Helping your students thrive, academically and emotionally

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Big topics to cover tonight

- Optimizing studying
- Reducing anxiety
- Gender distinctions in academics
- Providing emotional and academic support

Helping develop good study habits

What works to increase learning and student achievement?

How effective are these learning techniques?

Techniques	Utility?
Self-explanation: explaining how new info relates to older info	
Summarization: writing summaries	
Highlighting/underlining	
Imagery for text: visualizing verbal material	
Rereading	
Practice Testing	
Distributed Practice: spreading over time	
Interleaved Practice: schedule of practice that mixes different content and material	

What's your best guess?

Low?
Medium?
High?

Efficacy of various learning techniques

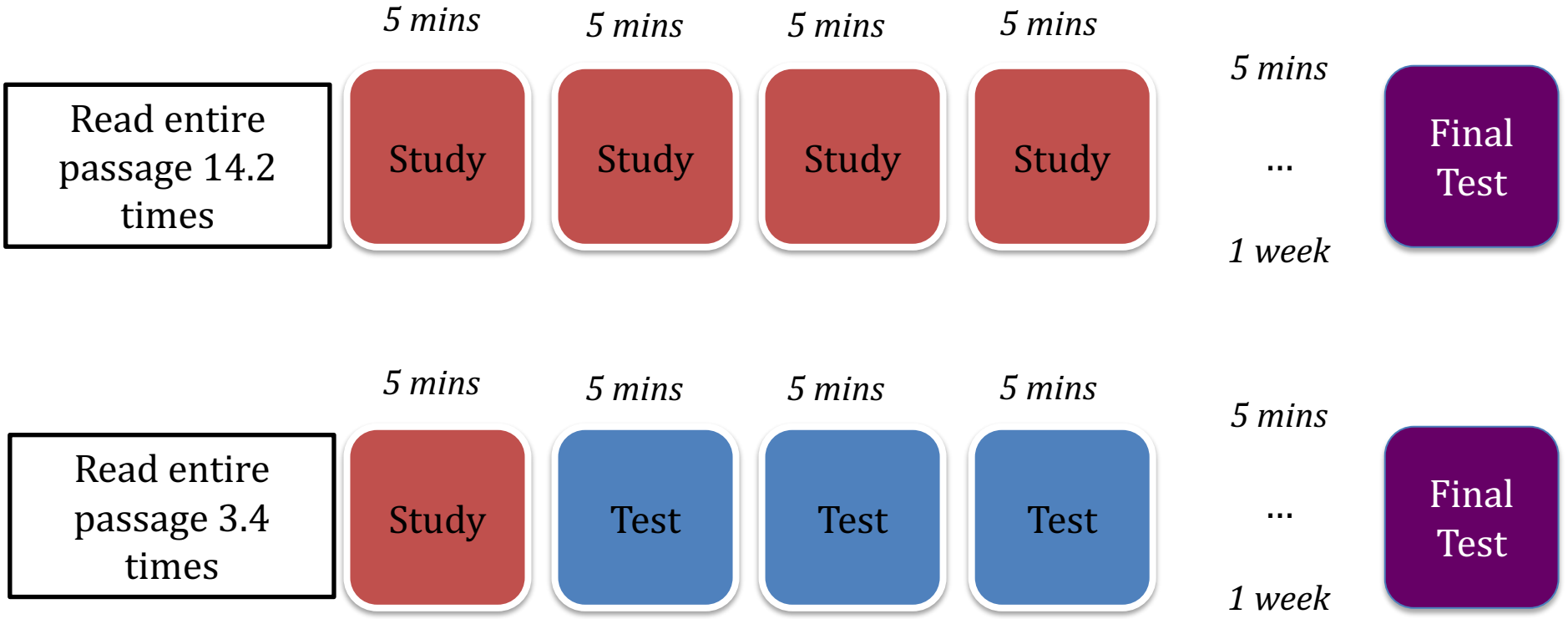
Techniques	Utility
Self-explanation	Moderate
Summarization	Low
Highlighting/underlining	Low
Imagery for text	Low
Rereading	Low
Practice Testing	High
Distributed Practice	High
Interleaved Practice	Moderate

Improving Students' Learning With Effective Learning Techniques: Promising Directions From Cognitive and Educational Psychology: Dunlosky, Rawson, Marsh. Nathan, Willingham. 2013.

Testing

- Testing is an extremely potent educational intervention
- It’s not just for assessment purposes
- It locks in learning
- Testing changes the brain and alters encoding
- Forced retrieval adjusts the synaptic connections

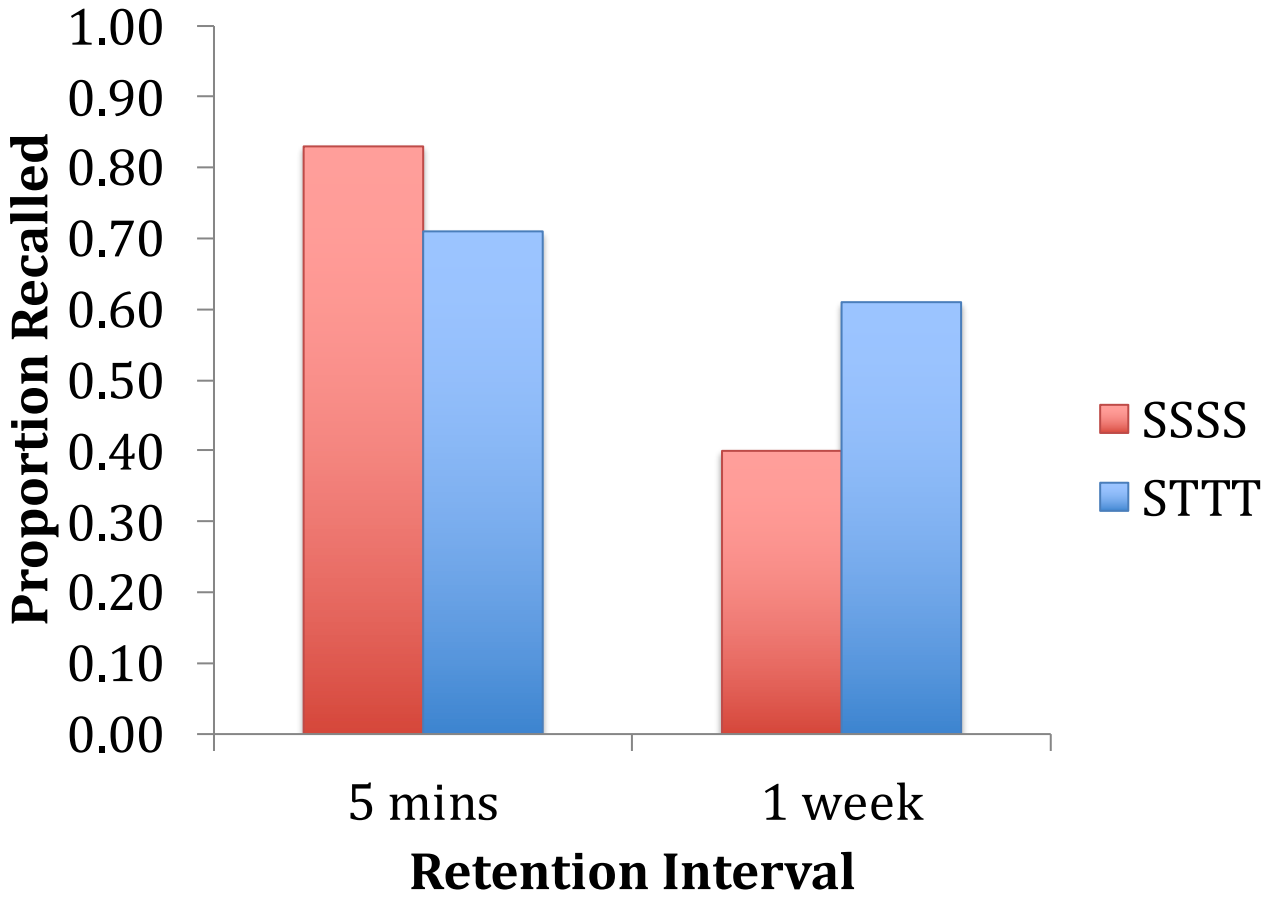
Restudying versus testing as learning events



* No feedback given during tests

Roediger & Karpicke (2006)

Results



Roediger & Karpicke (2006)

In what condition do students feel more confident about their preparedness?

