

Culturally Responsive Teaching (It's Brain-based!)

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Educating Science Teachers for All (ESTA)

<https://esta-project.eu>

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Outline of my
presentation:

1. Introduction

2. What's culture got to do
with learning?

3. What's the brain got to do
with culture?

4. Culturally responsive
teaching - The preparations

Please mind the gap.

The Dependent Learner

is dependent on the teacher to carry most of the cognitive load of a task always

is unsure of how to tackle a new task

cannot complete a task without scaffolds

will sit passively and wait if stuck until teacher intervenes

doesn't retain information well or "doesn't get it"

The Independent Learner

relies on the teacher to carry some of the cognitive load temporarily

utilizes strategies and processes for tackling a new task

regularly attempts new tasks without scaffolds

has cognitive strategies for getting unstuck

has learned how to retrieve information from long-term memory

What is culture?



...A complex whole that includes knowledge, beliefs, art, morals, laws, customs, and all other abilities and habits acquired by a member of society.

Tyler, 1874

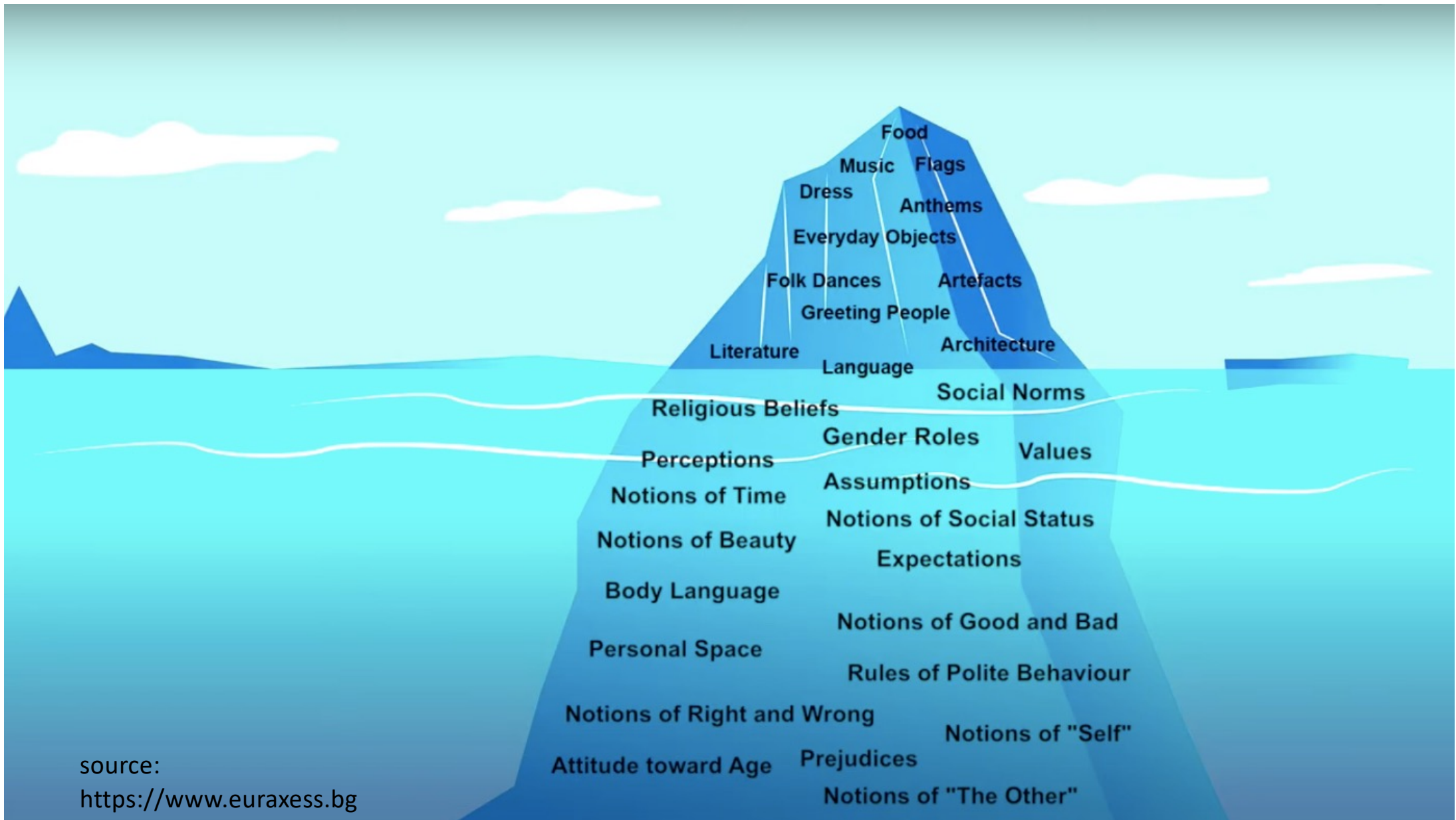
What is culture?





