***Memorization & Learning Resource List:***

These articles and video clips offer several different ideas for students to revamp their approach to studying and learning. I’ve tried to select very brief, engaging, and simplified articles that still offer an evidence-based perspective on learning. These articles and clips should be accessible to all your students, although discussing the article itself may be a good way to open a session on a relevant topic. As such, familiarizing yourself with these articles should provide you with a wealth of evidence for most of the activities and strategies that we encourage students to adopt.

Below, each link is preceded with a quote or brief description of the content of the article, thus providing a preview of the primary area of focus. Additionally, many of these summary articles link to the original studies themselves, which I have omitted for brevity. However, if there is a topic of particular interest to you, please let me know, as I have many lengthier studies available.

**For pre-training, please type a few brief lines about how you would use this article in a session with a student. Type this information where it states, “When to Use.”**

**Save the new document as “Learning Resources\_Your Name.doc/.docx,” and return the document with your pre-training materials by August 22nd.**

Consider the following questions, although you need not answer each of them directly for each article. Your personal notes will be printed and added to your coaching binder as a reference. The more thorough and clear they are, the better they will serve you in the upcoming academic year.

1. When would the information provided in this article be useful as persuasive support?
2. How would you present this information to the student and under what circumstances (think very specifically: would you ask them to read the article and then discuss it with you as an opener? Would you reference it and provide them with the link for more information? Would you try another strategy?)
3. For which modules could you see the information included *most* useful?

**Articles**

**Applications of the ThinkWell-LearnWell Diagram\***

\*This article can be read as a standalone, but it serves students well to read after reading the “The Research Behind the ThinkWell-LearnWell Diagram.”

*After comparing the information products of good students and great learners, I am convinced that great learners interact more deliberately and more deeply than their less successful peers. This difference in interaction is the root cause of the disparity in academic performance between good and great learners.* ***When used properly, the ThinkWell-LearnWell Diagram enables good students to build a staircase to higher levels of thinking, interacting, and learning.*** *This structure allows them to reach outcomes that meet the demands of all courses, regardless of the requirements.*

<http://thewelledu.com/2012/03/01/applications-of-the-thinkwell-learnwell-diagram-2/>

**When to Use (include your insights below):**

**Bloom’s Taxonomy**

This is a very short visual aid to demonstrate Bloom’s Taxonomy to Students.

<http://www.odu.edu/educ/roverbau/Bloom/blooms_taxonomy.htm>

**When to Use: This article could be used on the first meeting to show a model of learning that involves learning that is much more thorough than memorization or vague understanding of ideas. This pyramid can be reviewed starting from the bottom level up, explaining how each of these levels could be used in the student’s area of study. This article is small enough I could simply provide a copy of the pyramid and corresponding words to each new student. This article is very versatile and can be applied to any student.**

**Can Stereotyping Girls Harm Boys Too?**

*Parents and educators can push back against such talk by emphasizing at every opportunity the malleable nature of intelligence—pointing out, for example, that performance on tasks like the Mental Rotation Test can be improved with training and practice. And test-takers can “prime” their own belief in flexible intelligence by saying to themselves, “I can do well if I try really hard,” or “With practice I will get better at this.” These aren’t cheesy self-affirmations, but truthful statements that will put us in the frame of mind to do our best.*

<http://blogs.kqed.org/mindshift/2012/03/can-stereotyping-girls-harm-boys-too/>

**When to Use: This article can be used with students who feel helpless or who feel that they are simply “not smart.” This article works especially well for students who are in an area where they are stereotyped e.x. females in engineering. This article will be referenced and a link will be provided to the student if I feel the student could benefit from the study and need a boost in motivation and self-esteem.**

**Close the Book. Recall. Write It Down.**

*Two psychology journals have recently published papers showing that this strategy works, the latest findings from a decades-old body of research. When students study on their own, "active recall" — recitation, for instance, or flashcards and other self-quizzing — is the most effective way to inscribe something in long-term memory.*

