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Engagement and Positive Psychology for STEM Learning and Beyond

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Welcome!

Engagement and Positive Psychology for STEM Learning and Beyond



*Image:
Calvin and Hobbes
by Bill Watterson*

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Question

What is Positive Psychology?

Positive Psychology is the scientific study of the strengths and virtues that enable individuals and communities to thrive. The field is founded on the belief that people want to lead meaningful and fulfilling lives, to cultivate what is best within themselves, and to enhance their experiences of love, work, and play. Emphasis on the scientific study of what is right, rather than what is wrong, with people.

- Positive Psychology Center, UPenn

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What is Positive Psychology?

Positive Psychology is the **scientific study** of the **strengths** and **virtues** that enable individuals and communities to **thrive**. The field is founded on the belief that people want to lead **meaningful** and **fulfilling** lives, to **cultivate** what is **best** within themselves, and to **enhance** their experiences of **love**, **work**, and **play**. Emphasis on the scientific study of **what is right**, rather than what is wrong, with people.

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Positive Psychology: The Science of Happiness, Creativity and Accomplishment

A First-Year Seminar (FYS) course for undergraduates at UMass Amherst

- Introduction to positive psychology
- Gratitude and benefit finding: what we focus on, asking questions
- Strengths and VIA Survey
- Grit, resilience, and self-efficacy
- Motivation and mindset
- Meaning, enjoyment, and strengths
- Learning, neuroplasticity, play and flow
- Observation and listening
- Mindfulness
- Positivity boosters and wellbeing
- Creativity
- Resourcefulness, design thinking, and collaboration
- Leadership and course reflection

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Engagement

When I am deeply engaged I feel....

When I am deeply engaged I am doing ...

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Engagement

Here's how you responded:

When I am deeply engaged I feel....

- absorbed/focused
- calm
- alive
- motivated
- clear
- purposeful
- content
- challenged
- capable
- interested
- hum
- strong
- skilled
- sense of time changes

When I am deeply engaged I am doing ...

- talking
- doing something fun
- doing research
- doing something creative
- doing something outdoors
- planning/organizing
- music - listening/playing
- chemistry
- strategy
- problem solving
- writing
- up against a deadline
- gardening/getting dirty
- no distractions

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How many geometric shapes?

Image of various shapes to demonstrate attentional blindness. (From book "Dynamic Relationships: Unleashing the Power of Appreciative Inquiry in Daily Living" by Jackie Stavros and Cheri Torres.) Ask the students to count or analyze one thing, and then, ask additional questions regarding something else that the students did not pay attention to.

A classic alternative is is this video:

<http://www.theinvisiblegorilla.com/videos.html>

*Image used with permission from Tal Ben-Shahar
Shapes exercise from Stavros and Torres*

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Questions direct our attention

- How many geometric shapes did you see?
- What was the time on the clock?
- How many children were on the bus?

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Observation

The deeper we look, the more we see



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by Johannes Stötter

The Art of Observation

Berger, L. (2001, January 2). By Observing Art, Med Students Learn Art of Observation. New York Times (aka The Art of Observation).

Retrieved from

<http://www.nytimes.com/2001/01/02/health/by-observing-art-med-students-learn-art-of-observation.html>

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Observation Activity

Place each object to be described in a separate brown paper bag. Mystery items could be anything you have on hand, but we used these items:

Nickel, post-it note pad, plastic magnifying glass, pinecone, acorn, 1-inch groom figurine, 1-inch bride figurine, paper clip, paper clip with sides that fold, plastic covering for top of key, book of matches, elastic hair tie, lid for canning jar, clothes pin, ballpoint pen, pencil, bubble wrap, guitar pick, AA battery, eyeglass case, rock, sewing bobbin, guitar capo, lapel button (straight pin), eye mask, ear plugs, cotton cushion from gift box, small scissors, birch bark, small pack of kleenex

Objective of activity: To strengthen the ability to observe deeply. **Instructions:** Pair up. Each person has an item in a paper bag. One person of the pair closes their eyes. The other person takes the mystery item out of the bag and describes it for one full minute. Listeners should not say anything during this time. The person describing should notice and describe detailed characteristics of the object (color, texture, shape, etc), but they should not identify the object or its purpose or where it belongs. At the end of the one-minute description, listener tries to guess the identity the object.