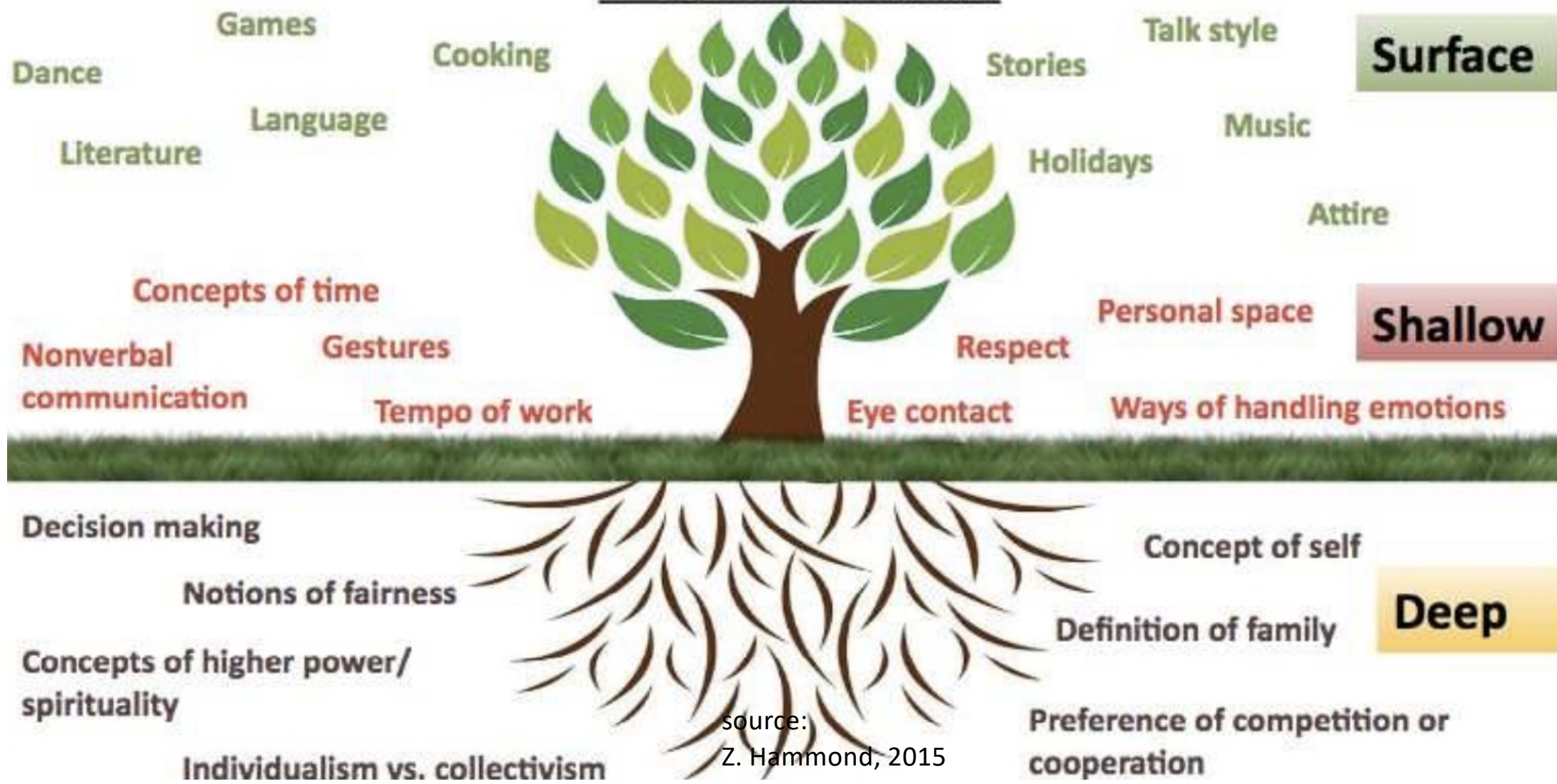
Levels of culture





source:
<https://www.euraxess.bg>

3 Levels of Culture



source:
Z. Hammond, 2015

Culturally responsive teaching (CRT)

“an educator’s ability to *recognize* students’ **cultural displays of learning and meaning making** and *respond positively and constructively* with teaching moves that use cultural knowledge as a *scaffold* to connect what the student knows to new concepts and content in order to promote effective **information processing**.

All the while the educator understands the importance of being in a *relationship* and having a social-emotional *connection* to the student in order to create a **safe space for learning.**”

(Z. Hammond, 2015, p.15)

Belief system quiz.

Which of the following common classroom occurrences are not cultural?

-
1. A student talking while the teacher is talking but affirming what the teacher is saying.