*…but the basic insight goes back decades. One of the new papers tips its hat to a recitation-based method known as "SQ3R," which was popularized in* Effective Study*, a 1946 book by Francis P. Robinson.*

<http://chronicle.com/article/Close-the-Book-Recall-Write/31819/>

**When to Use: This can be used for students who are spending hours and hours of studying and not getting results. The motivation is there, but students are not studying effectively. Namely, students are not quizzing themselves on the material and instead expecting themselves to remember all of the text. I would assign this reading to student and have them write down the main points on a notecard.**

**Do Students Know Enough Smart Learning Strategies?**

*Askell-Williams and her colleagues found that those students who used fewer of these strategies reported more difficulty coping with their schoolwork. For the second part of their study, they designed a series of proactive questions for teachers to drop into the lesson on a “just-in-time” basis—at the moments when students could use the prompting most.*

<http://blogs.kqed.org/mindshift/2012/03/do-students-know-enough-smart-learning-strategies/>

**When to Use: This article contains a lot of learning strategies that can be helpful to students who are not studying efficiently or thoroughly. The bullet points provided in this article are very useful ways for a student to check their own learning. If I feel the student’s main issue is how they study this article will be assigned and the bullet points provided for the student.**

**Inoculate Against Boredom**

*In survival terms, withholding effort when there is low expectation of success is beneficial. For example, it is a beneficial response for preserving the life of a fox in a region with limited prey to avoid chasing a rabbit running rapidly uphill.*

*The cycle for disengagement and the self-fulfilling prophecy of failure is sustained because, without effort, the student does not keep up with the foundational knowledge needed to understand the subsequent lessons when the facts are ultimately connected into a larger concept.*

<http://www.psychologytoday.com/blog/radical-teaching/201012/inoculate-against-boredom>

**When to Use: This can be used for students that feel lost or hopeless or that don’t have any motivation to do their classwork. Let the student know that perhaps their inability to succeed in the class comes from boredom. This can be interspersed with letting the student know they can make changes in their own schedule to make the class more interesting and that indeed changing their performance in the course is very possible if they put in the effort. This can be assigned to a student as the article is not long and keeps the reader’s attention.**

**It’s Smart to Sleep**

*For greater test success, an extra hour of sleep may be more important than an extra hour of studying.*

*In 2004, Duke University stopped scheduling any 8 a.m. classes because students weren’t getting enough sleep. “They’re coming in to see us, and they’re ragged,” said Assistant Dean Ryan Lombardi. Duke also offers students individual health assessments for what to eat and how many hours to sleep.*

<http://www.psychologytoday.com/blog/radical-teaching/201205/it-s-smart-sleep>

**When to Use: Use this article with students who still think it is best to pull all-nighters before an exam and especially with students who are not getting nearly enough sleep. This article can be reviewed in session and can be used to persuade the student into getting more sleep and NOT pulling all-nighters, even if that means the student gets only 3 hours of sleep. This can be especially useful before midterms and finals weeks.**

**How Much Practice is Too Much:**

*While Ahmed’s paper didn’t address the application of overlearning to the classroom, other studies have demonstrated that for a wide variety of academic activities–from recalling vocabulary words to solving math problems–overlearning reduces the amount of effort required to carry out the job at hand.*

*“The message from this study is that in order to perform with less effort, keep on practicing, even after it seems the task has been learned,” says Ahmed. “We have shown there is an advantage to continued practice beyond any visible changes in performance.” In other words: You’re getting better and better, even when you can’t tell you’re improving—a thought to keep you going through those long hours of practice.*

<http://blogs.kqed.org/mindshift/2012/02/how-much-practice-is-too-much/>

**When to Use: This can be provided to a student who is studying for an exam and already feels they know the material very well. Extra reviewing of the material, especially quizzing, never hurts before an exam. This article is not very thorough or research based so can simply be discussed in session.**

**How to Be a Better Test-Taker:**

*Dr. Beilock, the author of “Choke: What the Secrets of the Brain Reveal About Getting It Right When You Have To,” offers two interventions that can free up working memory in students caught in the grip of test anxiety.*

