ENERGY FACILITY CONTRACTORS GROUP

Implementing Brain-Based Learning Strategies into Safety Trainings

A necessary tool for implementing trainings that utilize the way our brain works.

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Group Norms and Expectation

1

Allow yourself the space to learn

2

Participate in discussions

3

Ask questions

Learning Goal

Participants across the DOE complex will explore and discuss the neuroscience of how the brain processes new information, the connection attention plays in learners' engagement of the content, and how it all applies to developing trainings.

Objectives

The learner will:

- Clarify brain-based learning and how the brain takes in new content.
- Identify the role attention plays in brain-based learning.
- Explore 3 key strategies that can be used to promote brain-based learning and attribute how they support engagement and deeper comprehension of the content.

What is Brain-Based Learning?

Instructional approach that uses

Neuroscience research to understand how the brain:

- learns new information
- applies that knowledge

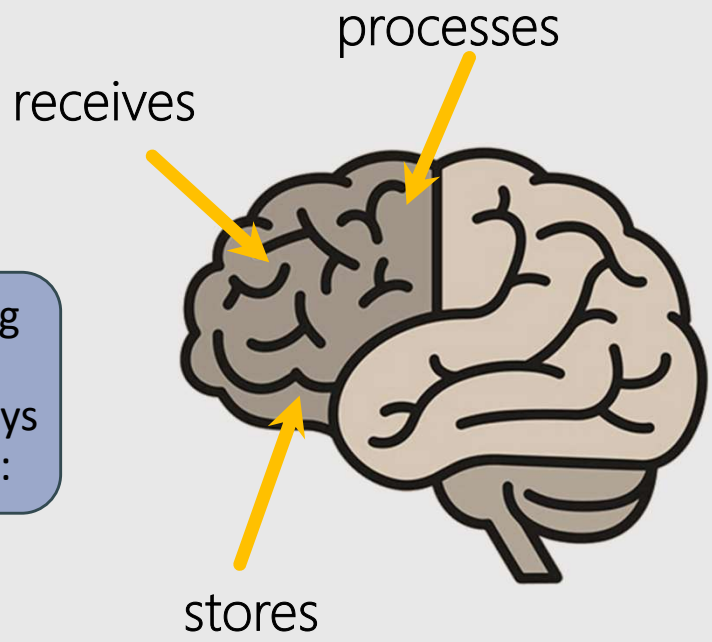
What is Brain-Based Learning?

Neuroplasticity: the brain's ability to reorganize and form new connections.

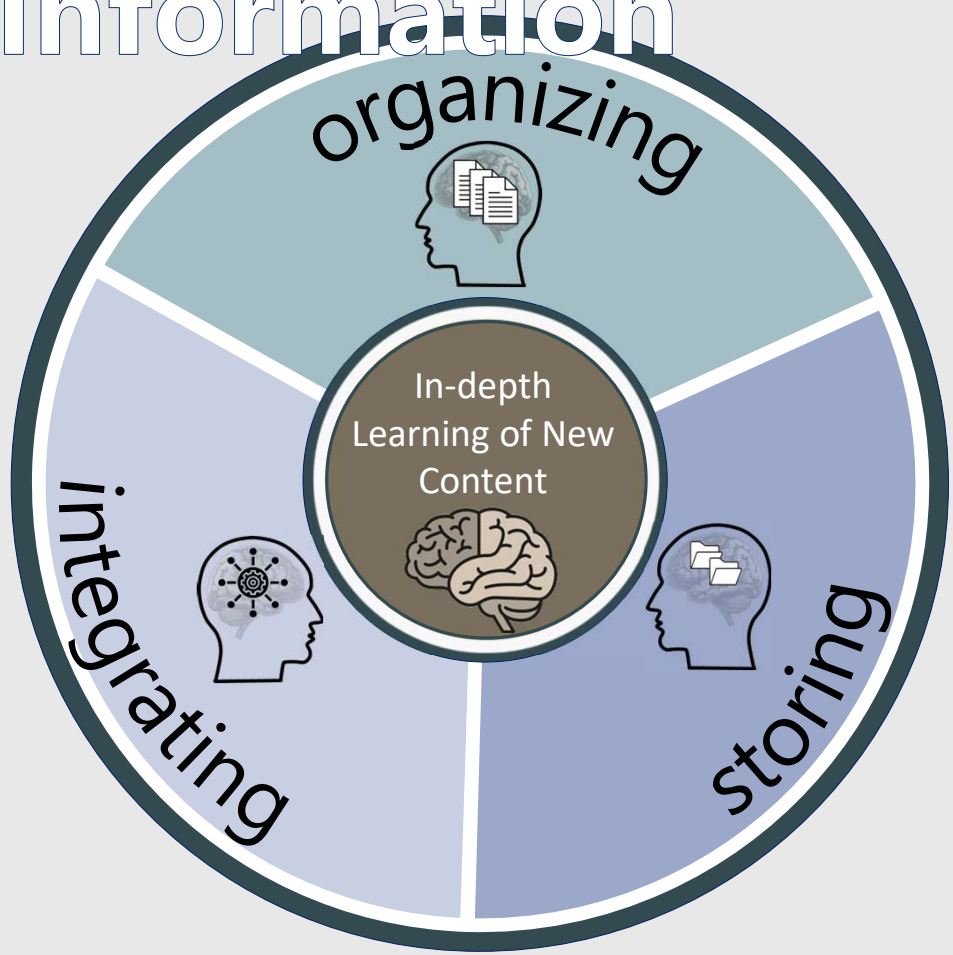
Creating a learning environment that **increases:**