 2. A student is tapping on the desk while other students are working quietly.

 3. A student is bullying another student.

 4. A student calls the teacher a degrading name.

 5. Students in one collaborative group are talking with students in another collaborative group.

 6. A student is stealing.

 7. A student is assertively “talking back” to the teacher, trying to make a point.

Not culturally related

3. A student is bullying another student.

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Culturally related:

1. A student talking while the teacher is talking but affirming what the teacher is saying.

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5. Students in one collaborative group are talking with students in another collaborative group.

7. A student is assertively “talking back” to the teacher, trying to make a point.

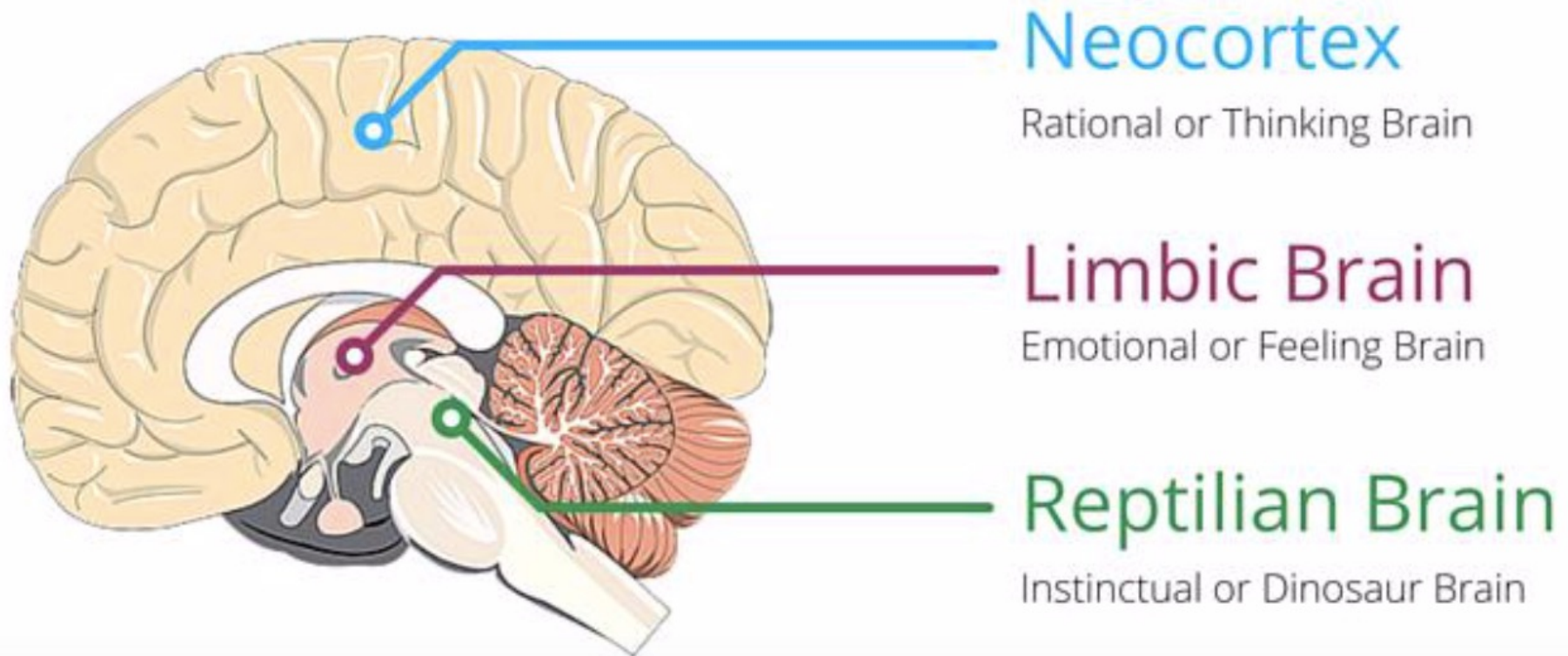
What's the
brain got to
do with
culture?