[**http://www.nytimes.com/2012/04/15/education/edlife/how-to-be-a-better-test-taker.html**](http://www.nytimes.com/2012/04/15/education/edlife/how-to-be-a-better-test-taker.html)

**When to Use: Use this before a student is taking a large exam. A link to this article can be provided to the student especially if the student has a history of performing poorly on exams or states that they have bad test anxiety. Methods to overcome test anxiety are important for almost every student (writing down feelings, exercising beforehand, positive thinking).**

**Matching Teaching Style to Learning Style May Not Help Students**

*Now four psychologists argue that you were told wrong. There is no strong scientific evidence to support the "matching" idea, they contend in a* [*paper published this week*](http://www.psychologicalscience.org/journals/index.cfm?journal=pspi&content=pspi/9_3)[in 2009] *in* Psychological Science in the Public Interest. *And there is absolutely no reason for professors to adopt it in the classroom.*

[**http://chronicle.com/article/Matching-Teaching-Style-to/49497/**](http://chronicle.com/article/Matching-Teaching-Style-to/49497/)

**When to Use: This article can be used as a persuasive device for students to let them know that they too can succeed in a class, even if it is taught different from how they prefer or are comfortable with. This article sort of sets a blank slate for every student in a class instead of preferring students with a certain learning style. This article is a little lengthy so would best be discussed in introductory meetings, helping to dispel a few studying myths**

**Rote Learning Benefits**

*The Cognitive 411*

*Students deserve to know how to learn and teachers do them a disservice when they do not teach them useful learning skills. Here are some underlying concepts that need to be accepted before we can continue:*

* *The brain is a learning tool. This might seem obvious, but the brain is not a passive sponge. It requires active effort to retain information in short-term memory and even more effort to get it into long-term memory.*
* *Learners need to know that the longer an idea can be kept in short-term memory, the more chance it can be pushed into long-term memory. This is where practice makes perfect makes sense.*
* *The body is another learning tool -- another often-ignored concept. The body is connected to the brain and if you engage the body, you are engaging the brain too.*
* *Learners feel an addictive sense of accomplishment when something has been memorized completely.*

<http://www.edutopia.org/rote-learning-benefits>

**When to Use: Almost every class has memorization involved at some point. This article provides valuable tools and unique methods to help students who are struggling with basic memorizing in their classes. Once the reason for a student’s poor performance is visible, this article can be assigned and discussed in the next meeting.**

**TED TALK: DAN PINK ON MOTIVATION**

*If you want people to perform better, you reward them, right? Bonuses, commissions, their own reality show. Incentivize them. … But that’s not happening here. You’ve got an incentive designed to sharpen thinking and accelerate creativity, and it does just the opposite. It dulls thinking and blocks creativity.*

<http://www.ted.com/talks/lang/en/dan_pink_on_motivation.html>

**When to Use: This intriguing talk can be assigned to students who are motivated or incentivized only by their GPA. Students who are motivated by this one reward can often be blocked from critical thinking. Students should be motivated by their own interest and desire to learn the material or else risk poor performance on creative and critical thinking aspects of a course, especially in liberal arts.**

**TED TALK: JOSHUA FOER ON MEMORY**

In this clip the author talks about a memorization technique that may prove useful for students studying in rote-memory-focused courses.

<http://www.ted.com/talks/lang/en/joshua_foer_feats_of_memory_anyone_can_do.html>

**When to Use: Use this when students are having a difficult time memorizing or feel daunted by all of the material they need to memorize for a course. The video can be assigned and talked about later, since it is a 20 minute video. The “memory palace” idea is great for students that have upcoming public speaking or presentations.**

**The Secret to Grace Under Pressure**

Reminding yourself of the high stakes makes intuitive sense as a motivational strategy—but it will actually impede your performance. Instead of spurring you to new heights, it’s likely to increase anxiety and undermine your confidence. Research shows that reminding yourself how *unimportant* the event is in the big scheme of things is a better tactic, and psychologists have come up with a variety of ingenious ways to help us do so.

