**Reading Guide and Discussion Questions for**

**Spark of Learning by Sarah Rose Cavanagh**

ACS reading group Summer 2024

**Introduction and Chapter 1: The Science of Emotion in Learning**

This chapter introduces the fundamental connection between emotion and learning. Contrary to what some believe, **emotion and reason are neurologically linked, highly intertwined, not opposing processes**. Emotions influence learning by tagging certain skills and information as important and thus worth attending to and remembering. Leveraging emotions can significantly impact student engagement, retention, and academic success. Cavanagh emphasizes that **understanding emotions can enhance teaching practices**. Although neuroscience’s understanding of the cognitive and affective processes related to learning is still being refined, there is reason to be optimistic about the contributions affective neuroscience can make to education.

Questions for discussion:

Thinking back over your own educational journey, what role have emotions played? Did you find success or struggle because of or despite a particular emotional experience?

What emotions do you commonly experience as a teacher? When and where do you experience these? How do they affect your teaching?

What would your students say if they were asked the previous question (about you as their teacher)?

**Chapter 2: Emotions enhance Learning**

Cavanagh delves deeper into how emotions shape the learning process, exploring theories and research that show the importance of emotional experiences in educational settings. The chapter discusses the effects of positive and negative emotions on motivation and cognitive functioning. One way that **emotions shape learning is by grabbing our attention**. We almost always cannot learn what we are not attending to. Instructors can take advantage of this by incorporating emotional stimuli (e.g. vivid example) into their lessons, and making content self-relevant for students. Another way that emotions shape learning is by **freeing up working memory capacity and motivating the use of that capacity toward course content rather than extraneous stimuli**. Emotionally-rich information also promotes memory consolidation (long-term retention) probably due at least in part to physiological arousal of highly emotional experiences. Finally, **emotions inspire motivation by promoting greater energy and enthusiasm for learning.** Positive moods tend to mobilize effort, especially in the face of difficult tasks. Negative emotions (e.g. anxiety) can improve accuracy, boost attention to detail, and promote careful responding (less heuristics). Others’ emotions can affect us either directly (mirror neurons, chemosignals in sweat) or via others’ emotional expressions and behaviors. **The classroom is a highly emotional environment**. Social processes (establishing and maintaining connections between teacher and student or between student) can provide ways to modulate emotions in a way that promotes learning, or can be pathways for the spread of unhelpful emotions that interfere with learning. Instructors should consider emotions in their classroom not only to make the learning process more pleasant and enjoyable, but also to promote the learning process itself.

Discussion questions:

Think of a lesson, activity, or assignment that you like but maybe feels a little flat (good, solid, but not what it could be). Considering the many emotion-related processes (attention, motivation, memory) that may be involved, what is one small tweak to that lesson, activity, or assignment that you could make to leverage emotions to promote engagement and learning?

Can you think of examples (either from your own teaching experiences or from your own time as a student) of the processes that Cavanagh is describing in this chapter?

**Chapter 3: Be the Spark- Crafting your First (and lasting) Impression**

In this chapter, the author offers practical strategies for educators to foster emotional engagement in their classrooms. She begins by highlighting the role that first impressions can play. This is important to convey because faculty may spend a lot of time and energy on the content of a lesson or assignment but fail to consider how best to present and explain it to students. The authors recommendations in that regard are to **be enthusiastic, optimistic, and clear.** Enthusiasm means warm, energetic, and supportive. Optimistic means to assume that students want to learn, care about their learning, and want to do well. Clear means being transparent, consistent, and fair when explaining guidelines, assignments, or policies. Cavanagh also believes in emotional authenticity, but with some nuances. While faculty should avoid being fake, there may need to be some amount of surface acting for some faculty in some contexts. She reminds faculty to engage in self-care practices that will provide them the emotional energy and space for recovery from the effort that it takes to be enthusiastic, optimistic, and clear in the classroom.

Several techniques were mentioned including mindful teaching (including meta-instructing), using self-disclosure (frequent, brief, positive) and storytelling (personal course-relevant anecdotes or narratives around scholars and their work), and incorporating humor (content-related, never inappropriate or mean-spirited) to enhance the emotional climate of the learning space.