analogy: a computer

brain's *physical structure*
is the *hardware*

culture
is the *software* that programs it

The Brain



Brain's cellular structures

neurons

gray matter

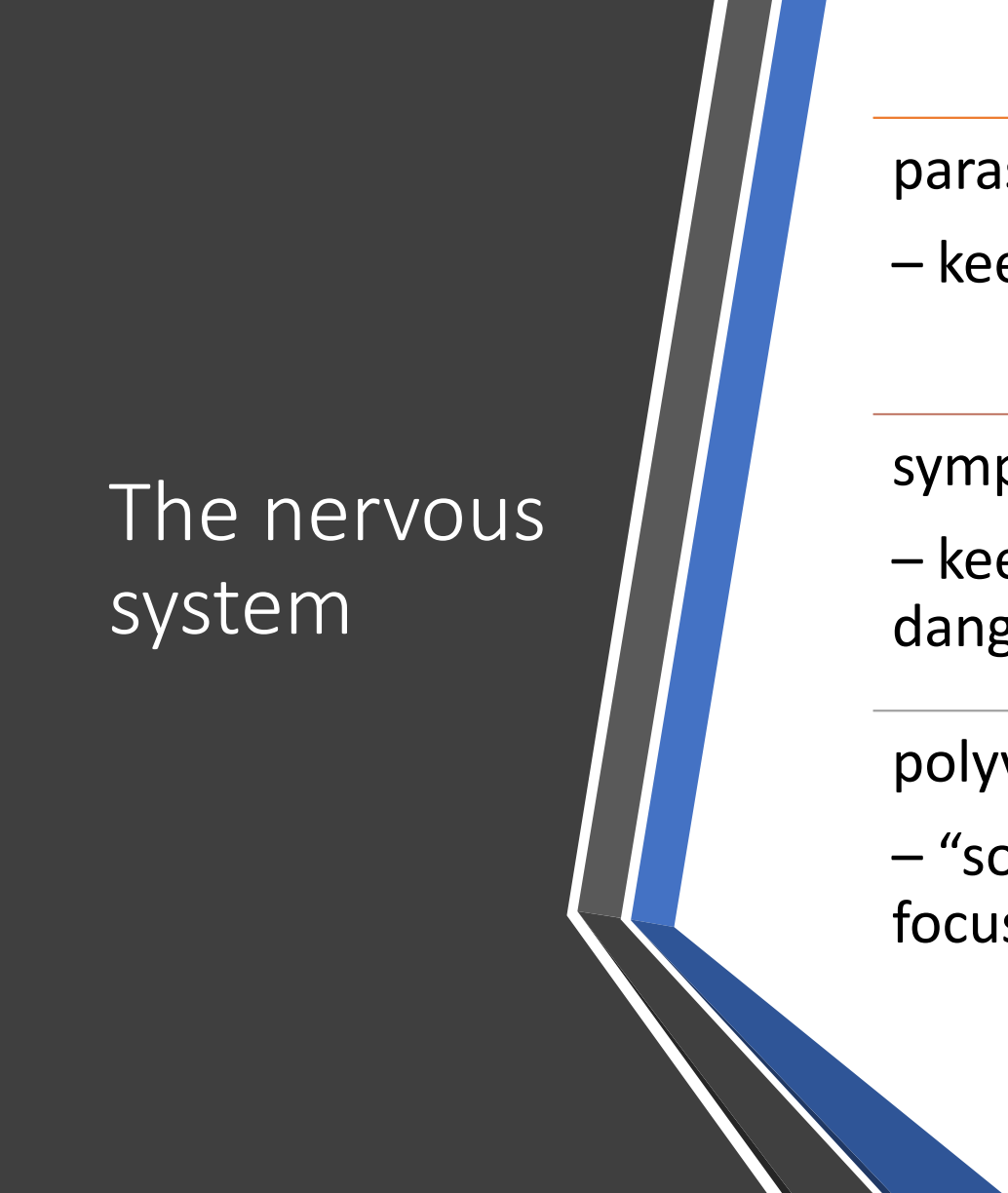
neuroplasticity

dendrites

axons

myelin

neural
pathways



The nervous system

parasympathetic nervous system

– keeps us relaxed and seeks our well-being

sympathetic nervous system

– keeps us alert and ready to react to avoid danger

polyvagal nervous system

– “social engagement system” and is focused on keeping us connected to others

Recap:

3 regions and
cellular
structures:

- intellectual capacity is grown

Nervous