[http://ideas.time.com/2012/03/28/the-secret-to-grace-under-pressure](http://ideas.time.com/2012/03/28/the-secret-to-grace-under-pressure/#ixzz22Jgzr2e3)

**When to Use: This can be used for students who seemed extremely high stressed for an upcoming exam or practical. This is a great article to help calm test anxiety and puts long term things in perspective. This should not be used for a student that has no motivation in a course. This article can be covered easily in session.**

**The New Way Doctors Learn**

*The theory behind spaced repetition is simple: when we first learn a fact, our memory of it is volatile, subject to change or disappear. Each time we encounter that fact again, however, the memory becomes stronger and more stable—especially if the encounters are spread out over time. Cramming the night before an exam (or a speech or a presentation) is a sure way to make the information vanish from your head a short while later. But exposing yourself to that same information multiple times over weeks or months fixes it firmly in your brain.*  
  
<http://ideas.time.com/2012/03/07/the-new-way-doctors-learn/#ixzz1zrhD9tEd>

**When to use: This can be used for students who need to know or memorize large quantities of information. This should also be used for students who like to procrastinate and cram. If the student wants to retain the knowledge this article is a great resource to prove that procrastination and cramming doesn’t work in the long term.**

**The Protégé Effect**

*For thousands of years, people have known that the best way to understand a concept is to explain it to someone else. “While we teach, we learn,” said the Roman philosopher Seneca. Now scientists are bringing this ancient wisdom up to date, documenting exactly why teaching is such a fruitful way to learn — and designing innovative ways for young people to engage in instruction.*

<http://ideas.time.com/2011/11/30/the-protege-effect/>

**When to Use: This can be used to encourage a struggling student to work with other students and form a study group. Not only are these social and sometimes fun, but this article can be used to persuade the student that teaching each other is a great way to work ideas into long term memory. This article may be reviewed in session.**

**The Trouble with Homework:**

*A second learning technique, known as “retrieval practice,” employs a familiar tool — the test — in a new way: not to assess what students know, but to reinforce it. We often conceive of memory as something like a storage tank and a test as a kind of dipstick that measures how much information we’ve put in there. But that’s not actually how the brain works.*

[**http://www.nytimes.com/2011/09/11/opinion/sunday/quality-homework-a-smart-idea.html?pagewanted=all**](http://www.nytimes.com/2011/09/11/opinion/sunday/quality-homework-a-smart-idea.html?pagewanted=all)

**When to Use: This can be used when a student is having a hard time retrieving information or remembering it. The student should try to interlace their subjects and take a break if need be instead of spending hours non stop on s subject. This is a resource that can be used in session and practiced in session.**

**The Upside of Dyslexia**

*Given that dyslexia is universally referred to as a “learning disability,” the latter experiment is especially remarkable: in some situations, it turns out, those with dyslexia are actually the superior learners.*

<http://www.nytimes.com/2012/02/05/opinion/sunday/the-upside-of-dyslexia.html?ref=readingandwritingskills>

**When to Use: This can be used for students with a learning disability. It can be used to boost their spirits, seeing their disability in one area as room for excelling in another area. This article can be discussed in session if the student appears worried about their self-efficacy in a subject.**

**Thinking Well and Learning Well: The Research Behind the ThinkWell-LearnWell™ Diagram**

*The purpose of the diagram is to help students distinguish poor thinking and learning from thinking and learning well. It aspires to enable them to make such distinctions in real-time, in-the-moment studying and learning situations.*

*The diagram brings together three crucial areas of research into a concise, one-page document. These areas include the following:*

* *Students’ approaches to learning*
* *Students’ metacognitive activity*
* *Students’ thinking skills, according to Bloom’s Taxonomy*

*Each of these areas has been effective at improving students’ learning and academic success.*

<http://thewelledu.com/2012/02/15/thinkwell-learnwell-research/>

**When to Use: This can be used as a great visual guide to introduce student to metacognition. This goes along with trying to get the student to reach higher levels on Bloom’s Taxonomy. Deep thinking is critical to applying and creating. If a student does not seem to grasp larger concepts and relationships this can be presented as a great tool to get them in the rights mindset.**

