



Museum of Science®

**Productive Struggle Webinar Series
Part 1: What is emotion?**

August 13, 2020

Current speaker



Katie Todd

Senior Research & Evaluation Associate
Museum of Science, Boston

KT, she, her, hers

Agenda

- About our work
- Introduction to the webinar series
- Why emotion?
- Emotion 101
- Upcoming opportunities
- Questions and feedback

About our work

Our team



Museum of Science®



EdTogether



UNIVERSITY of
ROCHESTER



CAST



How it all started



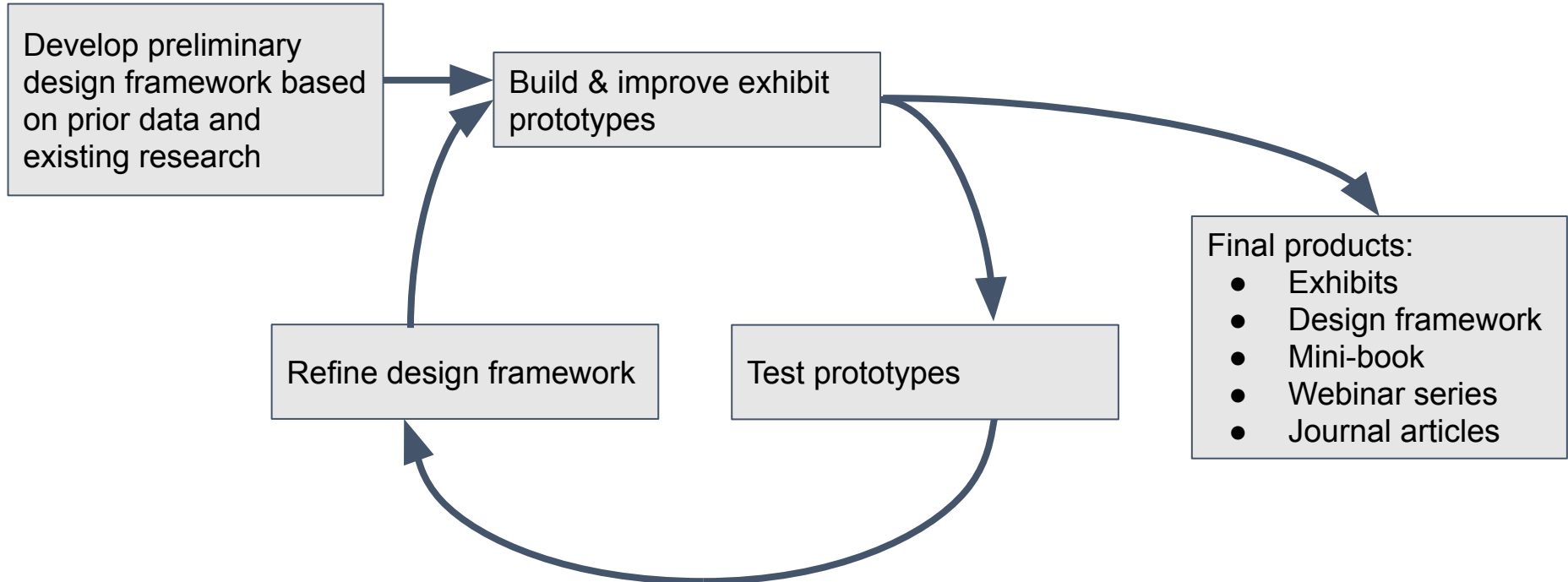


Why it matters



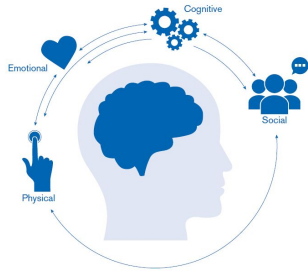
1. Deeper learning
2. Authentic emotional skill for STEM
3. Supporting emotional accessibility

The Current Project: Productive Struggle



Introduction to the webinar series

Webinar series



August 13:
Why emotion?



August 20:
What is productive
struggle?