(It is helpful to demonstrate this activity before the participants do it themselves.)

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15 Minute Break

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Mindfulness and Learning



Mind Full, or Mindful?

<https://coachcampus.com/coach-portfolios/power-tools/allison-sharpe-mind-full-vs-mindful/>

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Definition of Mindfulness:

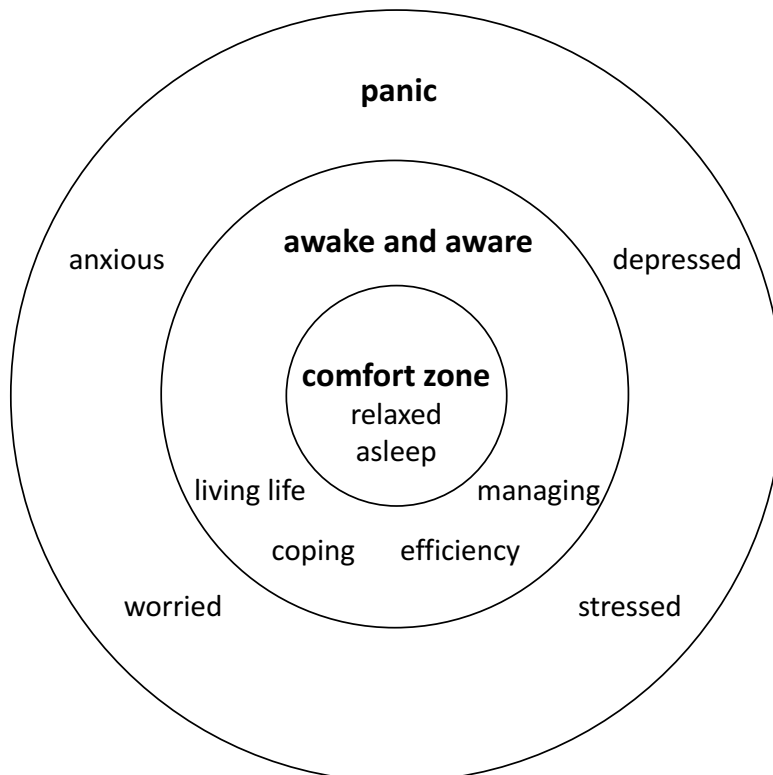
*Mindfulness is the awareness that arises by paying attention, **on purpose**, in the present moment, and **non-judgmentally**.*

*It's **about living your life as if it really mattered**, moment by moment by moment by moment.*

Jon Kabat-Zinn, UMass Medical School
Creator of **Mindfulness-Based Stress Reduction**



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Definition of Mindfulness:

Mindfulness is simply noticing new things.

- *Puts you in the present*
- *Makes you aware of context and perspective*
- *Reveals that you don't know that thing as well as you thought you did.*

Ellen Langer, Harvard University



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“Breathing exercises can reduce stress, improve mood, and help you feel energized. If you do only one thing for your health, have it be learning to breathe.”

- Dr. Andrew Weil

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Mindset

- **Fixed mindset:** the notion that people succeed because they are born with a “gift” of intelligence or talent
- **Growth mindset:** the belief that success comes from effort; that abilities grow



Carol Dweck
Stanford University

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Video of girl on ski jump

<https://www.youtube.com/watch?v=ebtGRvP3ILg>

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Strengthening and Reinforcing a **Fixed** Mindset

- “You’re so smart.”
- “You’re so talented.”
- “You’re gifted.”