Some **resources** for learning more about the pedagogical practices suggested in this chapter:

1. Meta-instruction and clarity: the use of the Transparency Framework for enhancing student success equitably by explicitly identifying and articulating purpose, task, and criteria in assignments, assessments, curricula and strategic initiatives. See [Transparency in Learning and Teaching project (TILT Higher Ed)](https://tilthighered.com/abouttilt) for more information on the TILT framework.
2. Giving good [feedback](https://higheredpraxis.substack.com/p/tip-give-wise-feedback) to students
3. It may be useful to make a distinction between **kind vs. nice.** [*Kind*](https://hybridpedagogy.org/pedagogy-of-kindness/) is respectful, while *nice* can mean “polite” or “not a problem”. SRC is really saying be kind.
4. Humor and playfulness: What are some ways to bring a sense of whimsy or [playfulness](https://www.playposium.com/why-play-why-now) into the classroom?

Consider using movement or techniques from [improv comedy](https://www.sciencedirect.com/science/article/abs/pii/S1871187119302470?via%3Dihub) (Cavanagh includes a whole chapter on this in her recent book *Mind Over Monsters.*

Some games/activities to introduce levity and playfulness:

[Theater Games | Focus | Pass the Clap](https://youtu.be/Egee4Atnysk?si=If1O8STA-hFe2ABP)

[Game #1 The Shakedown](https://youtu.be/HP5qcA3ty1w?si=gm2imhNMroF0ieoC)

[Game #7 Telephatic Counting](https://youtu.be/dLYNdnNR-oM?si=an3fNYX32-9vk4nQ)

[Theatre Games: Mirrors](https://youtu.be/L2dGy3tXlCc?si=zK1HgHmYfoMjHAgC)

[Theatre Games: Ensemble Movement](https://youtu.be/hJd3kq-lQAs?si=sk8JNKznvd1_VWt3)

[Theatre Games: What Are You Doing?](https://youtu.be/SNAzY0AleNA?si=oEWQeDvBTelftOaP)

[Theatre Game #2 - Spaghetti. From Drama Menu - Theatre Games In Three Courses.](https://youtu.be/x4J487QtUIM?si=CnlSrV1nCGBcvqll)

[Theatre Game #7 - Heads Up, Heads Down](https://youtu.be/pGE2PZPqkyU?si=lsjAFOO1OC3-Tg6K)

[1,2,3 Bradford - Theater of the Oppressed Community Building OneHE/Equity Unbound](https://youtu.be/UJjuEj4D7o4?si=DmV_NzYqNyd7nZdp)

Discussion Questions:

1. How can institutions of higher education or departments support instructors to engage in the self-care needed for faculty to be emotionally authentic in a way that benefits student learning?
2. How have you used humor in a pedagogical context? How did it go?
3. What information do you like to tell students about yourself? Why have you chosen to share that info?
4. What stories do you tell your students and why? Where in your courses could you weave in narrative to the delivery? What content lends itself to “story”?
5. How might instructors’ social identities interact with the advice Cavanagh gives in this chapter?

**Chapter 4: Mobilizing Student Efforts**

Students will work to learn material or master skills when they have a high degree of curiosity (including being surprised by complexity, contradiction, or difficulty); when they are at the edge of their current abilities or knowledge; and when given helpful feedback or markers of progress.

Interest and curiosity: pique students’ interest in your course’s topic by:

1. Presenting complex yet accessible material early- increase complexity as semester progresses
2. Interest declines as knowledge increases…keep it fresh by introducing new puzzles or complex questions or surprise content.
3. We are biased to attend to self-relevant info, so relate the material to students’ lives early and often and encourage them to do so throughout the course
4. Design activities where students can form a hypothesis and then investigate to confirm or disconfirm it. Moderate, scaffolded uncertainty can boost curiosity.

Flow:

1. Similar to interest and curiosity (knowledge), flow (skills) is heightened when challenge level is at the peak/high end of students’ abilities- when they are being pushed.
2. Flow is maximized by clear goals and progress markers, so (positive) instructor feedback about performance is important.