system:

- individuals build physical foundation for relationships

The brain rules

1. The brain seeks to minimize social threats and maximize opportunities to connect with others in community.

2. Positive relationships keep our safety-threat detection system in check.

3. Culture guides how we process information.

The brain rules (continued)

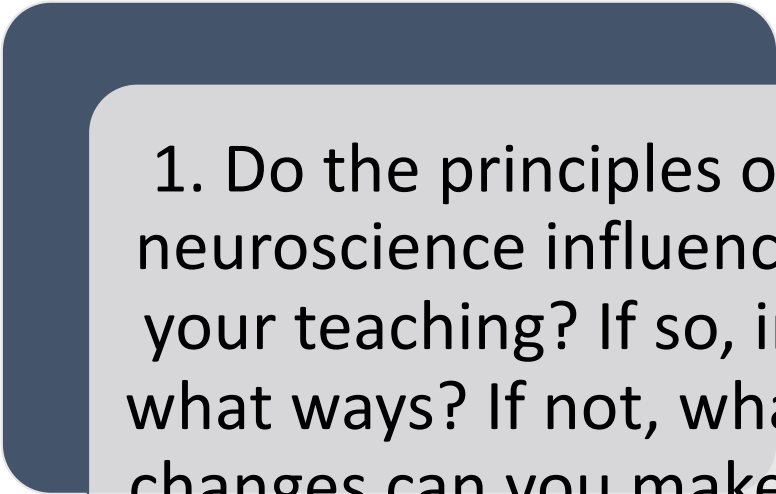
4. Attention drives learning.

5. All new information must be coupled with existing funds of knowledge in order to be learned.

6. The brain physically grows through challenge and stretch, expanding its ability to do more complex thinking and learning.