August 27:
Designing for productive
struggle



September 3: Applying
and testing the
framework

Current speaker



Dr. Gabrielle Rappolt-Schlichtmann

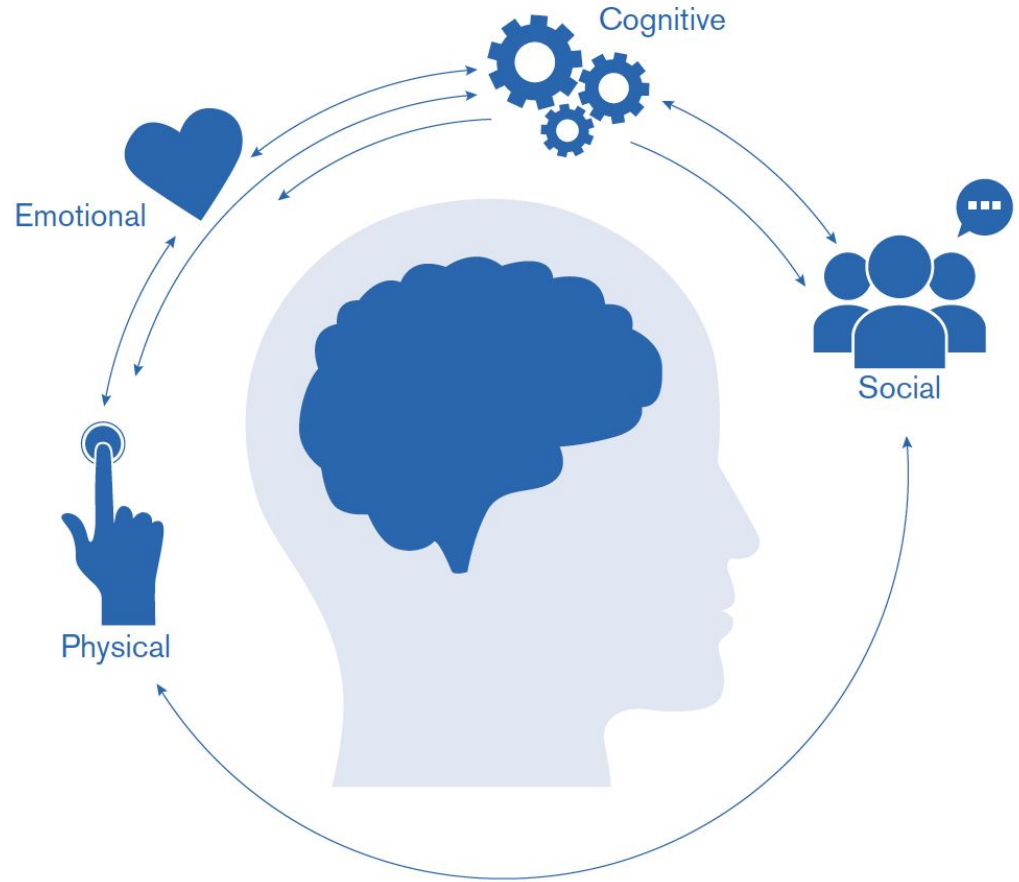
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Why emotion?

Why emotion?



Why emotion?

“without emotion, all decisions and outcomes are equal – people would have no preferences, no interests, no motivation, no morality, and no sense of creativity, beauty, or purpose... Emotions are, in essence, the rudder that steers thinking”
(Immordino-Yang, 2015, pp. 27-28)

Emotions in the Museum



Let's brainstorm in the chat!

Where do you “see” visitor emotion in your work?

Emotion 101

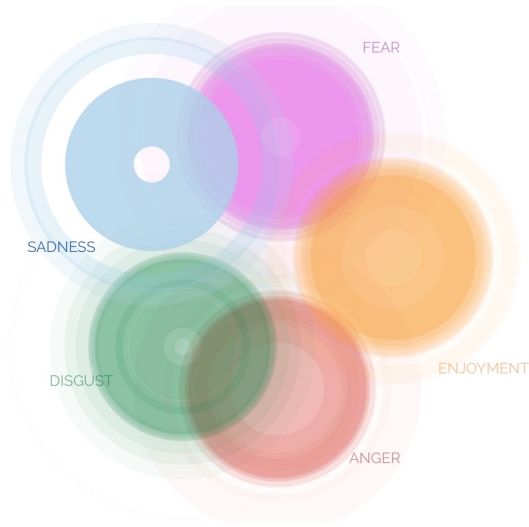
Emotion 101



Two Questions Grounding Our Work

What is the nature of emotion?

