

Reading Apprenticeship + Inquiry Method
Faculty Interest Group (FIG)
Leslie Rubinstein
Modeling & Practicing Metacognitive Reading in the College Classroom

Text and articles

1. Essential Study Skills, Wong, 7th edition, pp 127 – 128. This part of Chapter 5 focuses on the differences between and relative strengths of intrinsic and extrinsic motivation.
2. “Stand and Deliver”, Maia Szalavitz, Psychology Today, August 2003, Volume 36, Issue 4. An excerpt from this article about procrastination is also found in Essential Study Skills, Appendix D.)
3. “Brain Plasticity: How learning changes your brain”, Dr. Pascale Michelon, www.sharpbrains.com. This article focuses on neuroplasticity and memory.

Materials

Document camera, post-it notes

Learning Goals

Student experience with Metacognitive Reading using Think- Alouds and Talking to the Text in a more difficult reading section of the course textbook as well as two articles related to the course objectives.

Likely Student Prior Knowledge/Misconceptions

- 1) Students may have problems reading and retaining academic material.
- 2) Students may not understand the role of thinking during the reading process.
- 3) Students may not have considered the differences between extrinsic motivation and intrinsic motivation.

4) Students may not have considered how anxiety and myths about productivity can lead to chronic procrastination.

5) Students may not understand the incredible ability of the brain to change through learning.

Example Learning Activity

Instructor models Think-Alouds and students practice Think-Alouds and report to group; instructor models Talking to the Text with post-it notes and students practice Talking to the Text and report to group.

Summative/Formative Assessment Question

At close of activity 1) instructor asks students to explain ways in which this reading was different from how they normally read the textbook and 2) instructor reflects on student participation.

Instruction Evaluation Comments

When I modeled Think-Alouds and Talking to the Text in front of the class, I myself experienced the text differently than when I practiced at home before the class because of the insights that students shared aloud. In other words, I experienced the depth and richness of the metacognitive conversation – even though I was putting myself forth as the expert reader in this experience – when students made connections that I hadn't thought about previously.

I also noticed the engagement of some students who otherwise shared little in class. When they were able to hear other students articulate something meaningful about the text, it seemed to provide some encouragement to do the same.

In the future, I plan to have students work in pairs or small groups after I initially model Think-Alouds and Talking to the Text for the whole class.

Lesson Plan

I first introduced Metacognitive Reading with a section of the textbook that I use in my Effective Learning class (EL 115) at Lane Community College. This part of Essential Study Skills, Chapter 5, focuses on motivation as a self-management skill, and the text is more complex than most of the material in the textbook. Although students have the textbook, I made enlarged copies of pages 127-128 for students, and I showed the pages on the document camera. After the definition of motivation, the text describes the difference between intrinsic motivation and extrinsic motivation and states that intrinsic motivation is more powerful because of its personal meaning and "ownership."

I modeled my own Think-Aloud process by reading the first two sentences aloud and then making some comments and raising questions about them. Then I read the next three sentences aloud and asked for Think-Alouds – comments and questions – from students. I repeated what each student said as accurately as possible.

I continued with the next paragraph, reading one or two sentences at a time and then asking for Think-Alouds. I then began to write down student comments on post-it notes in order to model Talking to the Text. Where the author says that intrinsic motivation is stronger than extrinsic motivation, students had much to say:

"Wrong assumptions"

"Disagree – extrinsic can be powerful"

"National Guard commercial – reverse extrinsic motivation"

"Agree- can't help someone who won't help themselves"

"I don't understand"

"Intrinsic and extrinsic are interwoven"

"Imposed – forced?"

"For self"

"Jedi's – all intrinsic motivation"

After the Talking to the Text modeling, I asked students to read the next section of the text and do their own Talking to the Text on post-it notes. As a group (13 students in class that day), we again discussed their comments and questions. For homework, they had to continue reading in that section of the chapter. After the activity, I asked students how this reading process differed from how they would normally read a textbook. Although I found that most students responded aloud in some way when we practiced Think-Alouds and Talking to the Text, there was a very limited response to

whether there were differences between these activities and their normal reading routines.