Task: Learn key ideas
in a 250-word prose passage, over 4 trials

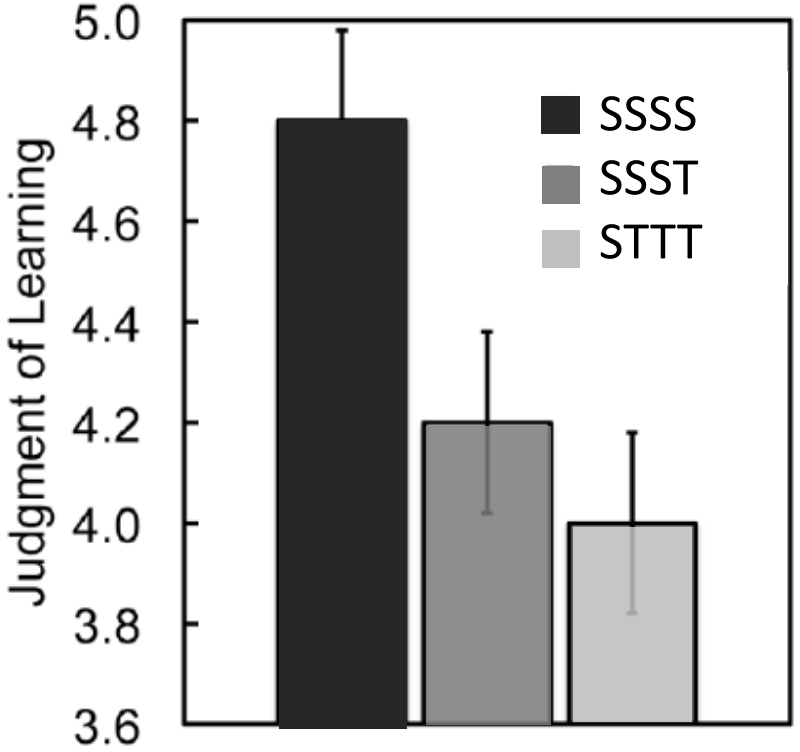
Pure Study:	**S**	**S**	**S**	**S**
One test:	**S**	**S**	**S**	**T**
Three tests:	**S**	**T**	**T**	**T**

"How well will you remember the passage in one week?"

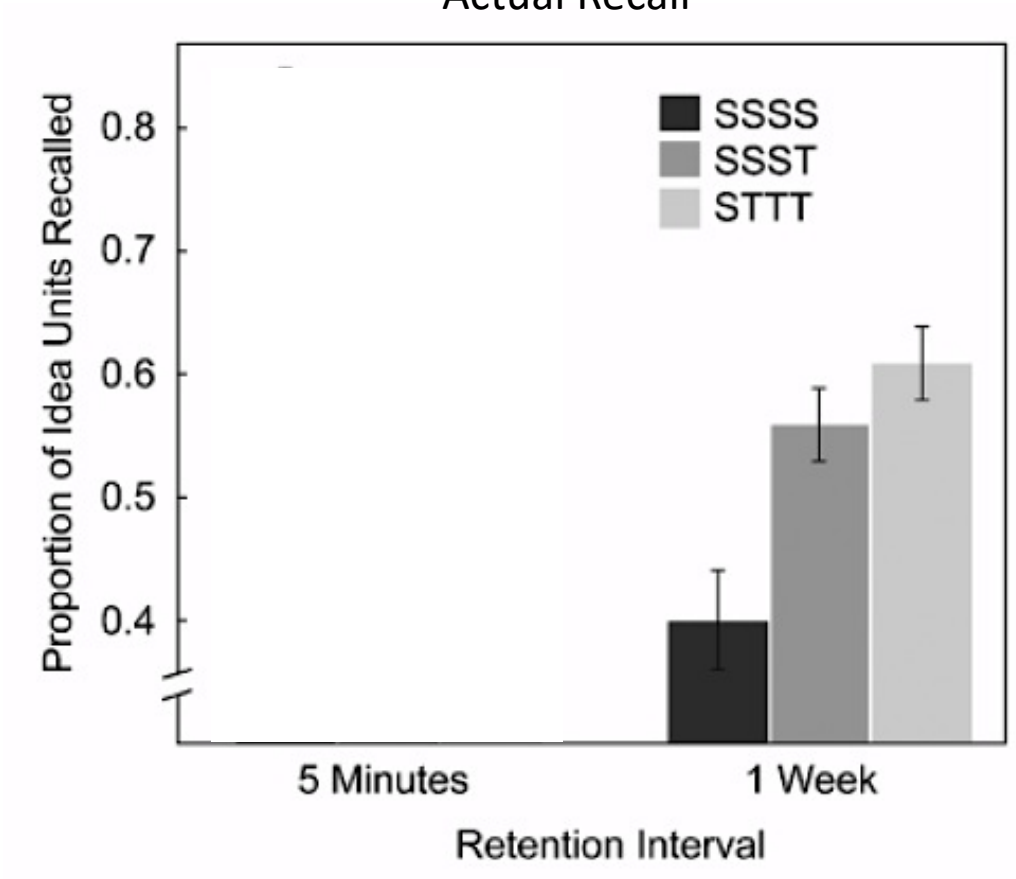
Roediger & Karpicke (*Psychological Science*, 2006)

Task: Recall key ideas in a 250-word prose passage

Predicted Recall



Actual Recall



Students are poorly calibrated regarding their preparedness!

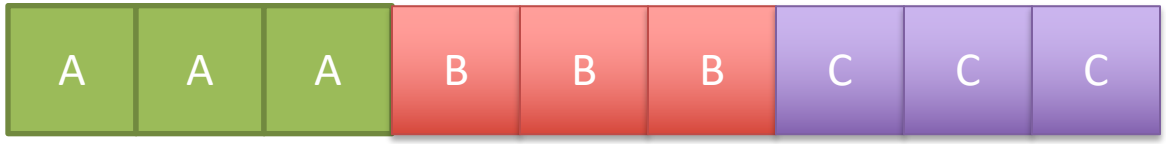
Testing comes in many forms

- Quizzes at the beginning of class
- Flash cards
- Divided Notes for self-quizzing
- Self-explanation, verbally walking through all the content you need to recall

Is it better to block practice or distribute it over time?

Blocking versus Mixing/Interleaving

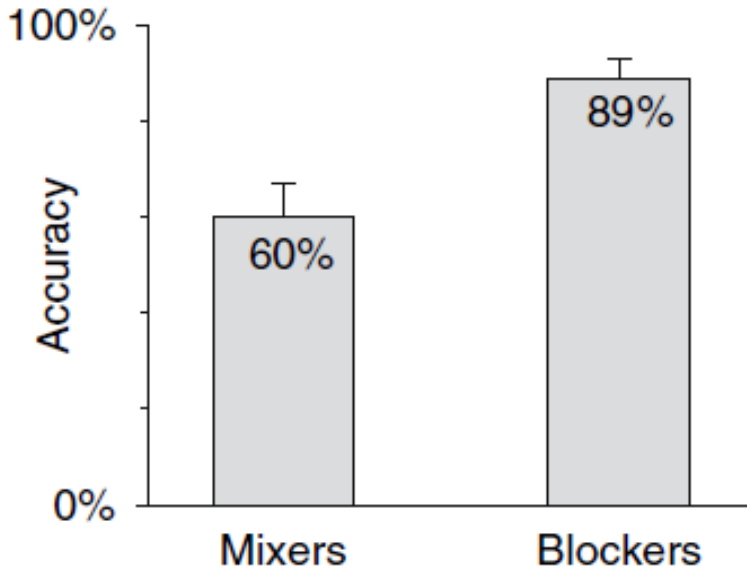
Blocked practice



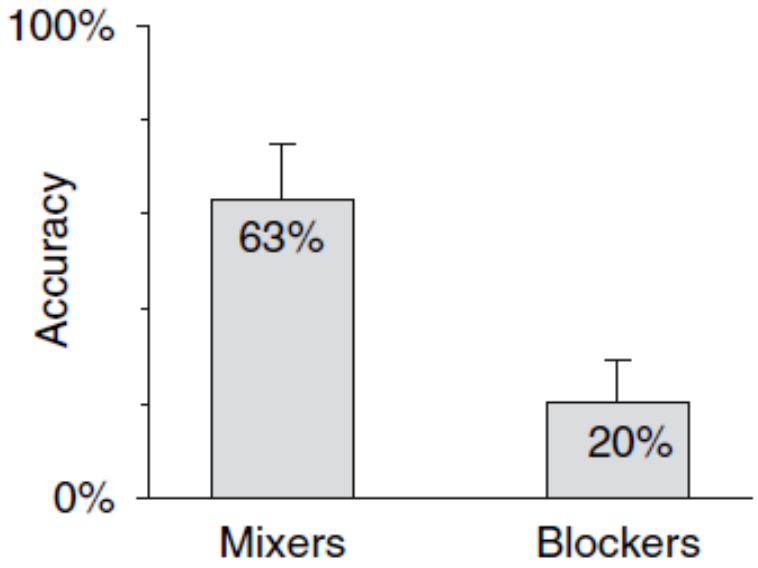
Mixed practice

Task: Learn to compute the volume of different geometric solids

During Practice



Test One Week Later



Solve 8 types of solids presented in random order.

Rohrer & Taylor (*IS*, 2007)

Should we try to make learning as easy for our students as possible?

Absolutely not!

- Struggle is key for learning and retention.
- We must strive for the optimal amount of struggle.
- The best teachers know how to give the gift of the appropriate amount of frustration.