- Avoids challenges and taking action
- Often leads to frustration

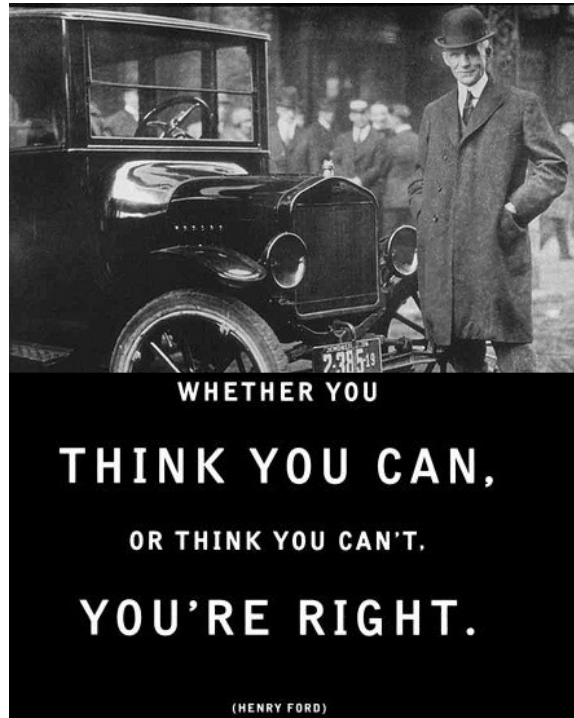
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Strengthening and Reinforcing a **Growth** Mindset

- “You worked hard.”
- “You put so much effort into this.”
- “You worked your way through.”
- “You overcame difficulties and hardships.”

- Focus is on *learning and developing abilities*
- Embraces challenges and taking action
- Often leads to satisfaction

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THE 2 MINDSETS



**I'm either good at it, or I'm not.
Failure is the limit of my abilities.
Tell me I'm smart.
My abilities determine everything.
If you succeed, I feel threatened.**



**I can learn anything I want to do.
Failure is an opportunity to grow.
Tell me I try hard.
My effort and attitude determine everything.
If you succeed, I feel inspired.**

<http://fqmom.com/what-kind-of-mindset-do-you-have-the-perils-of-overpraising/>

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The Power of YET

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Failure is temporary, mistakes are temporary, setbacks are temporary, negative feelings can be temporary, too.

“Learn to fail
or fail to learn”



Tal Ben-Shahar

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Activity:

Turn to your neighbor and share a time when you worked hard at something—something challenging *and* you enjoyed doing—and were successful. What obstacles did you overcome to be successful?

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Summing up the Growth Mindset



“This is hard. This is fun.”

