Becoming a Decider Lesson Plan

Becoming a Decider
Early Elementary

Target Concepts

- Sometimes your brain can get stuck in a *NOW bubble loop*: when you react to a fight/flight/freeze Myg Moment impulse or a grab-and-gulp Buster Bam impulse to do what will feel best right now.
- Inviting Ms. Hipp and The Professor into your brain conversation with Myg and Buster helps you use past information and future goals to identify options for what to do right now in order to get the *ultimate reward*, even if that takes a while.
- With Myg, Buster, Ms. Hipp and The Professor engaged in Brain Talk, you are ready to respond successfully, make smart choices, and become a *decider* instead of just a *doer*.

Lesson Preparation

- ✓ Read and/or review the video, script, lesson plan, and handouts
- ✓ Print "Reward Sort" worksheet (one per student)
- ✓ Print "The Ant and The Grasshopper" PDF (one copy for instructor or one per student)
- ✓ Print "Finish the Story" worksheet (one per student)
- ✓ Print "Know/Remember/Want/Plan" worksheet (one per student)
- ✓ Print "Brain Sprinkle & Storm" worksheet (one per student)
- ✓ Print "Home Letter" (one per student)
- ✓ Optional: Print "MM & BB Responding" worksheet (one per student)

Review

This review activity is designed to activate students' learning from the previous lesson. Students are asked to review what they learned about the prefrontal cortex and its role in decision-making.

The following script is intended to provide a general guide for how you may choose to lead this activity:

- "Before we begin our new Brain Talk lesson, let's review what we remember about The Professor."
- "Why does the Professor have a time machine?" (The prefrontal cortex engages in mental time travel, which allows it to engage in hindsight [thinking about the past] and foresight [thinking about the future])
- "Why does The Professor engage in mental time travel?" (The Professor travels to the future to think about future goals, and the future consequences of present action. The Professor travels to the past to work with Ms. Hipp to learn from past experiences)
- "How does Ms. Hipp help The Professor choose the best option when deciding how to respond?" (By sharing information about P.A.S.T facts and patterns to consider if the consequences of each present option might be similar to past experiences)
- "What are immediate rewards and ultimate rewards? " (Immediate rewards are things or actions that will feel rewarding right now, while ultimate rewards are things or actions that will feel rewarding in the future, even if that takes a little while)
- Why is it sometimes important to delay an immediate reward in order to get an ultimate reward? [Individually, in pairs, or in small groups] "Let's take a look at some actions and decide if they are examples of immediate rewards or ultimate rewards." Provide "Rewards Sort" worksheet. (Class discussion to follow)

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Primer

This primer activity is designed to prepare students for the lesson by activating known information to scaffold new learning. Students are asked to think about times when it is important to forgo an immediate reward in order to work towards a long(er)-term ultimate reward. The following script is intended to provide a general guide for how you may choose to lead this activity:

- "Today we will be exploring how sometimes we need to delay or ignore an immediate reward in order to accomplish a long(er)-term goal and obtain an ultimate reward."
- [Individually, in pairs, or in small groups] "Let's read a fable about an ant and a grasshopper who each make different choices about how to spend their summers."
- "What type of reward is the grasshopper getting? (Immediate reward) What is/are the grasshopper's immediate reward(s) in this story? What are the long-term consequences of grasshopper's choice to only take action towards an immediate reward?"
- "What type of reward is the ant working to obtain? (Ultimate reward) What is the ant's immediate experience as he works towards the ultimate reward?"
- "What motivates the ant to work all summer?"
- "Now that we've talked about the fable, draw what you think will happen next summer and winter for the grasshopper and the ant."Provide "Finish the Story" worksheet
- (OPTIONAL) "Think of a time when you acted like the grasshopper. What happened? Now think of a time when you acted like the ant. What happened?"

Watch Video: Becoming a Decider

Background Information

- Mental Time Travel is a term developed by Dr. Thomas Sudendorf and Dr. Michael Corbalis to discuss the uniquely human ability to mentally project themselves backwards in time to re-live past events as well as forwards in time to pre-live events.
- The ability to engage in mental time travel evolved to help humans foresee, plan and ultimately shape the future, using the past as a databank by which to predict probable outcomes as well as using the image of a desired future to generate behavioral flexibility for present action.
- Mental Time Travel is not the result of a single cognitive system, but is instead comprised of several subsidiary mechanisms including the episodic memory system and the planning and organizing abilities of the prefrontal cortex.
- Episodic memory of past events is a foundational element towards developing goal-oriented behavior. In fact, the primary role of mental time travel into the past is to provide the raw material from which to construct and imagine possible futures.