If it's too easy, no learning is taking place

Various types of text marking, such as highlighting and underlining text materials, are also common—and errorless—learning strategies used by students (Kornell & Bjork, 2007; Hartwig & Dunlosky, 2012). As teachers, we may also be hesitant to create difficulties for our students. In fact, we may think that it is our responsibility to make learning easy for students and protect them from making mistakes.

Roediger, H. L., & Pyc, M.A. (2012). Applying cognitive psychology to education: Complexities and prospects. Journal of Applied Research in Memory and Cognition, 1, 263-265.

Desirable Difficulties

- Varying the conditions of learning
- Distributing or spacing study or practice sessions
- Reducing feedback to the learner
- Using tests rather than presentations as learning events
- Providing contextual interference during learning (e.g. interleaving rather than blocking practice

Productive failure is key to retention and transfer

Bjork, 1994

Desirable Difficulties continued

Desirable difficulties are manipulations of the conditions for learning or practice that create difficulties and challenge for learners and tend to increase, not decrease, the frequency of errors during the acquisition process, but then often enhance long-term retention and transfer.

The more passive learning seems, the less likely the knowledge will stick in memory

Passive Learning

- Getting a perfect copy of the teacher's notes. No good! No struggle.
- Rereading a chapter. Of little value.
- Perfectly typing a transcript of the class. No good! Better to grapple and assert a hierarchy
- Reading on a screen. Less good than using paper and marking it up and manipulating it.

Student Calibration is often off

Students are often most enamored with study strategies that are the least effective (Rohrer & Pashler, 2010; Arnott & Dust, 2012). For example, Arnott and Dust (2012) found that a massed review activity just before an exam was significantly less effective for student exam performance than spaced review activities after each chapter, but the massed review was overwhelmingly preferred by students.

Students gravitate towards the easy stuff. We must break them of these habits.

How to memorize things

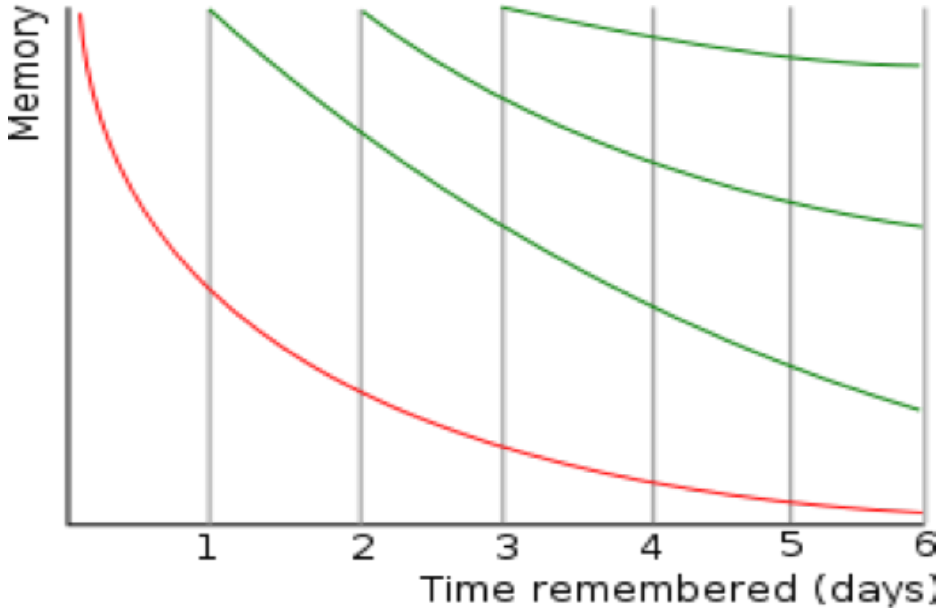
- Creating memory chains
  - Grouping/Chunking information to facilitate retrieval
  - Using acronyms
  - Using music/melody
- Space learning over time
- Use deep encoding strategies
- Use quizzes to promote learning: forced retrieval practice helps consolidate memory

Improving Students' Learning With Effective Learning Techniques: Promising Directions From Cognitive and Educational Psychology: Dunlosky et al 2013

Rehearsal strategies

- make study guides
- create concept maps
- outline or organize chapter info
- make lists of topics that might show up
- write out pros and cons of positions
- answer end of chapter questions
- look for themes

The Forgetting Curve



Reviewing notes within 24 hours will dramatically increase retention, up to 3 months later

Partialization: breaking up tasks

To get an A on my English Term Paper I will:

- finish all the reading by next Wednesday
- draft my thesis by Friday
- write the first draft before the 18th
- have it proofed by these 2 people by the 23rd

Break up the long-term goal into pieces. Makes big projects less daunting and more manageable.

Prioritizing Tasks

- Don’t let interest dictate your order of operations
- Be strategic and mindful of deadlines
- Know the cognitive demands of each task and don’t save the most challenging for last

Select a Good Study Environment

Decrease the possibility of off-task behavior

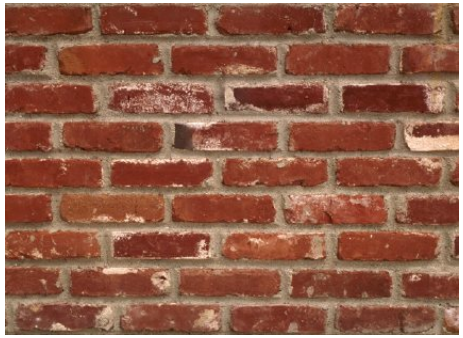
Then optimize your study environment

- First and foremost, minimize distractions
- Use a regular study area. When your body gets back to that place, it knows what to do.
- Use tools to help you focus: music, gum….

Create a clear division of work and play

- Strong distinctions are essential: let's establish healthy boundaries.
- When we are working, we are just working.
- We need good quality work time and good quality play time.

Work



Play

Skillfull scheduling with breaks and interleaving

Final Exam Schedule						
Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday
English Quotes Review 1.5 History- List of People 1.5	9:00 Up 10:00 Math quick Review of missed Problems 11:00 History Timeline 1:00-3:00 Food and Play 3:00 English Quote Review 4:30 History Essay Topics and Constitution	10:00 Spanish for 1 hour 11:00 Chem handout 12:30-2:30 History Tutorial (Extra Credit?) 3-5:00 History Chapter Review 5-7 Free 7-10:00 History Chapter Review	**8:00 History Exam** **11:00 Chem Exam** 1:00 Lunch 2:00-3:30 Math Quiz Review 3:30-5:00 Tutorial 5:30-6:30 English 6:30-7:30 Spanish 7:30-9:00 Math	**9-11 Math Exam** 11:00 Sleep/ Starbucks 1:30-3:00 Spanish 4:00-8:00 English	**9:00 English Exam** 11:00 Sleep/ Starbucks Review Spanish	**9:00 Spanish Exam**

Regulating your breaks and mental readiness

Taking naps or short breaks to increase your readiness for study

Know your biorhythm: when you study matters

Self-Care regimen: food, exercise, sleep

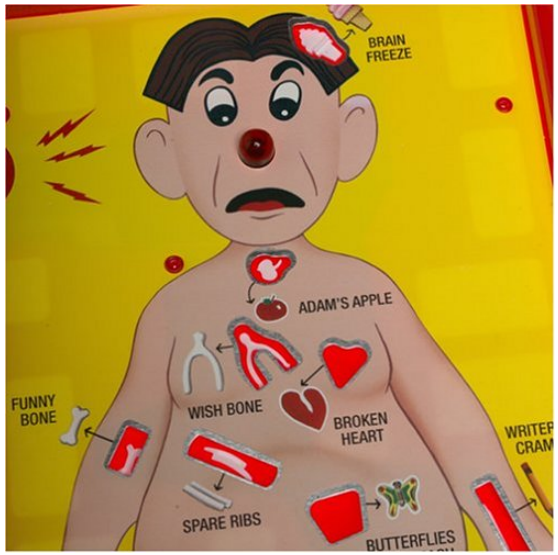
A regular sleep schedule scientifically improves memory retention. Erratic sleep schedules minimize the transfer of information to LTM

Help Seeking

- Form a study group
- E-mail your professor
- Find a study partner
- Seek out tutoring
- Search the internet
- Use a study guide
- Attend office hours

Self-Regulated Learners know how to marshal resources and are not afraid to ask for help if they need it. Females are significantly more skilled here. Many male students need to learn this one.

Interest enhancement to increase motivation



When coping with a boring or repetitive task, modify it to make it less repetitive or boring, more interesting or challenging. Add a new constraint or a twist to turn it into a **game**.

Self- Regulating one's motivation, increase effort when energy/interest/attention is flagging

Self-Consequencing
If I finish reading this chapter I can send 3 pictures on instagram."

Use of rewards or punishments
If I don't finish reading this chapter I can't log into FB/surf the net/check my phone.

Review

- Struggle is good!
- Errorful Learning is essential
- Feedback is fundamental to learning
- What feels good is not always what's effective
- Sometimes our intuition can be off! There's power in testing our theories.

