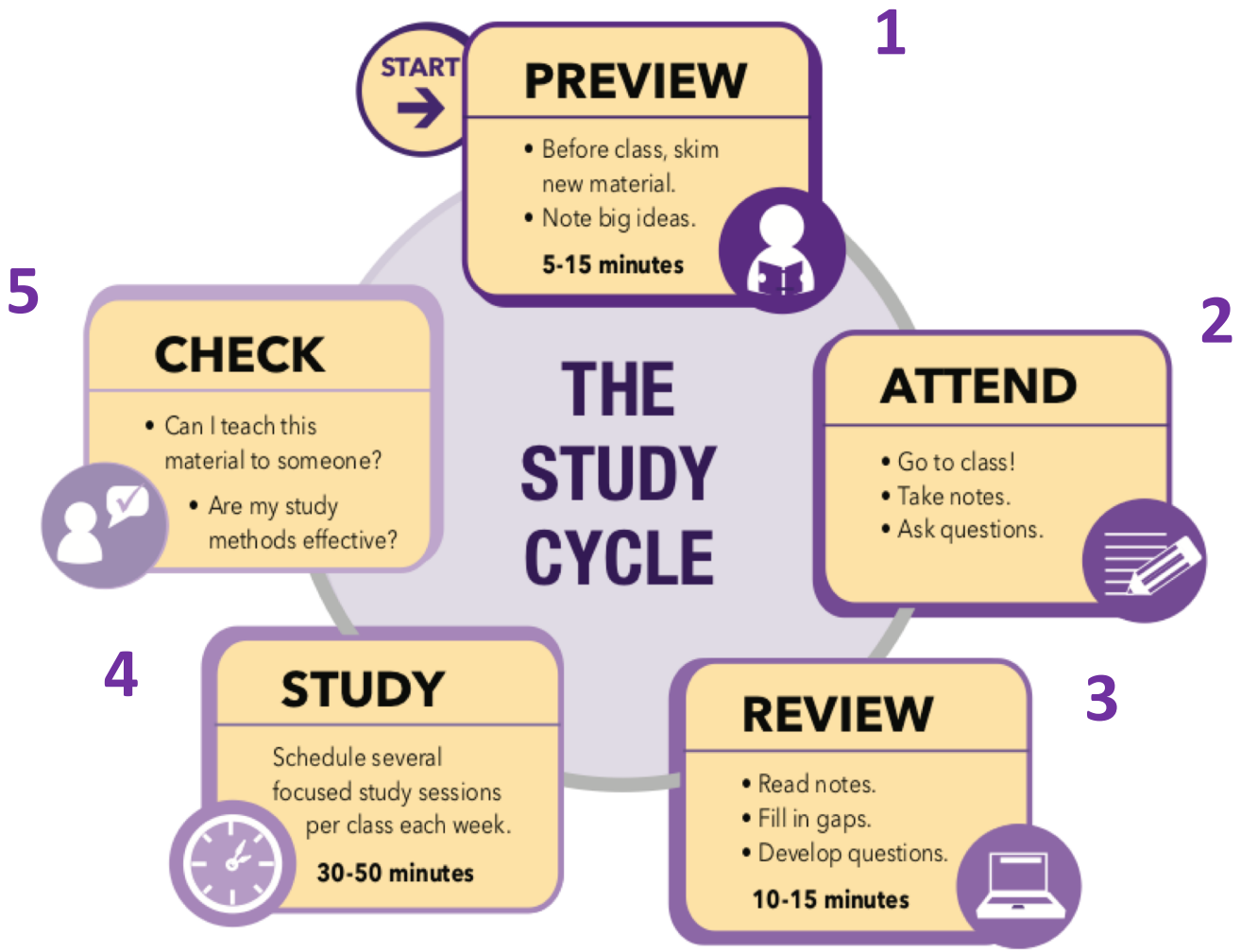
5. Test yourself, before the test



From: LSU Student Success Center

Q1. Which step(s) of the Study Cycle is or would be most challenging for you to put into practice? Why?

Q2. What are ways you can motivate yourself to put the Study Cycle into practice?