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Guided Instruction

Discussion Points:

Being a Decider

- If humans had a primarily emotional brain, like Mr. Mouse, we would be *doers*, and only be able to react to things that happen to us. With the addition of Ms. Hipp and The Professor, though, we have a significant amount of thinking brain and get to be *deciders*, who can choose how we will respond to the things that we experience.
- Myg and Buster live in a NOW Bubble. They don't think about future consequences; they only want to avoid threats or seek opportunities that will feel good right now.
- Myg's immediate reward is to use fight, flight, or freeze to avoid things that feel threatening and uncomfortable right now.
    - It can feel immediately rewarding to yell at or hit someone who has triggered a Myg Moment for you. It can also feel immediately rewarding to avoid or escape a task that feels unpleasant right now.
- Buster's immediate reward is to use grab-and-gulp to get things that seem awesome and comfortable right now.
    - It can feel immediately rewarding to start a video game rather than homework. It can also feel immediately rewarding to eat all of your Halloween candy as soon as you get home from trick-or-treating rather than saving it.
- Myg and Buster want to avoid uncomfy things or seek comfy things as quickly as possible, so they send speedy NOW bubble messages to the nervous system telling you to react. These NOW bubble messages cause you to react before you think, which is why we call this sort of reaction moving faster than the the speed of thought.
- These reactions are helpful when you need to be a doer, but can have negative future consequences when you need to be a decider.
- If you can pause and breathe during a Myg Moment or Buster Bam, you give Ms. Hipp and The Professor time to think about different options for what you could do right now, and pick the one with the best future consequences.
- This lets you be a decider instead of just a doer.

Activity:

- " I know...I remember...I want...I plan..." worksheet

Background Information

(continued)

- The decision making centers of the brain continue to develop well into the early twenties, which means that school-age children and teenagers need guidance in the realm of controlling emotional impulses in order to make rational decisions.
- One critical component of good decision-making is the strength of the neural "superhighways" between the frontal lobes and the parietal lobes (which integrate sensory information). The speed and efficiency of these "superhighways" directly impacts perceived intelligence.
- Repeated experiences create complex networks of synaptic connections, and connections strengthened through regular use become stronger and more complex.
- We often talk about learning from our mistakes, but learning from our successes is equally important. In fact, successful problem solving is itself a taming tool.
- The more often your Brain Team works together to find lasting solutions to uncomfortable situations, the safer your amygdala feels and the less likely it is to overreact next time.
- The more times your Brain Team works together to find successful paths to ultimate rewards, the more confident your basal structures are that the rewards are coming, and the less likely the pleasure-and-reward circuit is to impatiently urge you to grab the very next immediate reward you see.

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Guided Instruction

Discussion Points:

Brainstorming Options

- Most of us know that if we stretch our body regularly we can increase our flexibility. (Invite your students to touch their toes or try to reach over one shoulder and clasp their hands behind their back).
- Our brains can be flexible too! When we stretch our brains we increase the capacity known as cognitive flexibility.
- Cognitive flexibility is the ability to think flexibly, and to shift mindsets and approaches flexibly. This is another *super power* our big thinking caps give us: the ability to think flexibly and imagine new possibilities.
- When we practice thinking flexibly and imagining new possibilties we call it brainstorming. (Invite class to generate a list of possible uses for a common item: a paper clip, a rubber band, or a pencil)
- Finding multiple options for how to respond to a challenging situation requires The Professor in your brain to think flexibly and creatively.
- Small challenges may require you to *brain-sprinkle* two or three potential solutions, while larger, more complex challenges may require you to *brain-storm* many options.
- Often, we can become stuck on one idea for addressing a problem or challenge. When it feels difficult to identify and consider multiple options (i.e., use cognitive flexibility), students can engage in one of the following strategies:
  - Think about how the current challenge is similar to a past challenge, and whether the previous solution might be useful in the present moment.
  - Ask for ideas and recommendations from a trusted friend or mentor (e.g., teacher, parent, coach, etc.).
  - Consider how you would advise a friend facing a similar challenge. Sometimes it is easier to solve another's problem than your own problem.