- learner motivation
- engagement
- long-term retention

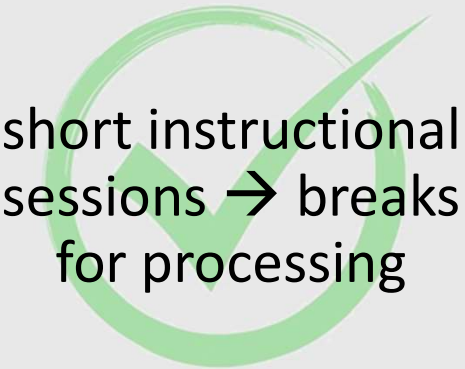
By tapping into the natural ways the brain:



Processing New Information

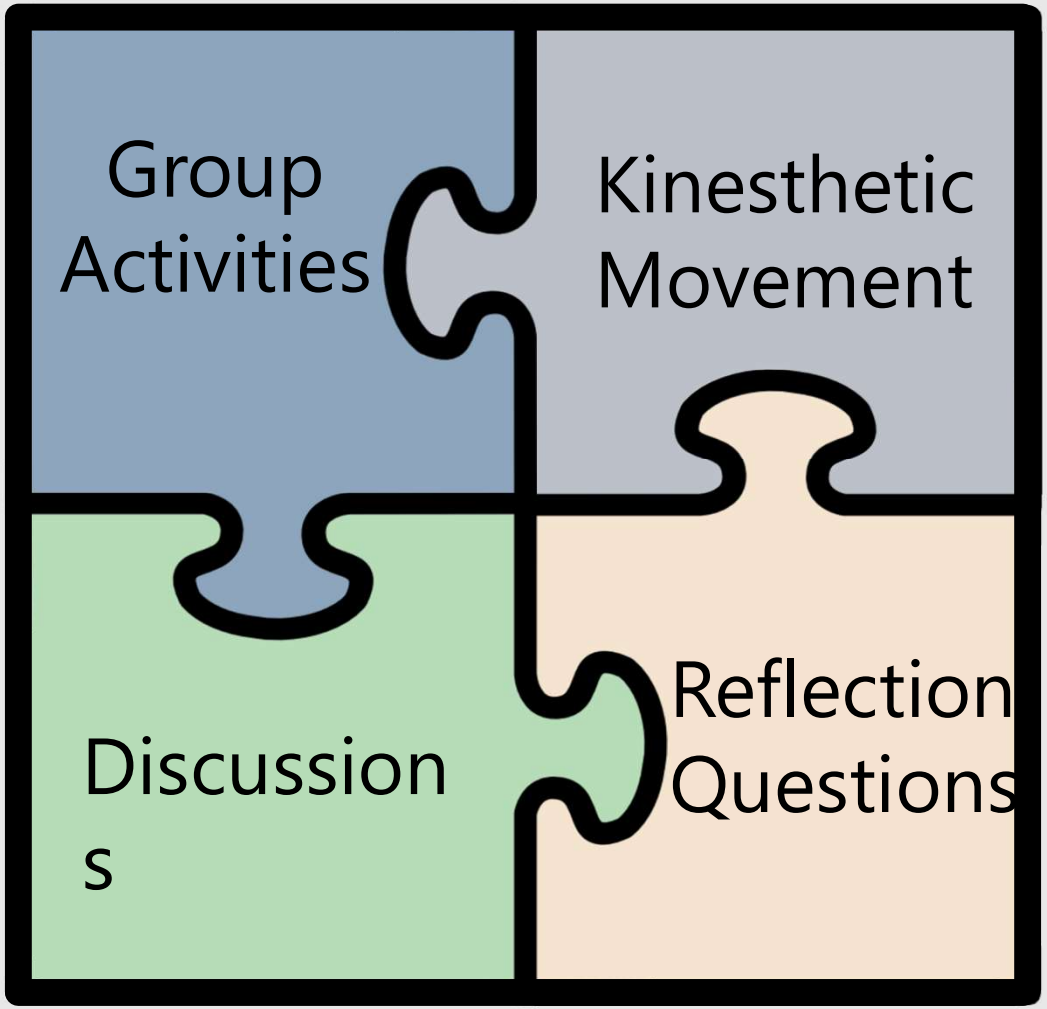


- 3-7 chunks of new info before overload → miss new incoming data.
- An incubation period is necessary for new learning to take place.