Helping decrease Academic and Test Anxiety

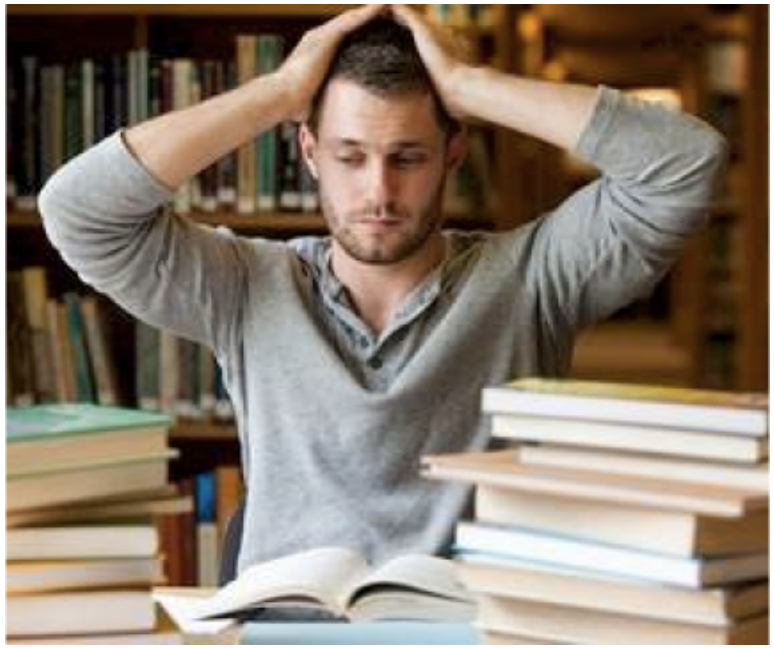
Anxiety disorders are the most prevalent psychiatric problem in the US

- In a given year 40 million American adults (18%) will have a diagnosis of an anxiety disorder, and many others will experience symptoms of anxiety.
- 28-29% of Americans will suffer a clinically important anxiety-related condition over the course of their life-time.
- In 2013, Americans filled 48 million prescriptions for the drug alprazolam (Xanax).

Source: National Institute of Mental Health

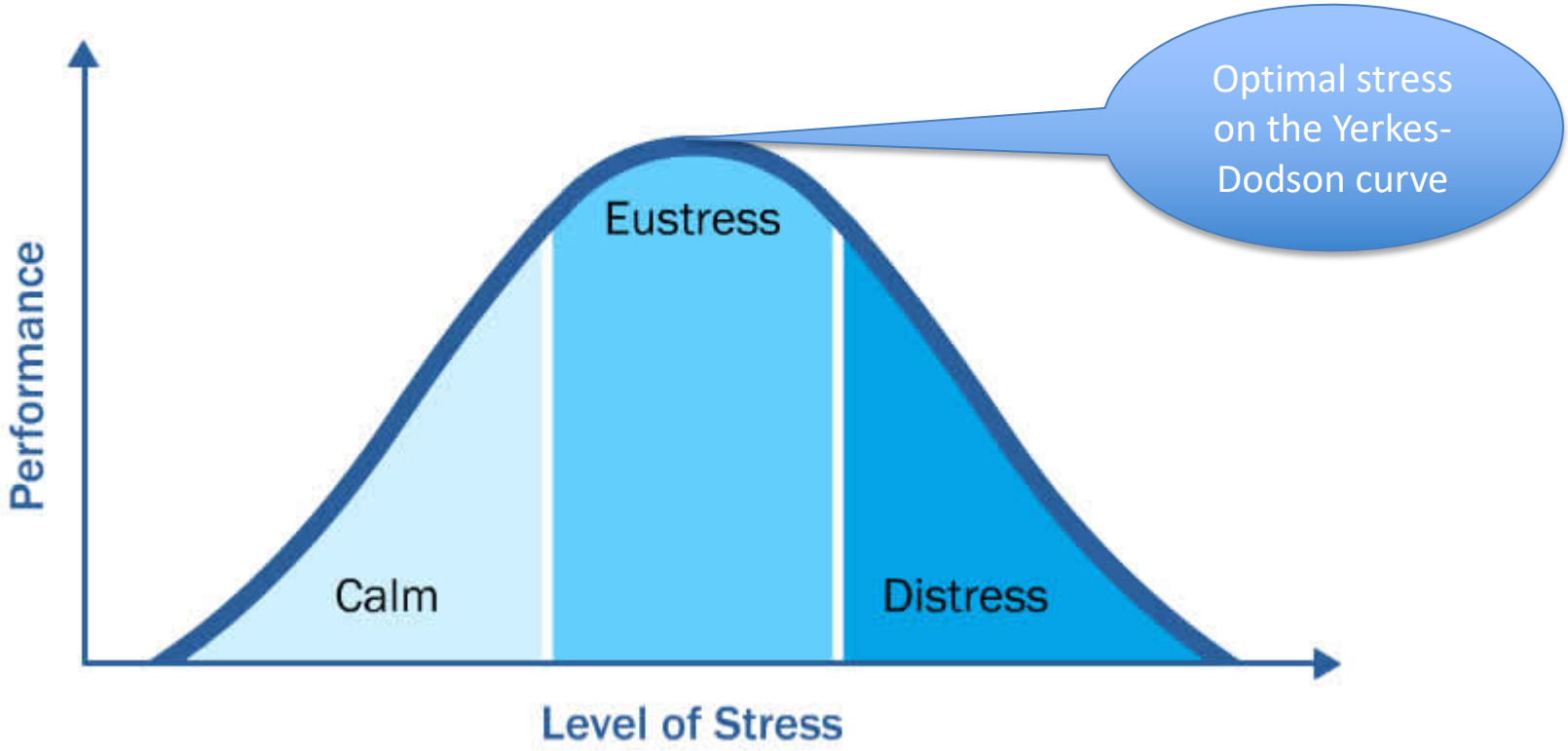
Anxious high school students will frequently become anxious college students.

- Anxiety is the primary student complaint in college, outstripping all other concerns[1].
- The 2014 National College Health Assessment found that 54% of all college students report feeling overwhelming anxiety, up from 46.4% in 2010[2].



1) University of Michigan's Healthy Minds study of 160,000 US college students.
http://healthybodiesstudy.org/wp-content/uploads/2014/07/HMS_national.pdf
2) http://www.acha-ncha.org/docs/ACHA-NCHA-II_ReferenceGroup_DataReport_Spring2014.pdf

Some stress/anxiety/arousal is good



Too much stress and things start to fall apart

The costly sacrifice of Working Memory

Stress Hormones

Working Memory

Test scores

What did I just read???.....

Students suffering from test anxiety

- are more susceptible to procrastination
- spend more time preparing for tests than those with low levels of test anxiety
- Dedicate up to 40% of their time on task-irrelevant thoughts*
- Perform at a lower level on standardized tests
- Frequently exhibit
  - Poor motivation
  - negative self evaluation
  - concentration difficulties

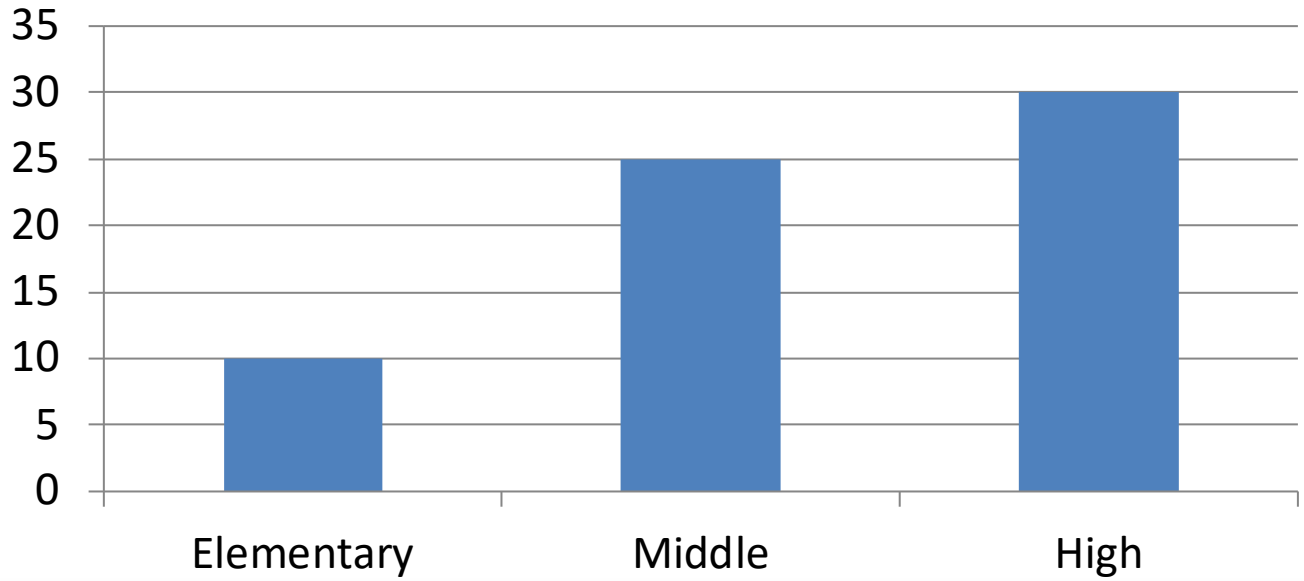
*Deffenbacher (1978)

How prevalent is test anxiety?