Activity:

- "Brain Sprinkle & Storm" worksheet
- Optional: Print "MM Responding" and "BB Responding" worksheets

Background Information

- The ability to brainstorm multiple possible solutions to a problem relies heavily upon an executive functioning capacity known as cognitive flexibility.
- According to the S.M.A.R.T.S. Executive Functioning Curriculum (ResearchILD, 2016), "Cognitive flexibility is the ability to think flexibly and to shift mindsets and approaches flexibly. This process is crucial for students' ability to learn new concepts. Cognitive flexibility allows students to combine ideas and concepts creatively and to integrate major themes with details."
- It is also a foundational skill for self-regulating. When we ask our students to generate options for ways to respond to a challenging situation, we are counting on them being able to engage in thinking about the situation using cognitive flexiblity.
- Like all skills, cognitive flexiblity is best learned and practiced in non-emotionally charged situations. By supporting our students to develop the cognitve pathways that allow for cognitive flexiblity in non-challenging situations, we help them build brains that are more equipped to use cognitive flexibility to self-regulate in time of stress.
- Here are two fun tasks that invite your students to practifce thinking flexiibly:
  - Visually- explore all the different things you can turn a circle into: a face, a wheel, the sun...
  - Verbally- play with words that have multiple meanings: have your students explain the multiple meanings of a word in the punchline of a joke.

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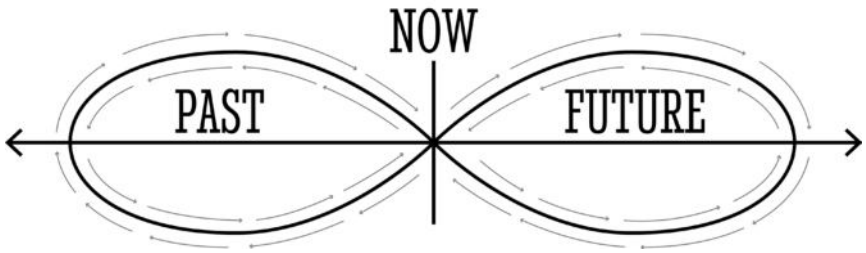
Teacher Notes

- "Know," "remember," "want," and "plan" are state of being verbs. Supporting understanding of these states of being allows students to develop improved metacognition and self-reflection skills. State of being verbs can be emphasized during oral language reflections and written reflections, and are easily integrated with Brain Talk:
  - Myg and Buster tell the brain what you know is happening right now.
  - Ms. Hipp recalls what you remember from the past.
  - The Professor uses mental time travel to determine what you want the future to look like, and to plan how you can work towards desired rewards.
- You may have noticed that The Professor's hat brim is an infinity symbol. This is not an accident, and is known in Brain Talk as the Loop of Shift-ability.



(See unit pdfs for larger image)

This special loop, when placed on the timeline, shows the way your brain shifts between hindsight, foresight, and the present as you engage in the mental time travel necessary for successful executive function thinking. You can discuss the importance of shifting during mental time travel and shifting between options as you help students improve their decision-making skills.

Taking it Further

- The executive function capacities of the prefrontal cortex allow us to respond mindfully rather than react impulsively, using a combination of self-regulation and goal-directed strategic thinking. The Brain Talk narrative has been designed to build metacognitive awareness and introduce the key concepts to support both these aspects of executive functioning. One way to think about taking it further, once your students have been introduced to the full Brain Talk narrative, is to think of executive functioning as two strands: self-regulation (inhibition and initiation) and strategic-thinking (situational awareness, goal directed thinking, creative problem solving, and planning).
- Taking Self-Regulation Further: although Myg Moment and Buster Bam impulses can be hard to ignore, pausing and breathing allows time so one's thinking brain can work to generate options for how to respond. Now that students have been introduced to the full Brain Talk narrative:
    - Revisit the Taming Tools discussed in Unit Five in order to identify the ones that are helpful for students when pausing their Myg Moment and Buster Bam impulses.
    - Explore the resources listed in the Taming Tools Menu Introduction letter to discover new tools.
    - Discuss with your students which tools are proactive (i.e., help generate a brain that is less reactive through structural and chemical changes) and which can be used responsively (i.e., in the moment to help regulate a powerful limbic message).
- Taking Strategic-Thinking Further: teaching Ms. Hipp and The Professor to generate and analyze options involves a set of strategic thinking skills that come more naturally to some students, and yet can be nurtured and supported with targeted skill development lessons. One area to explore to delve deeper into goal-directed strategic thinking is Creative Problem Solving (CPS). CPS is a structured process for solving problems or finding opportunities, used to arrive at creative (i.e., novel and useful) solutions.
    - Prufrock Press offers a variety of CPS and critical thinking curricula: www.prufrock.com
- Whichever direction you decide to explore, remember that the evolutionary function of the prefrontal cortex is to generate solutions to novel situations when an automatic reaction is not appropriate or useful. Although the executive function capacities are necessary for achieving success at completing other people's objectives, executive function thinking is best learned in real life situations to help individuals manage their behavior in order to achieve their own goals.