- Carol Dweck

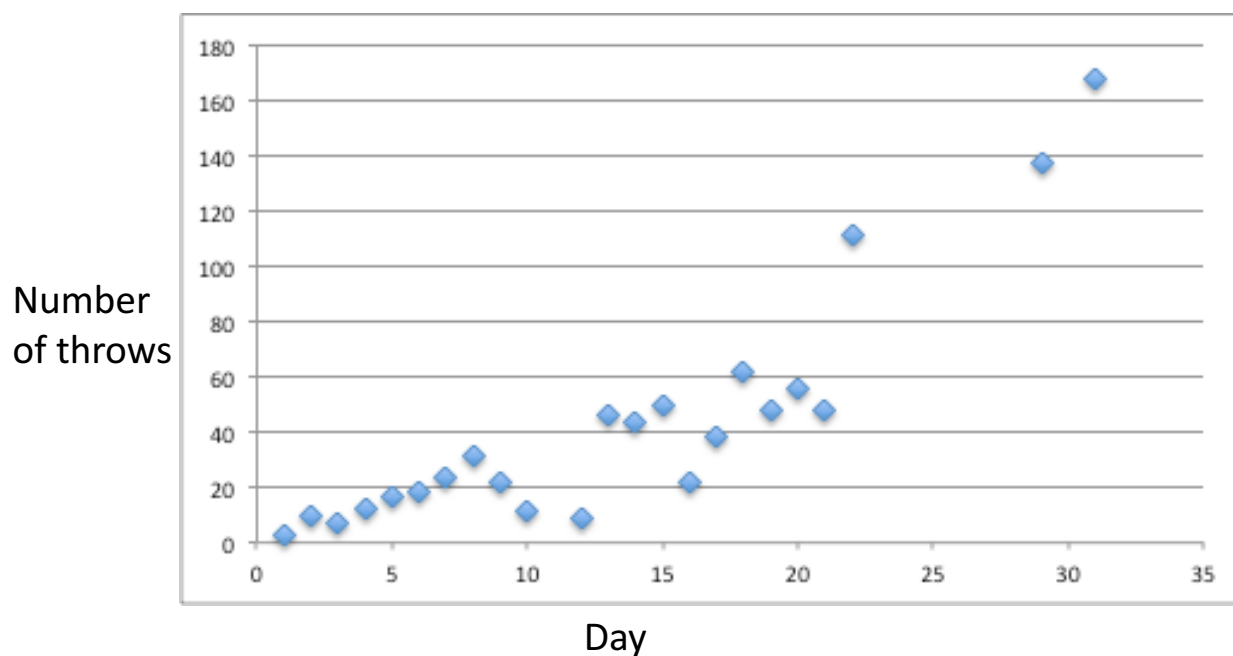
15 Minute Break

The brain wires itself – what we do and think plays a huge role in wiring our brain.

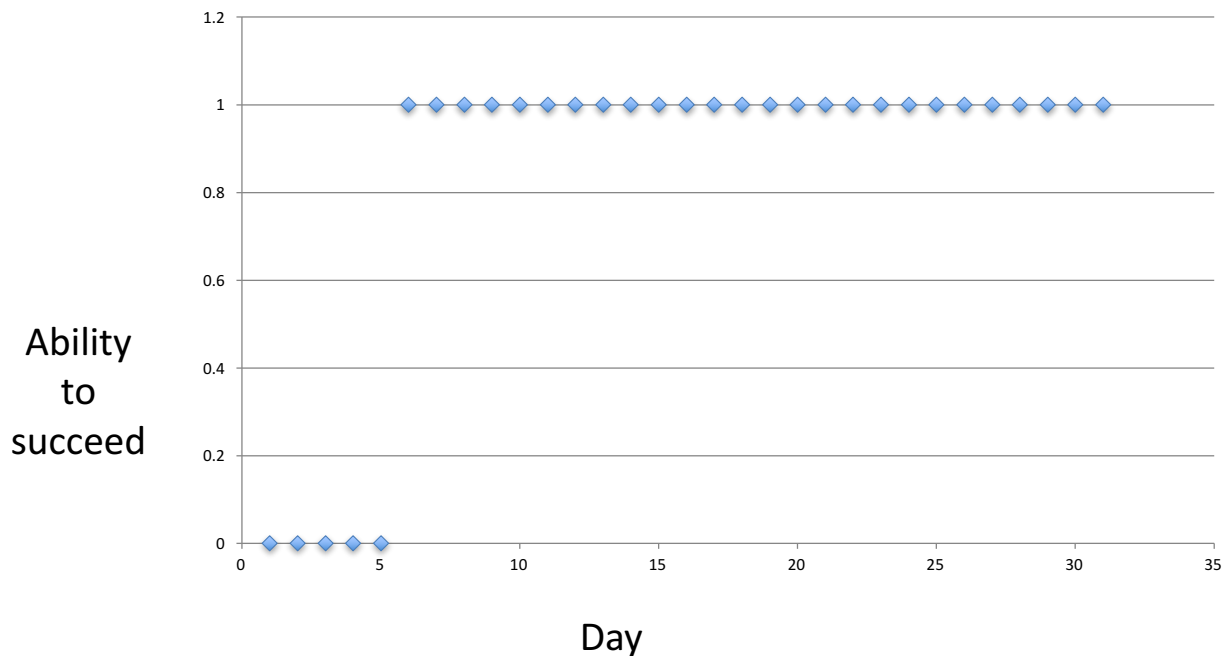
Neuroplasticity—creation of new neural pathways



Lori's 30-Day Challenge



Mark's 30-Day Challenge



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About why we play

“Free play” is essential to wellbeing:

- Play is its own reward – “recreation”
- Allows us to “try out new things”
- Fosters creativity – continue the fun
- Teaches us how to socialize successfully – develop emotional intelligence
- Practice skills that might be needed in the future - learning
- Play also has important biological purposes

Excerpts from Play: How It Shapes the Brain Stuart Brown (2009)

“Active play selectively stimulates brain-derived neurotropic factor (which stimulates nerve growth) in the amygdala (where emotions are processed) and the dorsolateral prefrontal cortex (where executive decisions are processed).”