What aspects of emotion should we attend to in design?



The Nature of Emotion

Critical Aspects

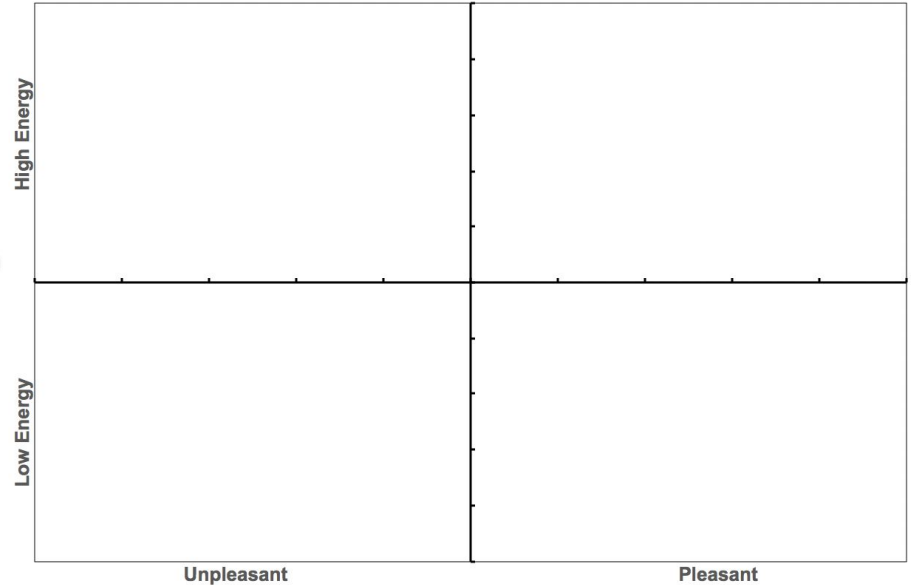
Appraisal: Ongoing, largely subconscious, evaluations about whether an experience is:

- good or bad
- relevant or irrelevant to one's goals
- comfortable or threatening
- novel or familiar
- within or outside of one's control
- consistent with or opposed to social norms

Critical Aspects

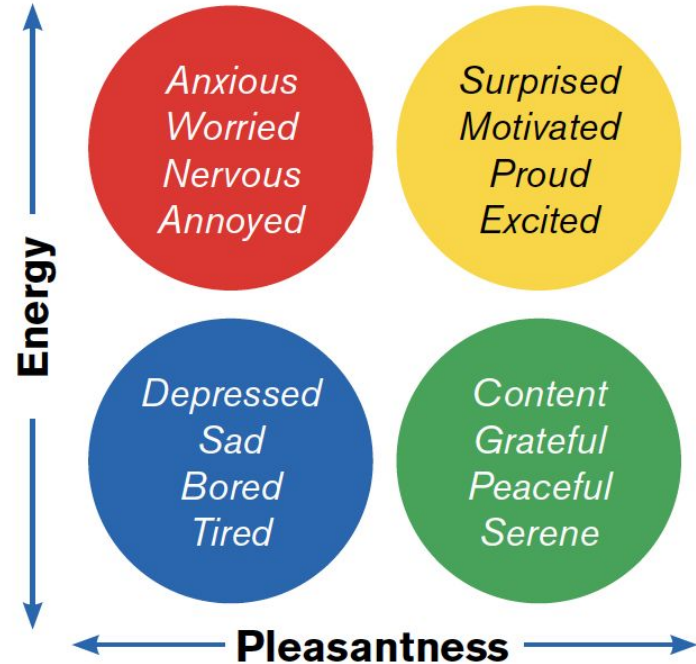
Core affect: Your general bodily state in two dimensions: feeling pleasant or unpleasant and energetic or lethargic. Core affect can be represented on a four quadrant grid.

How are you feeling?