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3. Being good at a subject is a matter of inborn talent rather than hard work
4. I'm really good at multi-tasking, especially during class or when I am studying

Q. Which of these misconceptions most undermines your learning?

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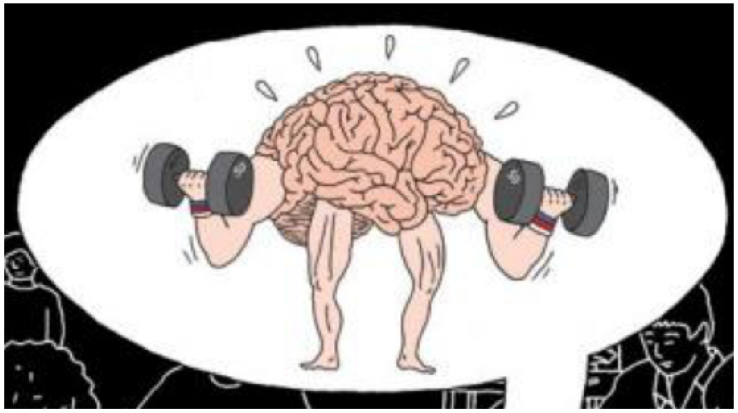
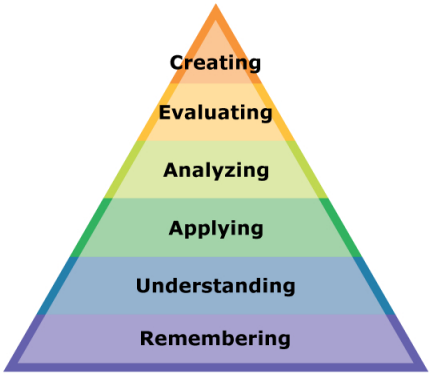
Q. What's your One Thing?

1. Put in more **time, effort,** and **intentionality** into your studying

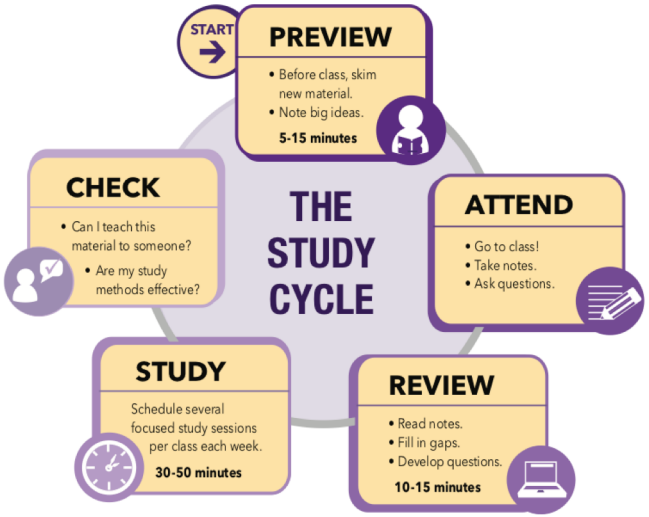


2. Use **Bloom's Taxonomy** to choose appropriate learning activities and decode assignments and exam questions



3. Develop a **Growth Mindset**

4. **Stop** distracted learning and **Start** using The Study Cycle and make studying active



Your participation and feedback are important!

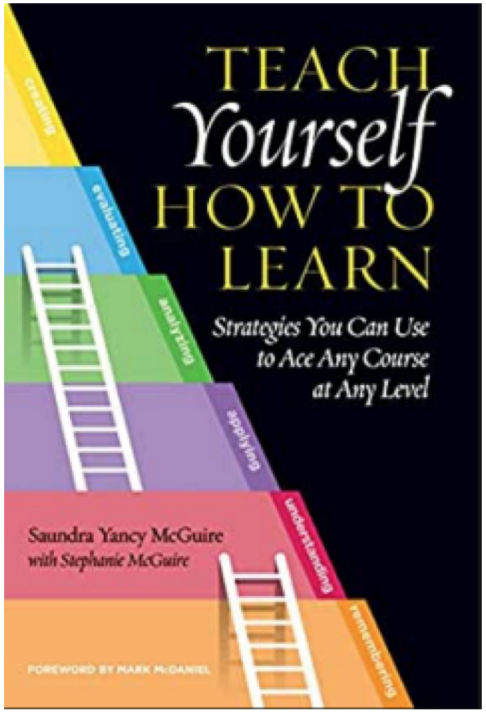
1. Opportunity to participate in a research project about how to best help students learn with the Seibel Design Center – Dr. Saad Shehab

2. Use the QR Code below to take a short survey!

Resources

Illinois Student Learning Resources Website:

https://go.illinois.edu/CITL-StudentResources



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References and Resources

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