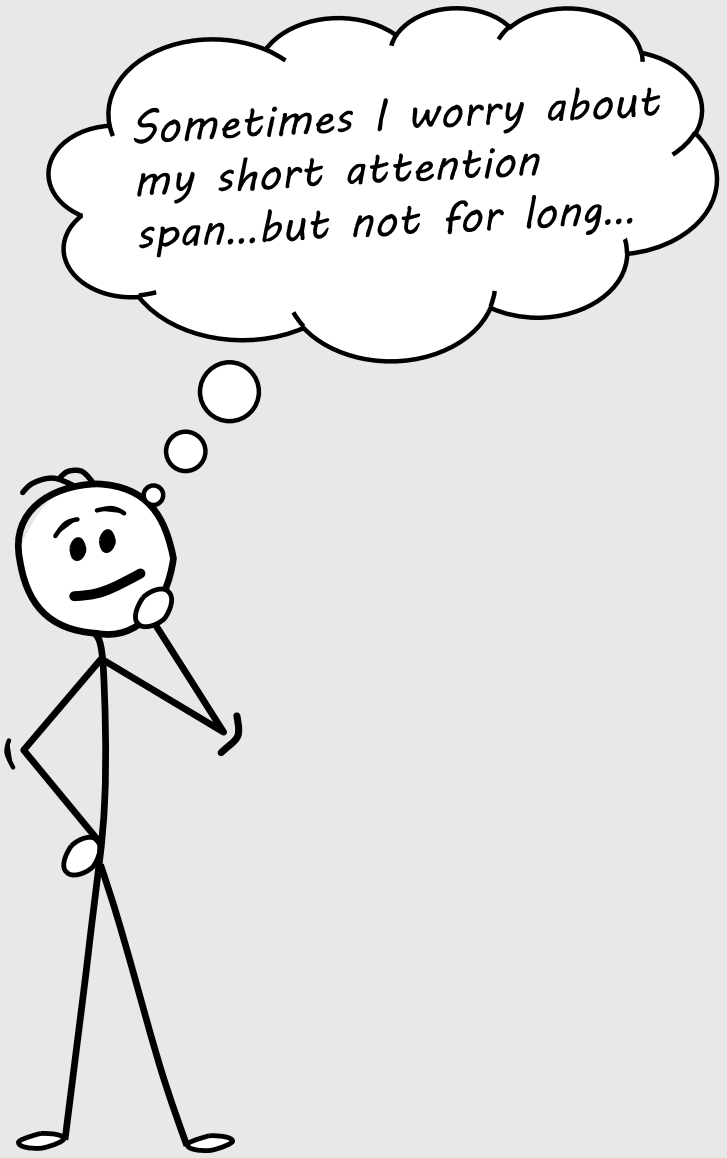
Processing Breaks

Processing Break: intentionally pausing or shifting activities to allow the brain an opportunity to reflect on the "chunk" of knowledge just presented.



Why Brain-Based Learning?

After seeing how parts of the brain works when encountering new learning, or the neural process, how do you think attention plays a role in learning?