- Research of Jaak Panksepp—Washington State University (formerly a UMass student)

Flow

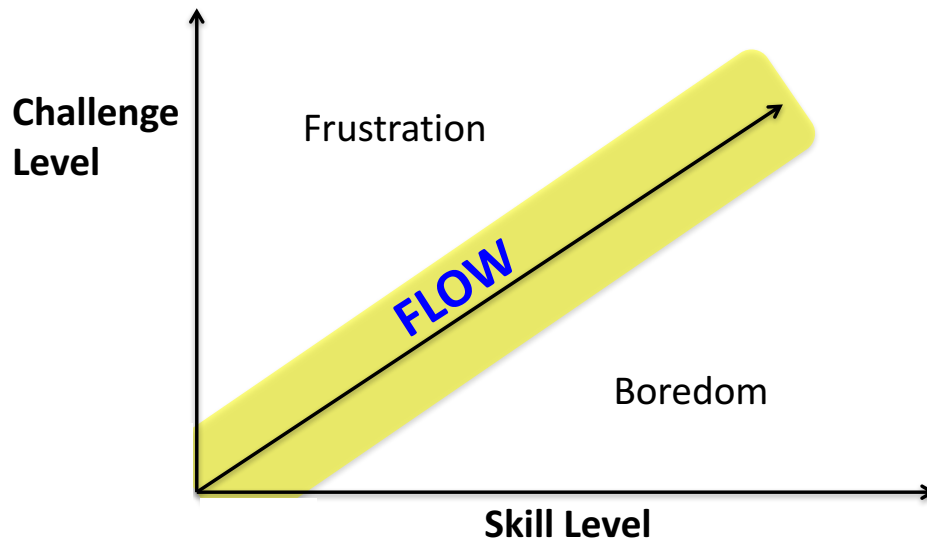
“A dynamic state that characterizes consciousness when experience is attended to for its own sake.”

Also known as:

- Engagement
- Peak Experience
- Being in the Zone



Mihaly Csikszentmihalyi
Claremont Graduate University



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Engagement

What can you do to engage your students
5% more?

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Engagement

Here's how you responded (page 1):

What can you do to engage your students 5% more?

- introductory activity that FEELS like play
- start with a hook question (low risk that makes you curious)
- using more realia (e.g. models to pass around)
- add color into it (paint/color project)
- giving a break midway to stretch and think
- posters around the room to answer/discuss
- stand up & move around (e.g. stations)
- provide more of a growth mindset language
- give students choices (3-4)
- spokesperson w/ground rules (listen, get to the heart, clarify what you heard)
- chunk down the process into manageable steps
- always have an answer to "Why is this important? Why are we doing this?"
- play around with inflection, tone, intonation, pauses, etc.
- video self teaching - watch to improve
- move eyebrows up and down like news anchors
- play games

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Engagement

Here's how you responded (page 2):

What can you do to engage your students 5% more?

- acknowledge MY mistakes
- - models a growth mindset
- - creates safe space
- let kids know you're REAL
- connection - to person (teacher or another student), place, idea
- put student names in test/photos in power point
- revamp curriculum when necessary
- singing/listening to music
- let them know you CARE about them!

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Thank you!

“Attention is our most important tool in the task of improving the quality of experience.”

Mihaly Csikszentmihalyi

“The students who are most engaged are the ones who think they matter to the teacher”

Russell Quaglia

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Resources on Positive Psychology and Engagement

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- Dweck, Carol S.. (2008) Mindset: The new psychology of success (Ballantine Books)
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, 56(3), 218-226.
- Gross-Loh C. (2016, December 16). How praise became a consolation prize: Helping children confront challenges requires a more nuanced understanding of the "growth mindset." *The Atlantic*: <https://www.theatlantic.com/education/archive/2016/12/how-praise-became-a-consolation-prize/510845/>
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- Seligman, M. E. P. (1987) Flourish: A visionary new understanding of happiness and well-being. (Free Press)
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- Ritchhart, R., Church, M., & Morrison, K. (2011). Making thinking visible: How to promote engagement, understanding, and independence for all learners.
- Peterson, C., & Seligman, M. E. P. (2004). Character strengths and virtues: A handbook and classification. Washington, DC: American Psychological Association.
- • VIA Character Strengths www.viacharacter.org

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