61% of high school students reported suffering from test anxiety at least **some** of the time, as many as one-quarter (26%) were afflicted “almost always.”

Beidel, Turner, and Trager (1994)

Test Anxiety is more prevalent in later grades



Research suggests that elementary students are more likely to show the physical signs of test anxiety, and older students are more likely to experience the behavioral and affective symptoms associated with test anxiety.

Which students tend to experience high rates of test anxiety

- Students with disabilities
- Students in classes for the gifted and talented

Girls are more likely to experience anxiety

From elementary school onwards, girls display a greater degree of academic anxiety than do boys and a greater degree of test-anxiety than boys.

Carol Dweck: On testing

Students with a fixed intelligence mindset struggle with tests of any sort because each represents an **opportunity for failure and identity crisis**, rather than an opportunity to learn, grow, and improve. It's where statements like "I'm just not good at math" come from.

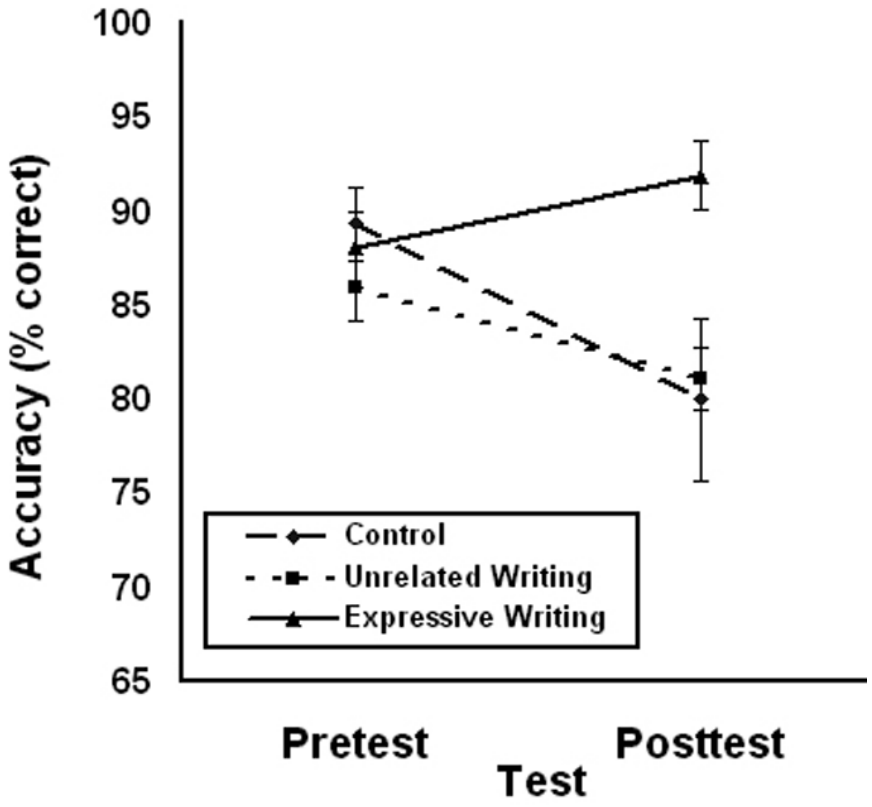
If you can help your students adopt a **flexible** mindset, which allows learning and growth, the stakes drop.

Writing about test anxiety improves performance:

"Somewhat counterintuitive: drawing attention to negative information typically makes it more rather than less salient in memory."

U. Chicago

Writing about test worries



Ramirez and Sian L. Beilock U Chicago 2011.

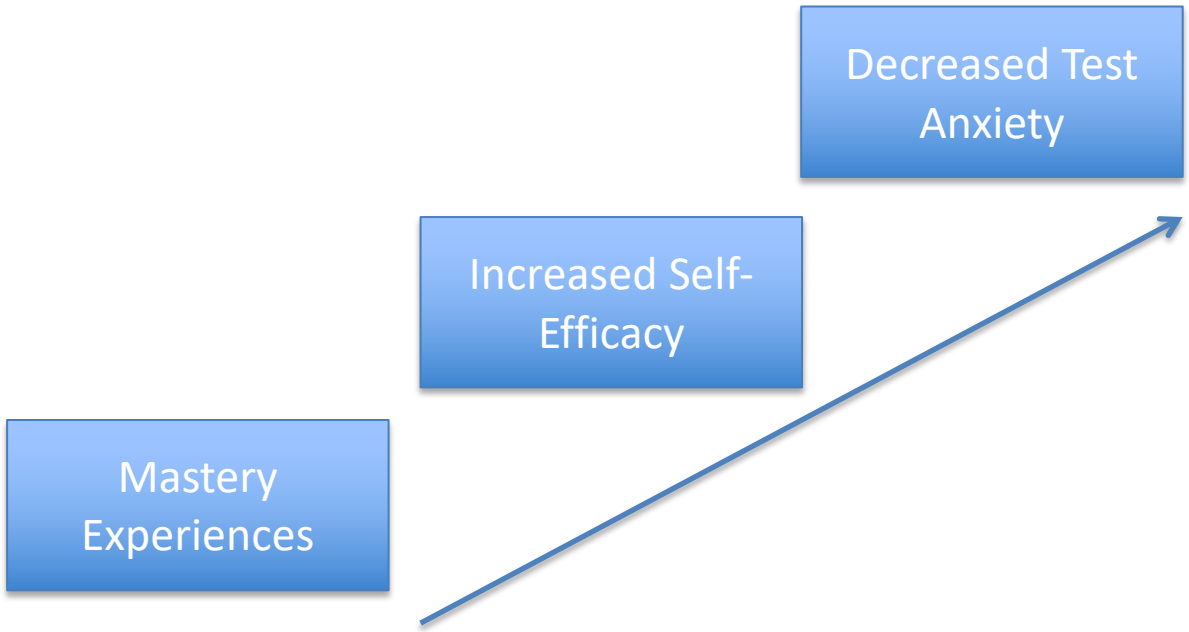
Reappraisal of Arousal: Reframing the symptoms

Simply telling students that physiological responses often associated with anxious reactions (e.g. sweaty palms, rapid heartbeat) are beneficial for thinking and reasoning can improve test performance in stressful situations.

Challenge not a threat

Give them some success: Mastery Experiences

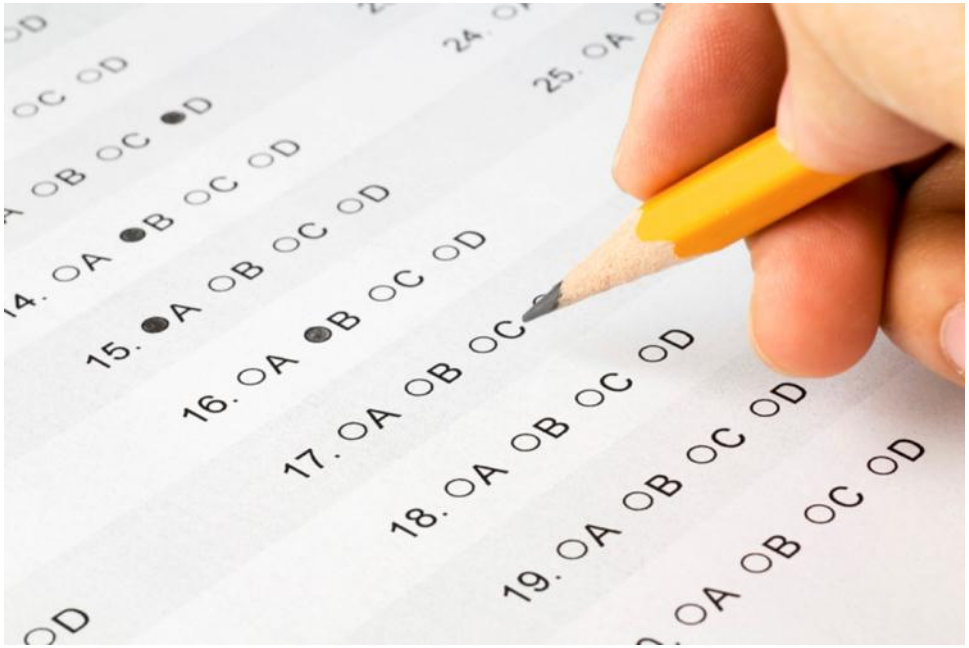
- Albert Bandura's Social Cognitive Theory
- Give them success- make them take ownership that their success stemmed from their effort and ability



Correcting maladaptive Self-talk: key to self-regulation and anxiety reduction

Put “I’m bad at test taking” to bed.