Confusion:

While often considered undesirable in the classroom, confusion can be a dark cousin of curiosity. Traditionally seen as a “bad sign” (students aren’t getting it, instructor isn’t explaining clearly, etc), Cavanagh makes the argument that **confusion can lead to deeper learning.**  Perhaps so if students take ownership over their confusion and work to resolve it, rather than externalizing it on the instructor or internalizing it to their shortcomings. Instructors should aim for a **zone of optimal confusion**:

1. Confusion is appropriately and intentionally evoked in the context of the learning environment
2. Students should be able to successfully resolve confusion on their own (or perceive this to be possible)
3. Instructor offers appropriate scaffolding to aid students in resolving confusion (if needed).

While we all probably offer a variety of ways that confused students could get additional help, it is SO true that **the students who are most in need of help are often the least likely to ask for it or seek it out.**

In order to understand the appropriate level of complexity for their courses, they need to **assess student knowledge/skills early and often.** Formative assessments, low-stakes quizzes/assignments, etc.

**Discussion Questions:**

How can we help students see confusion as part of the learning process?

What are some ways that instructors can make the classroom environment feel “safe” enough for students to risk vulnerability and experience/acknowledge confusion?

**Chapter 5: Fueling the Fire**

Drawing on the science of motivation, Cavanagh introduces **control-value theory**, basically the idea that we will work hard on something that we have choice/autonomy over what/how it is done and that we value the work or its outcome. She encourages instructors to think about ways to increase students’ sense of control in order to maintain motivation. She recommends offering choice in assignments or assessments whenever possible. Consider: Pink Time- cancel class and tell students to use that time to go learn something (anything they want to learn about) in the way they want to learn it, grade yourself, and tell the class about it. h[ttps://www.pinktime.org/](https://www.pinktime.org/)

Another way to **impart a sense of control** (but see notes on procrastination below) is to have  a consistent policy on flexible deadlines. “No late work accepted, but extensions will always be granted”. This policy gave students control over when they turned in their work, within a framework of accountability imposed by the due dates and need to speak with the prof in advance about an extension.  Policy was applied consistently and led to greater respect toward the prof. Flexibility with deadlines seems like a reasonable and appropriate  way to increase perceived control among students, given that meeting course deadlines does not generalize to life beyond college. <https://www.insidehighered.com/blogs/just-visiting/deadlines-real-world>

When students feel safe/belonging and in control, their learning is maximized.

**Maximizing value** (and students’ appraisals that “this is valuable and worth doing”) can be accomplished in several ways, either internally-focused or externally-focused. Highlight and/or have students reflect on how material connects to their own goals or to outcomes for other groups that students care about. Help students find transcendent purpose: seeing how the hard work of learning and engaging with the material now can matter for themselves or others in the future. THis can be hypothetical (“how might these ideas show up in your future career as a….”) or concrete (e.g. service-learning component of a course; authentic assessments).

**“Don’t make it easier, make it more important”.** Help students see the real implications (short term and long) for the course.  This can be done in a number of ways:

1. Some faculty collect emails from former students who mention they have gone on to use what they learned in class/major/experience in their life after graduation. Faculty read these emails to current students at the beginning of the term.
2. Asking students early and often to reflect on how the course relates to their life, world, future.
3. Don’t necessarily work too hard to convince students of the utility of the content (how many of us use algebra much less calculus in our daily lives? Book recommendation here: [Mathematics for Human Flourishing](https://bookshop.org/p/books/mathematics-for-human-flourishing-francis-su/16662288?ean=9780300258516) by Francis Su) but rather sell them on the process, the HOW of learning.  Skills they are learning, new ways to think, perspectives they are exploring.  Goal is to connect with their *transcendent purpose* which will boost motivation immensely.
4. Flexibility with deadlines conveys BOTH control and value to students (i.e. quality of their work is important because what they are doing *matters* vs. a “just get it done” mentality)

Cavanagh also encourages **attributional retraining** as a way to maximized perceived control when students encounter obstacles or setbacks. Students should attribute (at least in part) their successes AND failures to reasons that they can control. Encourage a growth mindset.

Finally, **procrastination is a self-regulation challenge** that can give rise to (and be caused by)  a lot of negative emotions (e.g. anxiety, dread). Instructors can use a technique called implementation intentions, and set up many small deadlines within a larger assignment, in order to discourage procrastination in students. It can also be normalized as something many people struggle with from time-to-time, because our brains are designed to favor short-term reward (pleasure, reduced anxiety via avoidance) over long-term rewards (achieving a goal or learning a skill).