I repeated the Think-Aloud and Talking to the Text activities twice later in the course with two articles we read, one about procrastination and one about neuroplasticity. For the final article about neuroplasticity, I asked students to turn in their article copies with their post-it notes attached, and I've transcribed their comments below:

"(neurons) - stimulated activity, (Neuroplasticity occurs 1) beginning, 2) brain injury, 3) adulthood"

"2nd languages possible through functional changes in brain, abstract triggers brain changes"

"age does not slow down the brain's ability to learn or change, killed brain areas will transfer functions to healthy regions, routine = less growth of the brain, change = growth"

"I thought it was cool that the Brain never stops, made me sad because it made me think of my grandpa, my husband plays music so I thought it was neat to read about plasticity in musicians' brains"

"synapses?, left brain inferior cortex larger in bilingual than monolingual"

"very interesting how they're explaining this phenominom, makes me wonder what we can do with our brains, How in the world do they know this!, Taxi drivers have a bigger hippocampus really? And why london?"

Stand and Deliver

Maia Szalavitz

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Do you check e-mail 100 times a day, only to answer two messages? Understanding why people really procrastinate is the key to purging that in-box and getting on with life.

At the age of 37, Jared, a would-be professor in New York state, should be on tenure track at a university, perhaps publishing his second or third book. Instead, he's working on a dissertation in sociology that he'd planned to complete a decade ago. He's blown two "drop-dead" deadlines and is worried about missing a third. His girlfriend is losing

patience. No one can understand why a guy they consider brilliant doesn't "just do it." Nor, for that matter, can Jared: "If I could change it, believe me, I would," he swears.

Jared is among the one in five people who chronically procrastinate, jeopardizing careers and jettisoning peace of mind, all the while repeating the mantra: "I should be doing something else right now."

Procrastination is not just an issue of time management or laziness. It's about feeling paralyzed and guilty as you channel surf, knowing you should be cracking the books or reconfiguring your investment strategy. Why the gap between incentive and action? Psychologists now believe it is a combination of anxiety and false beliefs about productivity.

Tim Pynchyl, Ph.D., associate professor of psychology at Carleton University in Ottawa, Canada, tracked students with procrastination problems in the final week before a project was due. Students first reported anxiety and guilt because they had not started their projects. "They were telling themselves 'I work better under pressure' or 'this isn't important,'" says Pynchyl. But once they began to work, they reported more positive emotions; they no longer lamented wasted time, nor claimed that pressure helped. The results of this study will be presented at the Third International Conference on Counseling the Procrastinator in Academic Settings in August. Psychologists have focused on procrastination among students because the problem is rampant in academic settings; some 70 percent of college students report problems with overdue papers and delayed studying, according to Joseph Ferrari, associate professor of psychology at Chicago's DePaul University.

Pynchyl also found that procrastination is detrimental to physical health. College students who procrastinate have higher levels of drinking, smoking, insomnia, stomach problems, colds and flu.

So why can't people just buckle down and get the job done?

FALSE BELIEFS Many procrastinators are convinced that they work better under pressure, or they'll feel better about tackling the work later. But tomorrow never comes and last-minute work is often low quality. In spite of what they may believe, "Procrastinators generally don't do well under pressure," says Ferrari. The idea that time pressure improves performance is perhaps the most common myth among procrastinators.

FEAR OF FAILURE "The main reason people procrastinate is fear," says Neil Fiore, Ph.D., author of *The Now Habit*. Procrastinators fear they'll fall short because they don't have the requisite talent or skills. "They get overwhelmed and they're afraid they'll look stupid." According to Ferrari, "Procrastinators would rather be seen as lacking in effort than lacking in ability." If you flunk a calculus exam, better to loudly blame it on the

half-hour study blitz, than admit to yourself that you could have used a tutor the entire semester.