Attention Span

Attention span refers to the amount of concentrated time that one can spend on a task before becoming distracted.

- Our attention varies by task because we attend to things that interest us.
- When several options demand attention, we pick the ones that will give us the greatest benefit at the moment.
- Today there is a multitude of digital devices that steal our attention from the task at hand.

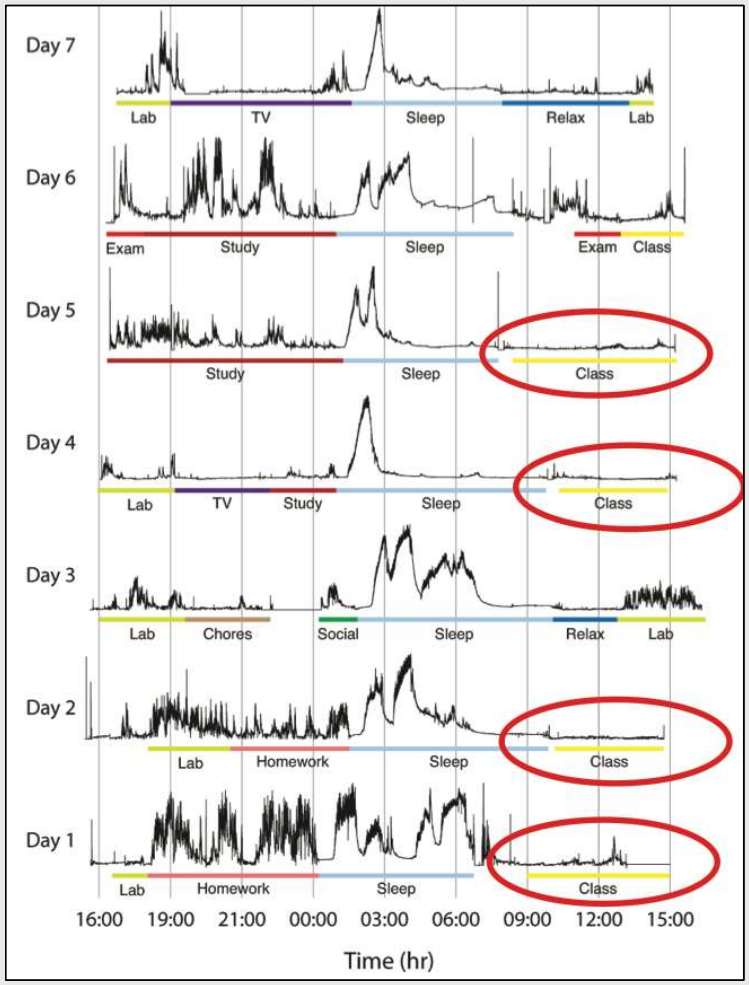
Why Brain-Based Learning?

Instructor focused trainings are the **LEAST effective** model to hold participants' attention.