Deadlines can provide structure and discourage procrastination, but procrastination even in the face of multiple smaller deadlines for a larger project is common.  Students who procrastinate may believe they are lazy. Conditions like ADHD can change the process of how someone works on a project.  People may be continuously or repeatedly thinking about a project or topic, working through ideas or plans in their head. This could be seen as “counting” as working on an assignment or project and perhaps reduce some of the shame of not yet creating something tangible. See Dani Donovan’s [website](https://anti-planner.com/shop/the-anti-planner-how-to-get-sht-done-when-you-dont-feel-like-it/) for resources from someone who’s also struggled with ADHD.

Those of us who work with students can reduce anxiety, shame, and distress (thus facilitating better learning) by normalizing the emotional experience of doing school work, and supporting students’ adaptive efforts at self-regulation.

Discussion Questions:

When students feel safe/belonging and in control, their learning is maximized. This may also impart respect for the instructor/mentor.  Is this the same as liking?

Consider a course that you are or will soon teach. How can you adjust your content delivery, assignments, or assessments (not all at once!) to maximize students’ appraisals of control and value?

**Chapter 6: When Emotions Challenge or Backfire**

Cavanagh discusses three situations in the classroom that involve difficult emotions: text anxiety, psychological reactance, and social loafing.

Anxiety is a common emotion in the classroom, especially as it connects to performance or evaluation. Cavanagh suggests allowing plenty of time for exams, giving multiple smaller exams over fewer larger ones, and have a high degree of clarity in your syllabus, exams, and assignments, as ways to reduce student anxiety toward a manageable level.

Psychological reactance happens for students in the face of (perceived) injustice or threats to freedom. It can lead to student rebellion (disengagement or actively undermining instructional efforts), especially in the face of student hyper-bonding (uniting against the instructor who is seen as a “common enemy”).

She notes that instructor power comes from 5 sources:

1. Coercive acts- punishments
2. Rewarding acts- granting benefits
3. Legitimate power- normative for the situation
4. Expert power- (students perceive that) the instructor has knowledge that the students do not
5. Referent power- when students like, respect, esteem the instructor

Reactance is less likely when instructor emphasizes  # 2, 4, & 5 as their sources of power and deemphasizes 1 and 3. Instructor transparency is also helpful (e.g. explaining to students their reasons for a policy or their goals for an assignment).

Social loafing commonly occurs during group work/assignments. It can be reduced by asking students to monitor, record, and reflect on their own and others’ contributions to the group.

Discussion Questions:

When has pedagogical work been emotionally difficult for you? How did you handle this with your students?

How might the sources of enacted power interact with an instructor’s social identity? Can instructors enact power differently (i.e. draw on different sources) depending on their social identity? If so, how might this be appropriate and how might that be problematic?

**Conclusion and Impressions:**

Overall, the group enjoyed this book and found it inspiring and helpful. It sparked rich discussion. Our group was made up of higher ed professionals with varying amounts of experience. It may be challenging to engage new higher ed professionals in this book, because it isn’t really “introductory” in that it assumes classroom experience. But some thoughts:

1. When new faculty read the book and perhaps feel overwhelmed or react negatively to what it is saying, sit with those feelings with them. Help them to use those feelings to develop empathy for what it may be like for students to take their class (or come to college). Develop an appreciation for how feeling overwhelmed can close people off to new ideas or to effective learning. The same approaches that would help them (new faculty) be less overwhelmed by the ideas in this book are likely to be ones new faculty can use to help their students feel less overwhelmed.
2. Bringing emotions into the conversation for new faculty helps to counterbalance emphasis on content or mechanics of teaching. Holds a space for faculty to consider emotions (throughout the semester) in their courses.

Cavanagh ends the book with a (we think) provocative question: **How important for learning is instructor likability**- is it (very) important that students like an instructor? This question is largely unexplored in the book.  What does it mean to like someone inside of an instructor-student relationship? How might new faculty hear the word “likeable” in different ways? How does SRC mean to use this word? Does she mean “popular”, “cool”, “admirable”, “trustworthy”, or something else?