PERFECTIONISM Procrastinators tend to be perfectionists--and they're in overdrive because they're insecure. People who do their best because they want to win don't procrastinate; but those who feel they must be perfect to please others often put things off. These people fret that "No one will love me if everything I do isn't utter genius." Such perfectionism is at the heart of many an unfinished novel.

SELF-CONTROL Impulsivity may seem diametrically opposed to procrastination, but both can be part of a larger problem: self-control. People who are impulsive may not be able to prioritize intentions, says Pynchyl. So, while writing a term paper you break for a snack and see a spill in the refrigerator, which leads to cleaning the entire kitchen.

THRILL-SEEKING Some procrastinators enjoy the adrenaline "rush." These people find perverse satisfaction when they finish their taxes minutes before midnight on April 15 and dash to the post office just before it closes.

Brain Plasticity: How learning changes your brain

By Dr. Pascale Michelon

<http://sharpbrains.com/blog/2008/02/26/brain-plasticity-how-learning-changes-your-brain/>

You may have heard that the brain is plastic. As you know the brain is not made of plastic! Neuroplasticity or brain plasticity refers to the brain's ability to CHANGE throughout life. The brain has the amazing ability to reorganize itself by forming new connections between brain cells (neurons).

In addition to genetic factors, the environment in which a person lives, as well as the actions of that person, play a role in plasticity.

Neuroplasticity occurs in the brain:

1- At the beginning of life: when the immature brain organizes itself.



2- In case of brain injury: to compensate for lost functions or maximize remaining functions.

3- Through adulthood: whenever something new is learned and memorized

Plasticity and brain injury

A surprising consequence of neuroplasticity is that the brain activity associated with a given function can move to a different location as a consequence of normal experience, brain damage or recovery.

In his book "The Brain That Changes Itself: Stories of Personal Triumph from the Frontiers of Brain Science," Norman Doidge describes numerous examples of functional shifts.

In one of them, a surgeon in his 50s suffers a stroke. His left arm is paralyzed. During his rehabilitation, his good arm and hand are immobilized, and he is set to cleaning tables. The task is at first impossible. Then slowly the bad arm remembers how too move. He learns to write again, to play tennis again: the functions of the brain areas killed in the stroke have transferred themselves to healthy regions!

The brain compensates for damage by reorganizing and forming new connections between intact neurons. In order to reconnect, the neurons need to be stimulated through activity.

Plasticity, learning and memory

For a long time, it was believed that as we aged, the connections in the brain became fixed. Research has shown that in fact the brain never stops changing through learning. Plasticity IS the capacity of the brain to change with learning. Changes associated with learning occur mostly at the level of the connections between neurons. New connections can form and the internal structure of the existing synapses can change.

Did you know that when you become an expert in a specific domain, the areas in your brain that deal with this type of skill will grow?

For instance, London taxi drivers have a larger hippocampus (in the posterior region) than London bus drivers (Maguire, Woollett, & Spiers, 2006). Why is that? It is because this region of the hippocampus is specialized in acquiring and using complex spatial information in order to navigate efficiently. Taxi drivers have to navigate around London whereas bus drivers follow a limited set of routes.

Plasticity can also be observed in the brains of bilinguals (Mechelli et al., 2004). It looks like learning a second language is possible through functional changes in the brain: the left inferior parietal cortex is larger in bilingual brains than in monolingual brains.

Plastic changes also occur in musicians brains compared to non-musicians. Gaser and Schlaug (2003) compared professional musicians (who practice at least 1hour per day) to amateur musicians and non-musicians. They found that gray matter (cortex) volume was highest in professional musicians, intermediate in amateur musicians, and lowest in non-musicians in several brain areas involved in playing music: motor regions, anterior superior parietal areas and inferior temporal areas.

Finally, Draganski and colleagues (2006) recently showed that extensive learning of abstract information can also trigger some plastic changes in the brain. They imaged the brains of German medical students 3 months before their medical exam and right after the exam and compared them to brains of students who were not studying for exam at this time. Medical students' brains showed learning-induced changes in regions of the parietal cortex as well as in the posterior hippocampus. These regions of the brains are known to be involved in memory retrieval and learning.