Cognitive Rehearsal



Imagined Practice Makes perfect

Teaching students about the importance of self-talk: inner dialogue

- Anxiety is sustained by inner dialogue. The brain is attending to the messages we communicate to ourselves.
- When your inner critic is serving up a plate of harsh self-criticisms, consider this as simply another mental activity for you to notice.
- You can label these critical thoughts: “judging, judging”, or “doubting, doubting.” Or you can directly counter and challenge the inner critic. “Hey, play nice.” Something to that effect.

Shift **inner** dialogue to supportive first-person "You" statements

Ethan Kross's research reveals the efficacy of "you" statements

Jennifer, You can do this.
You've prepared for this.
You've got this.

Establishing the cognitive distance makes all the difference. Practice self-kindness and compassion with your self-talk.

http://selfcontrol.psych.lsa.umich.edu/wp-content/uploads/2014/01/KrossJ_Pers_Soc_Psychol2014Self-talk_as_a_regulatory_mechanism_How_you_do_it_matters.pdf

Externalize the Anxiety Monster: Give it a name

- Personify the worry as a monster outside of yourself and attribute motivation to it.
- Create some cognitive distance from the anxious thoughts. "Oh, Worry Beast, there **you** are again. I knew you were going to show up here!"

By naming the monster, you can help tame the monster, achieving a measure of control over it.

Regulating your breathing decreases anxiety

- When the sympathetic nervous system is aroused, the heart beats quickly and the breath tends to be shallow.
- Deep diaphragmatic breathing is a powerful anxiety-reducing technique because it activates the body's relaxation response. Breathing from the diaphragm, in a slow measured way, filling the stomach then the chest, stimulates the **Vagus nerve**, which controls the parasympathetic (calming) nervous system.
- Stimulating the vagus nerve leads to a decrease in heart rate, blood pressure and other sympathetic responses.

Using the body to help ground anxiety

Exercise is a natural anxiety reliever. Research shows that as little as 30 minutes of exercise three to five times a week can provide significant anxiety relief.

Exercise is protective in that it boosts endorphins and neurotransmitters such as dopamine and serotonin, which may reduce symptoms of depression and elevate mood; it also suppresses the release of the stress hormone cortisol.

http://www.helpguide.org/articles/anxiety/therapy-for-anxiety-disorders.htm

Sleep is key to reducing anxiety

- Sleep helps to heal the brain, clean out toxins and waste products, process memories and reset the emotions.
- To facilitate sleep, minimize caffeine or other stimulants once evening approaches, shutting off digital stimulation an hour or two before sleeping.
- Engage in quiet activities that help the brain to settle: take a bath, play soothing music, read a book.

Your body's posture affects anxiety! The brain is listening to the body

The body gives feedback -sends signals- to the mind. Assuming an anxious bodily posture will signal the brain that anxiety has arrived. Neurochemical changes will follow!

"We do not run from a bear because we are afraid, but instead we are afraid because we run."

-William James

How the Body Knows its Mind- Sian Beilock

Ground yourself in nature and decrease your anxiety

- Teenagers exposed to water fountain sounds at the dentist's office experienced reductions in anxiety levels!
- I pull weeds and get dirt under my finger nails to regulate my anxiety.

Ground yourself through human connections

- Relationships and human connections can dampen your biological response to stress. On a biological level, social ties stimulate the release of the hormone oxytocin, known to reduce anxiety and fear, in part by limiting the cortisol response to stress.

- Oxytocin shows promise in treating anxiety disorders, making the amygdala less reactive to fearful stimuli.[1]

1) *Neuropsychopharmacology*, Stephanie M. Gorka, Ph.D., of the University of Illinois

Touch heals

- Petting dogs and cats also drops stress levels.[1]
- We use self-touch unconsciously throughout the day to self-soothe in times of stress.

1) http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3408111/

Even a stranger's hand helps reduce anxiety &stress

Researchers used fMRI scans to see the brain's response to electric shock in three conditions: 1) holding a spouse's hand 2) holding a stranger's hand and 3) holding no hand. When holding any hand, stress attenuated. With a familiar touch, the emotional brain more readily quieted.

"When someone familiar touches you, it's like magic. Calm washes over the whole brain."

UVA research. Director of VA Affective neuroscience laboratory, James Coan
http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0079314

Use centering physical objects

Having a centering stone or other grounding device can help regulate anxiety levels

Gender differences in academics

Some subtle cognitive differences

- Females typically perform better on tests of verbal fluency, arithmetic calculation, memory for spatial location of objects
- Males tend to perform better on verbal analogies, mathematical word problems, memory for the geometric configuration of an environment

We can solve the same problem using different patterns of brain activation

Spelke, 2005: Sex differences in intrinsic aptitude for mathematics and science? A critical review.

Females' relationships may affect educational outcomes

- Females may foster closer relationships with peers, parents and teachers, which orient more around academic achievement.
- Friendships between girls involve greater amounts of school-related information sharing.
- Peer influence is a significant predictor of girls choosing to take advanced math courses[1].
- Girls engage in more school related conversations with their parents than boys do.

1) Frank, Muller et al. (2008) The social dynamics of mathematics coursetaking in high school. *Research in Higher Education*, 2016: Why the Boys are missing: Klevan, Weinberg and Middleton

Relationship differences continued:

- Girls are more likely to report positive, supportive relationships with their teachers.
- Greater percentages of girls report that school is important or very important to them[1].
- Girls are less often in conflict with their teachers[2].
- Girls score higher on measures of parental involvement, parental expectations, and peers' plans to attend college.[3]
- Girls report more discussions with their college counselors.[4]

1) Buchmann, C., & DiPrete, T. A. (2006). The growing female advantage in college completion.
2) Hughes, Cavell, & Wilson (2001). Further support for the developmental significance of the quality of the teacher-student relationship.
3) Wells, Seifert, et al. (2011) Why do more women than men want to earn a four-year degree? 4) Riegle-Crumb, C. (2010). More girls go to college.
Research in Higher Education, 2016: Why the Boys are missing: Klevan, Weinberg and Middleton

Teacher relationships can deeply affect boys

- Relative to their relationships with girls, teachers rate their relationships with boys as higher in conflict and lower in closeness from preschool through middle school[1].
- Low warmth is associated with lower academic gains for boys but not girls. In addition, increases in conflict over time are significantly related to less academic growth for boys.

1) Hamre & Pianta, 2001; Jerome et al., 2008; Split, Hughes, et al. (2012) Dynamics of Teacher-Student Relationships: Stability and Change across Elementary School and the Influence on Children's Academic Success.

Boys may be more sensitive to stability in the home environment

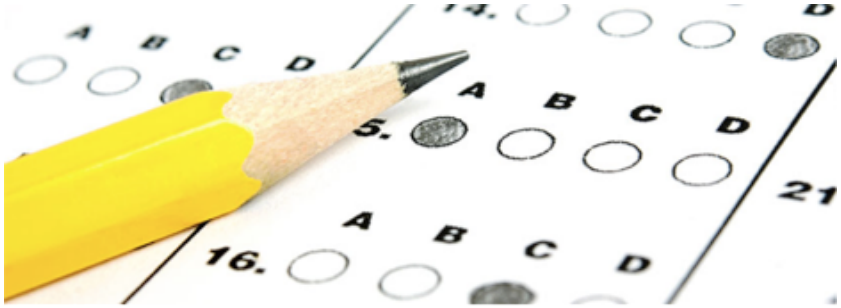
Boys behavioral and cognitive development was more negatively affected when exposed to home/environmental factors like limited or harsh discipline, lack of cognitive stimulation, father's absence and family instability.

Betrand and Pan, 2013; The Trouble with Boys: Social Influences and the Gender Gap in Disruptive Behavior

DiPrete and Buchmann, 2013. The Rise of Women: The Growing Gender Gap in Education and What It Means for American Schools

Females experience more test anxiety

- Females have higher rates of test anxiety than males, starting in elementary school[1]
- Boys score slightly higher on many standardized tests: APs, SATs, ACTs, GRE, GMAT, MCAT
- Low test-anxious females have higher GPAs than high test-anxious females[2]



Hembree, 1988: Correlates, Causes and Effects of test anxiety 2) Chappel, Blanding et al, 2005: Test Anxiety and Academic Performance

Females display an advantage for writing

- As early as elementary school, girls are more occupied with text and writing.
- Girls typically score better in writing performance indexes on standardized measures and are rated as better writers by their teachers, but they do not display stronger confidence than boys in their writing capabilities.
- Girls tend to perform higher on free response, essay format, assessments and males on multiple choice tests.

Frank Pajares, 2003: Self-Efficacy Beliefs, motivation and achievement in writing. Willingham and Cole, 1997: Gender and Fair Assessment

Females outperform males on reading measures

- The PISA study regularly assesses performance of 15-year old students in 38 countries.
- Females demonstrate a clear advantage on reading skills, outperforming boys by the equivalent of one year of school.
- The largest gender gaps in reading are concentrated among the lowest-performing students.