**Top 10 List to Improve Your Child’s Memory**

*DESTRESS: Stress causes the brain intake systems to send information into the Reactive brain (automatic-fight, flight, freeze) and prevents information flow through to the Reflective higher thinking, conscious brain (prefrontal cortex) where long-term memory is constructed.*

*PERSONAL MEANING: Children must care enough about information or consider it personally important, for it to go through the brain filters and be stored as memory.*

<http://www.psychologytoday.com/blog/radical-teaching/200904/top-10-list-improve-your-childs-memory>

**When to Use: This has other useful tools that can be used to help a student in memorization and relating objects learned, such as distressing or novelty. This is a convenient list that can be copied and provided to students in session.**

**To Really Learn, Quit Studying and Take a Test**

*Taking a test is not just a passive mechanism for assessing how much people know, according to new research. It actually helps people learn, and it works better than a number of other studying techniques.*

<http://www.nytimes.com/2011/01/21/science/21memory.html>

**When to Use: This is great for a student to test what they have learned so far and continue to learn. In session this article can be mentioned and resources online for free tests in a certain subject can be found for the students’ benefit.**

**What Actors Can Teach Us About Memory and Learning**

*Although these principles were enumerated by professional actors and not cognitive psychologists, all three of them — deep processing, physical movement and emotional associations — find substantial support in the scientific literature on memory. So the next time you need to know something by heart, take a cue from those who learn lines for a living. Try “to find out the whys,” as one actor described his process of searching for the deeper meaning behind a text. Try to tie the words you speak to the moves your body makes — the gestures you proffer at certain points in a speech, for example, or the welcoming posture you adopt when you’re greeting new acquaintances. And infuse your delivery with some real emotion.*  
  
<http://ideas.time.com/2012/02/22/what-actors-can-teach-us-about-memory-and-learning/#ixzz1zrhR7zjU>

**When to use: This article shows the importance of connecting names or numbers to something that is significant to us, such as an action or person or even part of the body. Students who are having difficulty memorizing will look at this article with me and we will briefly discuss it and what it can mean for the student, since the article provides a valuable tool for memorization.**

**What Actually Works**

*Distribute your learning. Four hours of studying is far more efficient when broken into eight half-hour sessions than when undertaken all at once.*

*Far more important,* I *swear by sleep. Sleep is the Achilles heel of forgetfulness. When I have to give an academic talk or teach an unfamiliar lecture, I read over my material right before bed and then I lie back, relax, and let my brain do its thing.*

<http://theamericanscholar.org/what-actually-works/>

**When to Use: This article is VERY IMPORTANT and is great for any student. Many try to cram or pull all-nighters. Can be looked at in conjunction with sleep article in class and discussed. Sleep and breaks must be incorporated into time devoted to studying.**

**What’s Your Best Guess: Predicting Answers Leads to Deeper Learning**

*The same holds true, it turns out, in the learning of mathematics. A new study published by two Michigan psychologists reports that middle-school students asked to anticipate how linear and exponential factors work—before this information was taught—became more curious about the content of the lessons they then proceeded to learn. Even more importantly, the act of venturing predictions prompted them to understand the material more deeply as they engaged in reasoning and sense-making about math instead of mere memorization.*

<http://blogs.kqed.org/mindshift/2012/02/whats-your-best-guess-predicting-answers-leads-to-deeper-learning/>

**When to Use: This article can be used to persuade a student to actively predict and formulate questions in their head while reading or answering basic questions regarding academic material. This information can be simply brushed over, since the article is very concise, in sessions about more effective thinking/ deeper learning.**

**Sleep Resources:**

[**http://www.helpguide.org/life/sleep\_tips.htm**](http://www.helpguide.org/life/sleep_tips.htm)

**Tips on regulating circadian rhythm and having a good nights sleep.**

**F.lux: a good program to dim light for computer, making it easier on the eyes after dusk.**

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