Critical Aspects

Subjective feeling: Your understanding of your overall experience, which we label with familiar emotion terms like happiness, sadness, rage, pride, relief, etc.



Critical Aspects

Emotional intelligence: our capacity to understand, use, and manage emotion



Anatomy of a Scene

- How does Ellie appraise the situation/scenario? How does her appraisal change (**appraisal aspect** - does she evaluate the situation as good or bad, comfortable or threatening, novel or familiar)?
- What is Ellie's core affect when she first encounters the triceratops? What is her core affect when Ellie is problem solving around the triceratops health? (**core affect aspect**)
- What subjective feelings do you think Ellie experiences when she first encounters the triceratops? When she is problem solving around the triceratops health? (**subjective feeling aspect**)
- What kinds of emotional intelligence are at play for Ellie in this scene? (**emotional intelligence component**)

Anatomy of a Scene Note Catcher:

- How does Ellie appraise the situation/scenario? How does her appraisal change (**appraisal aspect** - does she evaluate the situation as good or bad, comfortable or threatening, novel or familiar)?

- Something novel and different, toward the familiarity of understanding animals and applying that to problem solving.
- Wouldn't have been able to problem solve and engage if she didn't feel safe, confident.
- Shift from awe to concern, both are engaged and approach-full.
- Deep interest and engagement keeps her focused on all the info she can gather.
- Comfort throughout, but never really threatened.
- Is recognizing her call to action once she's aware of the appraisal of "need to solve the problem."

Shift from seeming overwhelmed to being in control

Shift from novel to making connections with the familiar

Anatomy of a Scene Note Catcher:

- What is Ellie's core affect when she first encounters the triceratops? What is her core affect when Ellie is problem solving around the triceratops health? (**core affect aspect**)
- High energy and very positive at first, then stays high energy but more negative once moving towards problem solving
 - Core affect changes and changes in response to the situation and seems to also change in response to internal thoughts
 - The presentation of core affect on the “outside” seems to differ or can differ from what's on the inside
 - The observer also experiences core affect and that may bias how they interpret the emotion of the person being observed

Anatomy of a Scene Note Catcher:

- What subjective feelings do you think Ellie experiences when she first encounters the triceratops? When she is problem solving around the triceratops health? (**subjective feeling aspect**)

Happiness and relief that it's still alive.

Towards the end some confidence - feeling of safety to meet the challenge. -problem-solving focus/task-absorption/flow state

Disgust when she was looking at the support on the tongue and microvesicles.

Concern for its health, and determined by a course of action

Care and concern at the start, curiosity'

Awe and amazement at first

Disgust when she touches her tongue

Intrigue

Excitement about the experience (not scared!)

Emotions shift when she goes into diagnostic mode

Questions, is curious, analyzes when she is looking for evidence

Has concern for the dinosaurs for the dinosaurs well-being

Determined to find the problem

Anatomy of a Scene Note Catcher:

- What kinds of emotional intelligence are at play for Ellie in this scene? (**emotional intelligence component**)

- Taking care of others and dinosaur while experiencing emotion
- Shifting from fascination to focus
- Managing distractions
- Decision-making
- Self-management



Anatomy of a Scene

- What was it like to observe this scene like an emotion scientist?
- What was challenging? Surprising?
- What are you wondering about?

Three ways to leverage emotion in informal learning

1. Promote emotional accessibility
2. Support goals with emotional matchmaking
3. Develop emotional intelligence

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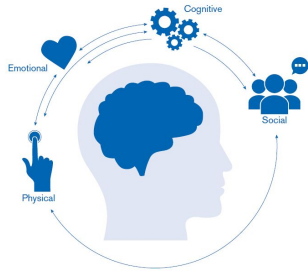
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Upcoming opportunities

Webinar series



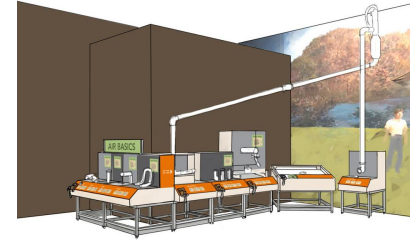
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Questions & feedback

THANK YOU!