Programme for International Student Assessment Study (OECD- Organization for Economic Cooperation and Development)
http://www.oecd.org/pisa/

By age 15 views of math begin to diverge

- In most countries on the PISA, girls underperform boys in mathematics.
- Across the 38 countries 15% of boys and 11% of girls achieve at the highest levels of proficiency in mathematics.
- By 15 many girls are feeling anxiety about their ability to do math. Even when their math skills are on par with boys, girls feel more anxious and less confident about their math skills.
- On average, only 38% of girls, but 53% of boys, plan to pursue a career that involves a lot of mathematics rather than one that involves a lot of science, with more males expecting to be engineers or computer scientists.

https://www.oecd.org/pisa/pisaproducts/PIF-2014-gender-international-version.pdf

Math reveals significant gender differences. Boys have:

- higher self-perception of their math abilities
- higher levels of mathematical interest
- higher mathematics competency beliefs
- stronger performance goal orientation in math
- lower levels of math anxiety

These differences can affect major selection and career choice

Preckel et al, (2008): Gender differences in gifted and average ability students

Self-beliefs and Self-efficacy for math

- Boys and girls report equal confidence in their mathematics abilities during elementary school, but by middle school, boys express greater confidence in their math abilities.
- Even the most high achieving girls can hold dysfunctional perceptions of themselves as learners in mathematics, believing they must work harder than their male counterparts to achieve good results.
- Differences in self-efficacy are independent from performance history or ability, but they can affect motivation for and interest in a subject.

http://www.oecd.org/pisa/keyfindings/PISA2012-Vol3-Chap4.pdf Lupart, Cannon and Telfer, (2004) Gender differences in adolescent academic achievement, interests, values and life-role expectations. Pajares and Miller (1994) Self Efficacy Beliefs in Mathematical Problem solving

Boys tend to be more “self-congratulatory” in their responses about skills, whereas girls tend to be more modest.

Boys and Girls may use a different metric when providing confidence judgments

Wigfield

Girls use more Self-Regulated Learning Strategies

Female students:

- have more success regulating motivation, overcoming distraction and procrastination, regulating thoughts and behaviors
- are more likely to be organized and optimize their immediate environment and structure it for learning
- display more goal setting and planning strategies
- rate higher in attentiveness, task persistence, and impulse control

Ablard and Lipschultz, 1998: Self-Regulated Learning in High Achieving Students. Frank Pajares: 2002 Gender and Perceived Sef-Efficacy in Self-Regulated Learning. Zimmerman and Schunk, 2011. McWayne et al, 2004. Rimm-Kaufman et al, 2009). Downey and Vogt Yuan (2005) Sex differences in school performance during HS.

Female self-discipline contributes to higher GPA

- Most research finds that girls are more self-disciplined than boys.
- One study found that 8th grade girls reported devoting an average of one hour per day to homework, almost twice the time that boys spent, and starting their HW 20 minutes earlier in the day.
- American Time Use Survey: females across the country spend on average 17 minutes more on HW- over an hour over the course of the week

Duckworth and Seligman, 2006: Self-Discipline Gives Girls the Edge. Gershenson and Holt (2017) Gender Gaps in HS students HW time

Gendered views of academic effort

- Both genders associate academic success through studying, planning and effort as more of a female trait, and attaining academic achievement without ostensible effort or planning as a male trait.
- Both genders attribute the high-effort, high achievement model to a female student.

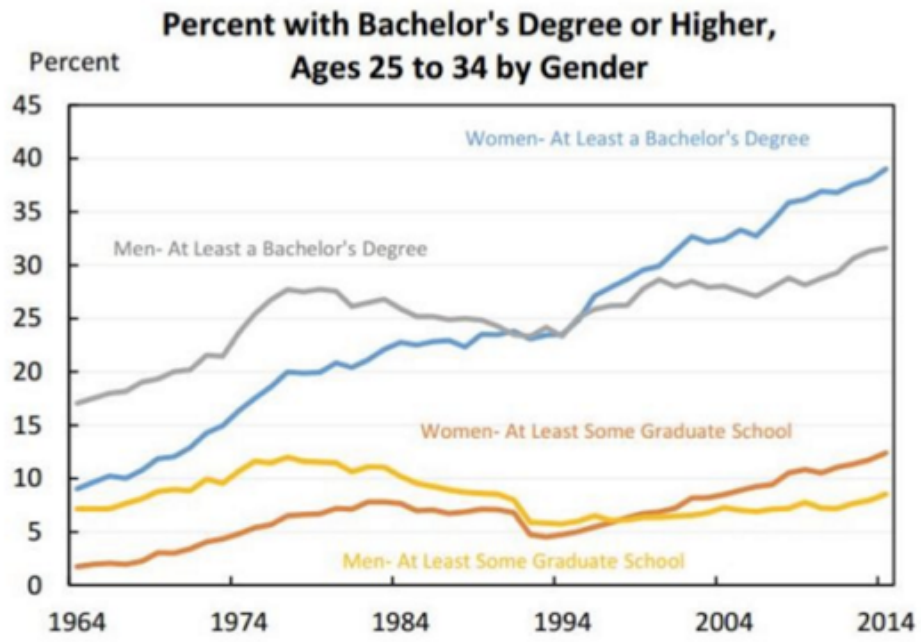
Ablard & Lipschultz, 1998; Graill et al, 2005

Girls typically take more rigorous classes

- Since 1976, girls enrolled in gifted and talented education programs have outnumbered boys enrolled.
- In high school girls are evenly represented in biology and outnumber boys in chemistry, but are underrepresented in physics.
- Girls are equitably represented in rigorous high school math courses. Girls outnumber boys in enrollment in AP science, AP foreign languages, and several other APs.
- Females have a 25 percent higher rate of AP participation, and in aggregate take 20% more AP tests than males.

https://www2.ed.gov/about/offices/list/ocr/docs/gender-equity-in-education.pdf.
https://secure-media.collegeboard.org/digitalServices/pdf/research/2015/Program-Summary-Report-2015.pdf

Gender Gap grows in higher ed.



2013, females 25-34 were 21% more likely to be college grads and **48**% more likely to have completed grad school

http://nces.ed.gov/pubs2014/2014391.pdf

Supporting our students: grab bag

Self-Determination Theory (Deci and Ryan)

The key is the student utilizing **his or her** volition

There are three primary components: the student's

1. Need for **Competence**
2. Need for **Autonomy**
3. Need for **Relatedness**

Attending to these needs leads to greater psychological health and more intrinsic motivation

SDT: to increase motivation…

- Offer individuals choice whenever possible
- Acknowledge your student's feelings- this conveys a sense of respect for the student
- Provide positive feedback- verbal rewards- we have a psychological need to feel competent.
- Minimize the use of controlling language- *must, should, ought*. Help students understand how information can help them and how it's meaningful.
- Collaborate with your students and create challenges with/for them.

Competence | Autonomy | Relatedness

Parental anxiety about failure can affect children's self-concept

- Some parents struggle with watching their children struggle.
- They jump in too quickly to rescue or minimize frustration or suffering.
- They step over the line of nurturing and deprive their kids of key life skills.

New research from Dweck: parental response to failure informs mindset

- Parents who believe that setbacks are harmful to a child's learning tend to foster a fixed mindset.
- When parents react to their kids' setbacks with anxiety or concern, the children are led to believe that that setbacks reflect badly on their (permanent) ability.
- Parents who view failure as debilitating teach their children to fear failure and avoid it all costs.

http://www.psychologicalscience.org/index.php/news/releases/seeing-the-benefits-of-failure-shapes-kids-beliefs-about-intelligence.html

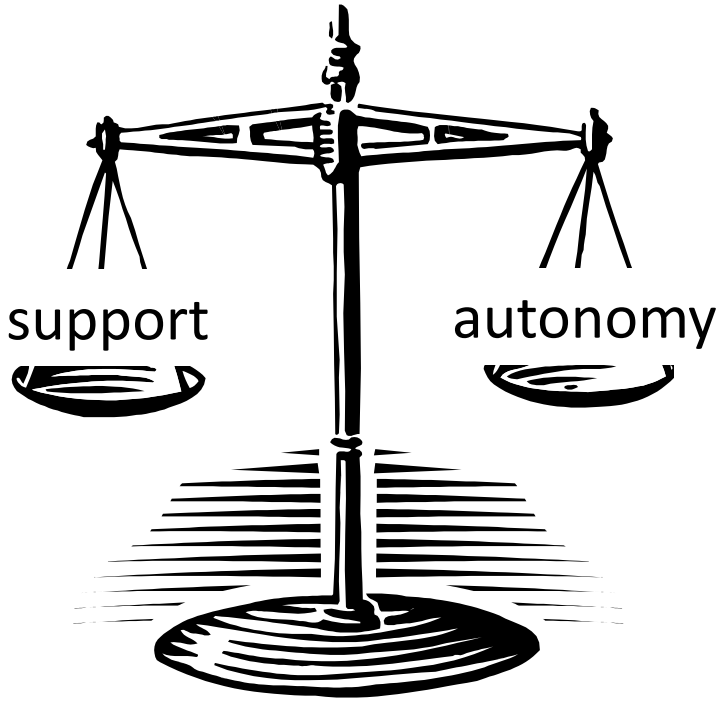
It's far more adaptive for parents to use failure as a teaching tool

- What mistake did you make that taught you something? What did you learn?
- "If this is something you really want, then it's something you'll really have to work for."
- Children need honest and constructive feedback.