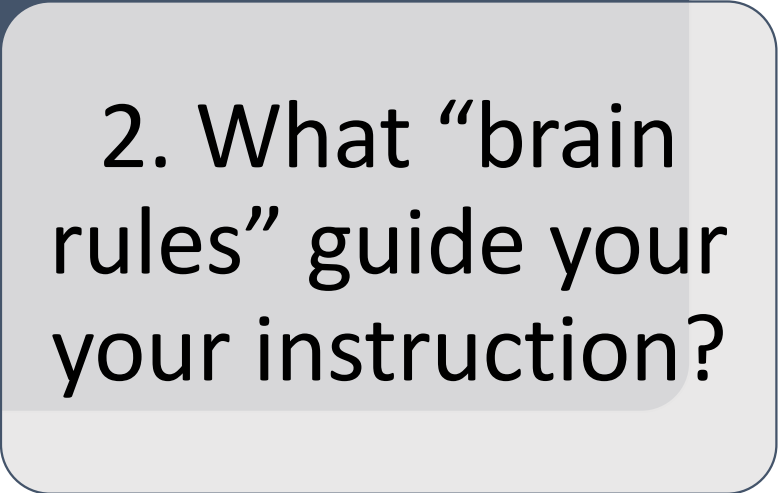
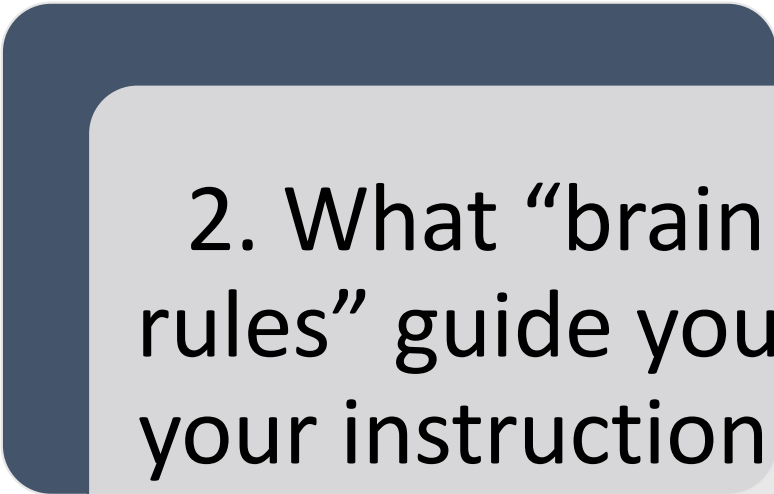
Reflection:



1. Do the principles of neuroscience influence your teaching? If so, in what ways? If not, what changes can you make?



Reflection:



2. What “brain rules” guide your your instruction?

What “brain rules” guide your instruction?

-
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READY FOR RIGOR A FRAMEWORK FOR CULTURALLY RESPONSIVE TEACHING

AWARENESS

- Know and own your cultural lens.
- Understand the three levels of culture.
- Recognize cultural archetypes of individualism and collectivism.
- Understand how the brain learns.
- Acknowledge the sociopolitical context around race and language.
- Recognize your brain's triggers around race and culture.
- Broaden your interpretation of culturally and linguistically diverse students' learning behaviors.

LEARNING PARTNERSHIPS

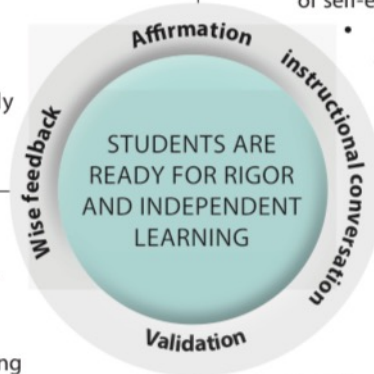
- Reimagine the student and teacher relationship as a partnership.
- Take responsibility to reduce students' social-emotional stress from stereotype threat and microaggressions.
- Balance giving students both care and push.
- Help students cultivate a positive mindset and sense of self-efficacy.
- Support each student to take greater ownership for his learning.
 - Give students language to talk about their learning moves.

INFORMATION PROCESSING

- Provide appropriate challenge in order to stimulate brain growth to increase intellectual capacity.
- Help students process new content using methods from oral traditions.
- Connect new content to culturally relevant examples and metaphors from students' community and everyday lives.
- Provide students authentic opportunities to process content.
- Teach students cognitive routines using the brain's natural learning systems.
- Use formative assessments and feedback to increase intellectual capacity.

COMMUNITY OF LEARNERS & LEARNING ENVIRONMENT

- Create an environment that is intellectually and socially safe for learning.
 - Make space for student voice and agency.
- Build classroom culture and learning around communal (sociocultural) talk and task structures.
- Use classroom rituals and routines to support a culture of learning.
- Use principles of restorative justice to manage conflicts and redirect negative behavior.





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feedback

Affirm

STUDENT
READY FO





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Conversation

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Reflection on becoming a culturally responsive practitioner

1. Who are your underserved students? What data do you have to support your claim? What approaches, interventions, programs are you using that may not be adequately meeting their needs?
 2. Where are you in your journey to responsiveness? your school?
 3. In what ways do you talk to, relate to, and teach your students that are validating and affirming?
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