Guidelines for Direct Instruction of New Content

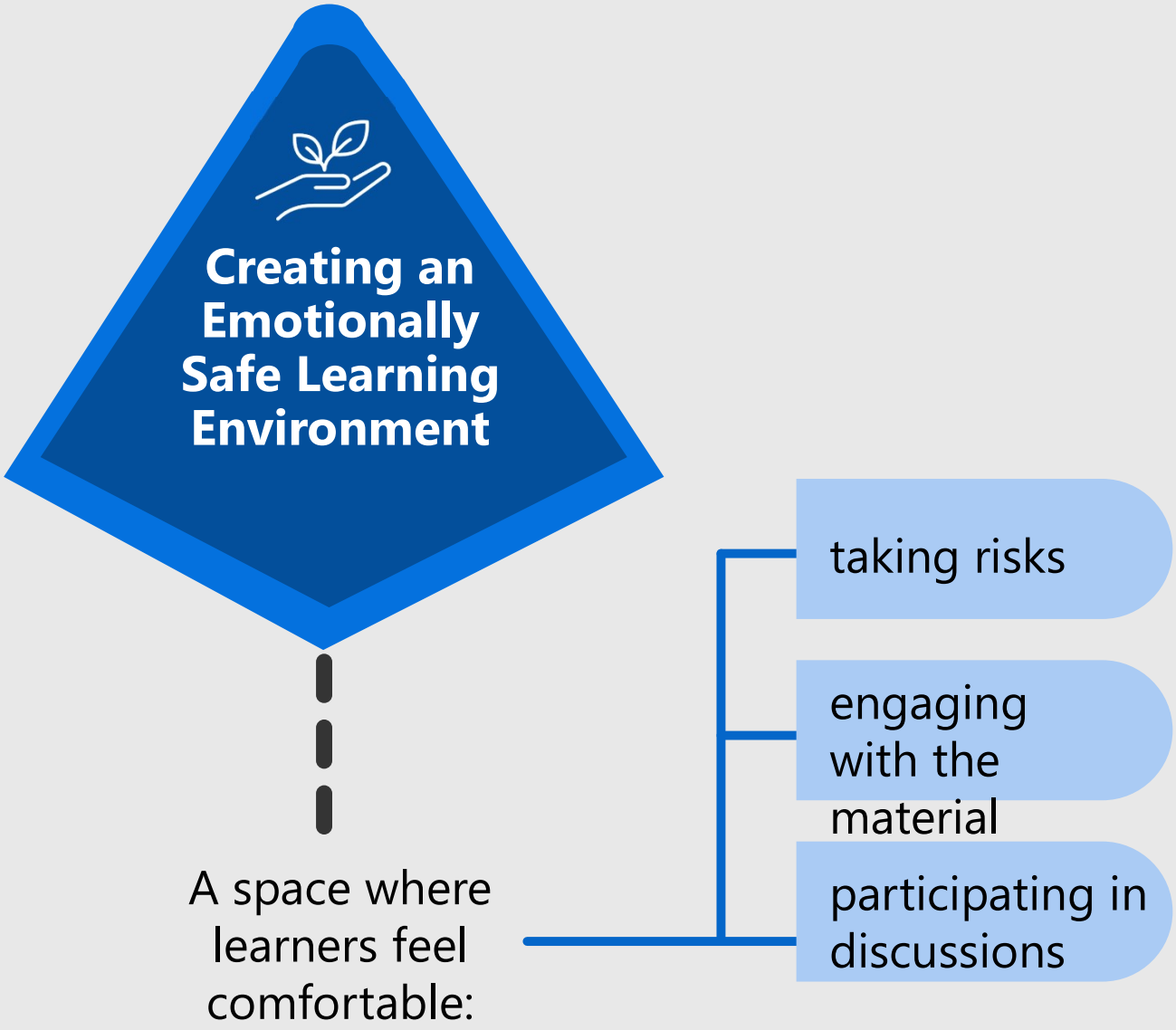
Grade level	Appropriate Amont of Direct Instruction
K–2	5–8 minutes
Grades 3–5	8–12 minutes
Grades 6–8	12–15 minutes
Grades 9–12	12–15 minutes
Adult learners	15–18 minutes