Mindset: Carol Dweck

The “assistance dilemma”

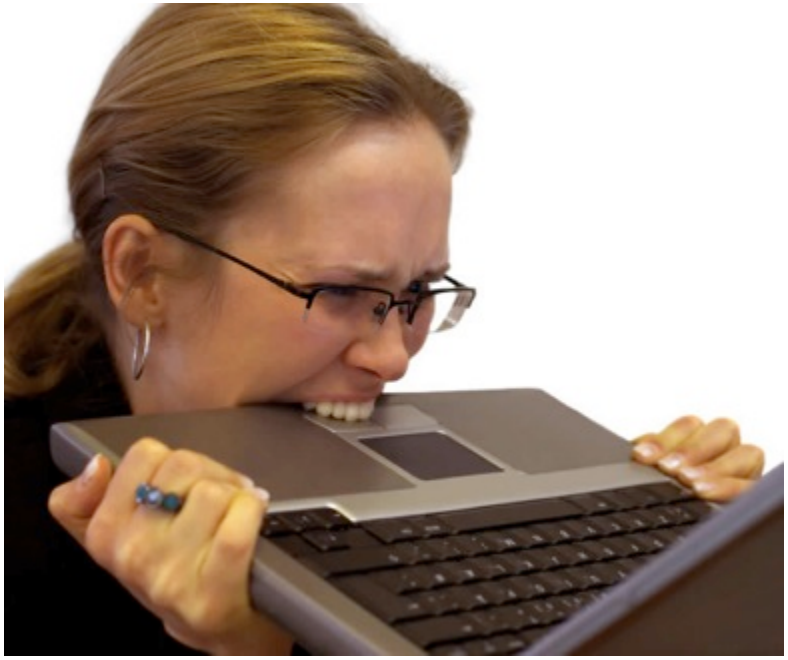
The problem of accomplishing a balance between support and autonomy



(Koedinger & Aleven, 2007)

Don’t deprive young people of the gift of frustration

Frustration teaches us how to overcome obstacles by marshaling internal and external resources, a key life skill.

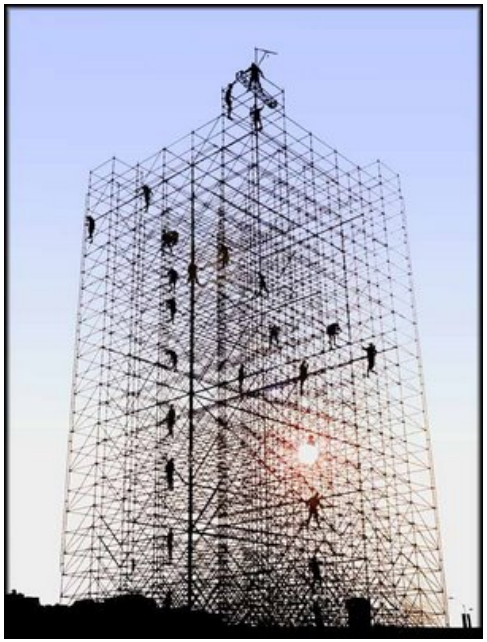


Allowing breakthrough moments

Those are transformational. The Aha! moment encodes deeply in long-term memory. The gift borne of frustration and persistence.

The emotional charge makes them impossible to forget

If a student is really stuck, provide the minimal scaffold necessary



Then withdraw the scaffold as soon as possible

Help students with proper goal setting

- Short term goals are more digestible for students.
- Self-efficacy and skill development are stronger in students who set shorter-term goals, in part because short term attainments provide students with evidence of growing expertise and mastery.
- Short term goals make a task appear more manageable
- Students who are verbally encouraged to set their own goals experience increases in confidence, competence, and commitment to attain those goals.

Monitoring and correcting your students' self-talk

- Limiting self-efficacy beliefs
- Over-generalizations (never, always)
- Black and White thinking

Specificity is key!
Help students recalibrate

Be honest. Be very specific. Help students recalibrate their self-appraisals

"I'm worthless at this"

"I'm Einstein"

Student's initial self-appraisal

I try to move them here

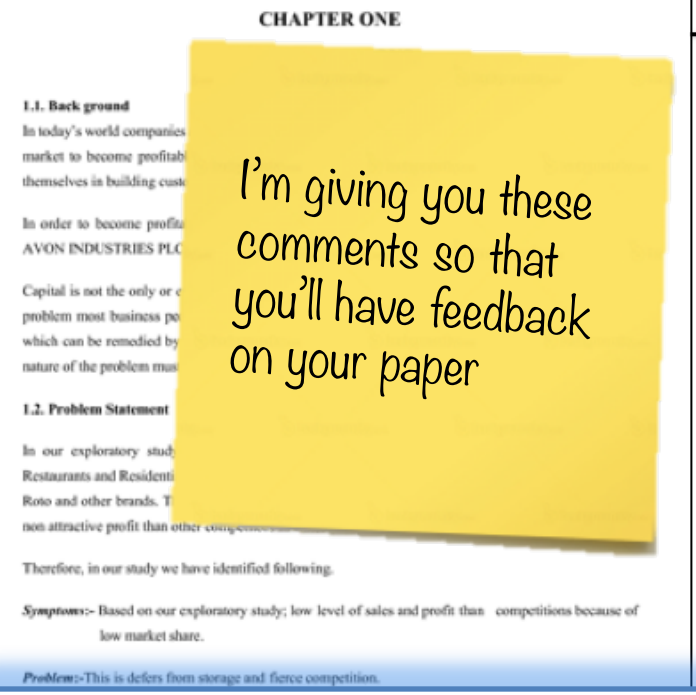
If I tell them they are here, I lose credibility or set them up for failure and/or disappointment

Shift students from dwelling on external comparisons

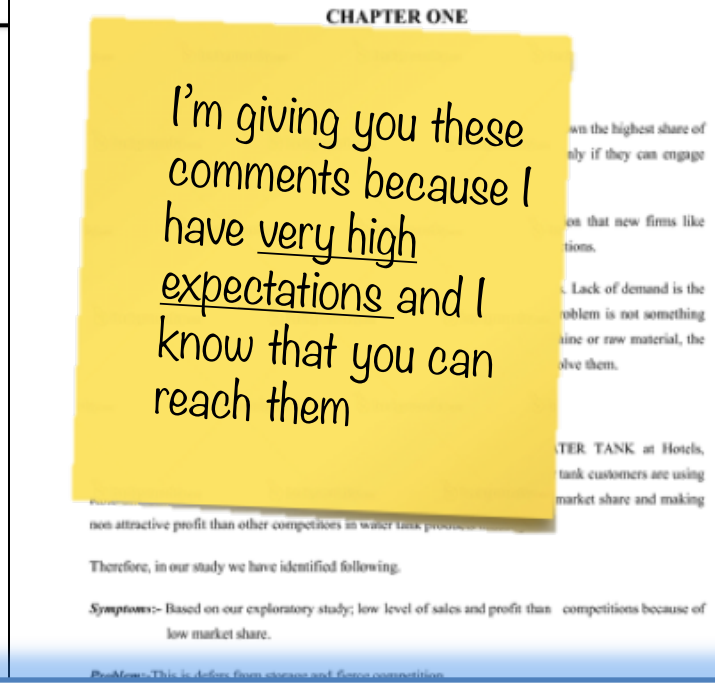
- Encourage comparison with oneself, rather than comparison with others
- Help students keep in mind their own starting point and chart their progress
- Keep the competition self-focused

Maintain high expectations and be supportive

Control group



Wise feedback group



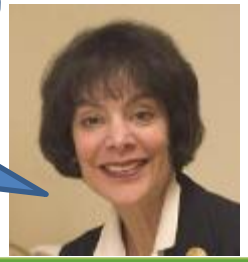
When given the chance to revise their essays following feedback, 40% in the placebo group revised their essays, compared to 80% in the wise feedback group

David Yeager and Geoff Cohen research on student feedback and expectations

Give students more informational feedback, process-based praise

We can praise children for the growth-oriented process: celebrating what they accomplished through practice, study, persistence, and good strategies.

That homework was so long and involved. I really admire the way you concentrated and finished it!



Mindset: Carol Dweck

Our Services

- SAT & ACT prep (online, private, group)
- SAT Subject and AP prep
- HS subject assistance
- Study Skills

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Helping prepare students for higher scores and grades since 2001