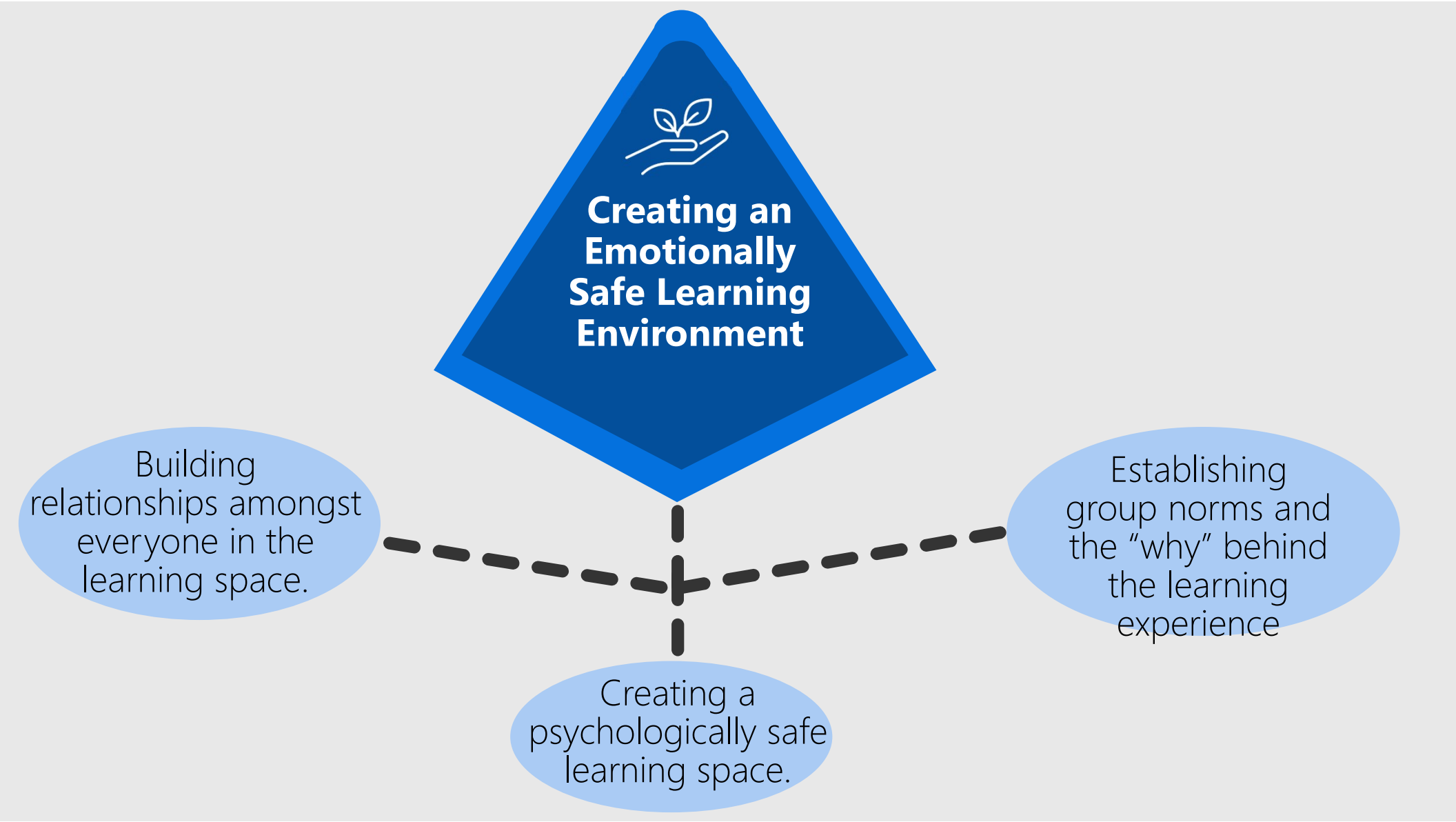
TED Talks




Creating an Emotionally Safe Learning Environment
Strategies to Promote Brain-Based Learning
Using multiple modalities to introduce and practice new content
Implementing Active Learning Techniques

Why do you think there needs to be an emotionally safe environment for learning to

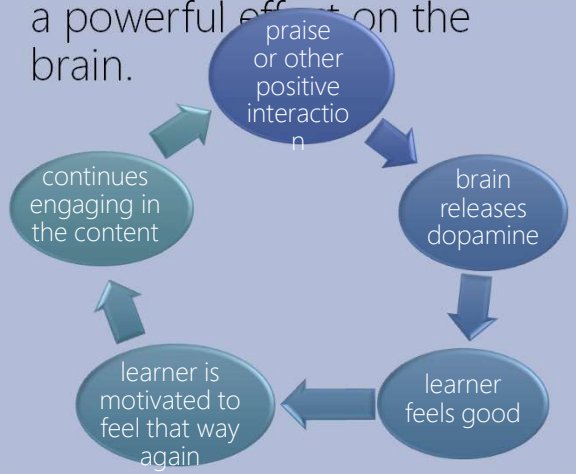

Creating an Emotionally Safe Learning Environment
A space where learners feel comfortable:
taking risks
engaging with the material
participating in discussions


Creating an Emotionally Safe Learning Environment
Building relationships amongst everyone in the learning space.
Establishing group norms and the "why" behind the learning experience
Creating a psychologically safe learning space.

Why Build Relationships?

Builds motivation and prompts buy-in of the content

- Positive relationships are built on positive interactions.
- Each positive interaction has a powerful effect on the brain.



Reduces the stress of learning new content

Fostering a space of safety and belonging decreases stress of by allowing adults to feel:

- emotionally supported and validated.
- a reduced fear of failure when mistakes are made.

Fundamental to achievement

Learners feeling supported by others:

- have a higher success rate with retention.
- are more likely to pursue further education/ lifelong learning.

Ways to Build Relationships?