




**BELIEFS,  
PEDAGOGY  
& EQUITABLE  
CLASSROOM  
DESIGN**



School design that  
promotes shared  
power, voice,  
choice, cognitive  
engagement, and  
rich literacies.

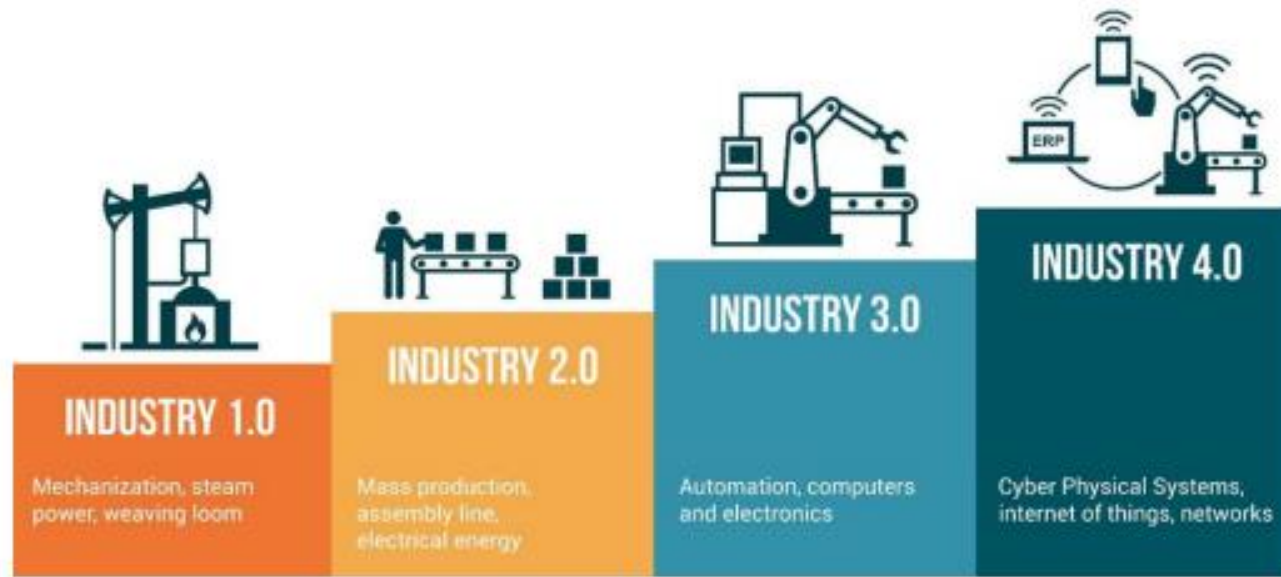
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Rochester, NY

A complex network diagram with nodes and lines on a dark background. The nodes are represented by small, colorful circles in various colors including blue, orange, purple, yellow, and black. The lines are thin, dark grey or black, and connect the nodes in a dense, interconnected web. The background is dark grey with a subtle grid pattern and some faint, larger-scale patterns. The overall aesthetic is technical and abstract.

*Not asserting truths or offering absolute answers but sharing the journey through an extraordinarily complex challenge.*



# BIG PICTURE



Source: McLellan (2018<sub>[4]</sub>).

# The 4th industrial revolution





The curriculum model matched the demands of static, linear, and standardized the labor market



The curriculum was still static, linear and standardized; and assessment through standardized testing was valued to ensure accountability. Education was not just about learning for jobs but for individual fulfillment too



Schools are no longer seen as closed entities but as part of the larger ecosystem. The curricula will have to be dynamic, flexible, and personalized to ensure that each student's unique talents are developed so that all students can realize their full potential.

# EVOLUTION OF THE CLASSROOM

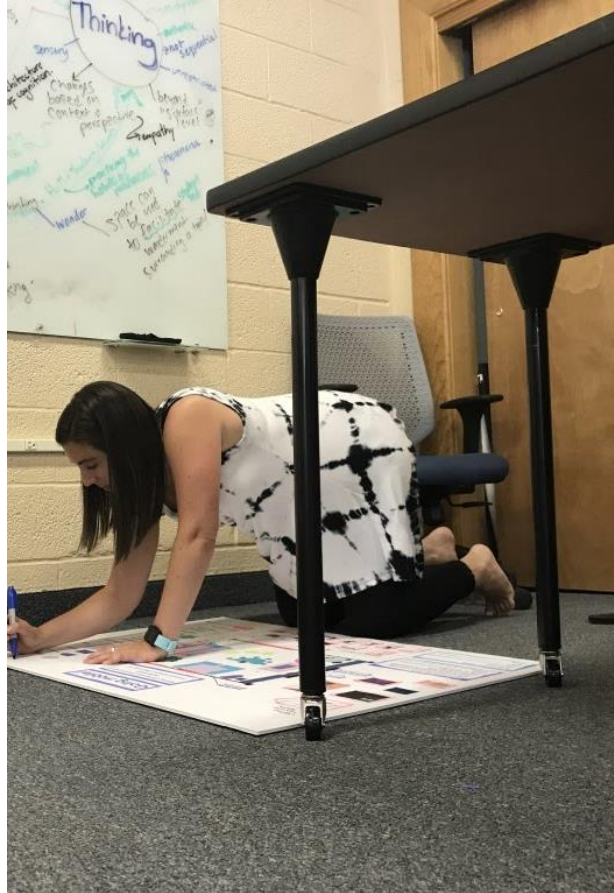
# OECD Future of Education & Skills 2030

- How can we prepare students for jobs that have not yet been created, to tackle societal challenges that we cannot yet imagine, and to use technologies that have not yet been invented?
- How can we equip them to thrive in an interconnected world where they need to understand and appreciate different perspectives and worldviews, **interact respectfully** with others, and take responsible action toward sustainability and **collective well-being**?

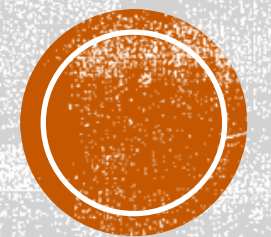


# PROJECT CARD

- **Role:** Teacher as designer
- **Issue:** Knowledge and competencies for success in today's world are vastly different than those of the 20th century. Research continues to solidify the argument that students learn better when:
  1. The setting supports the learner build a relationship with school, its people, and the environment
  2. Feel a sense of belonging
    - a. Parents, teachers, school identify and appreciate children's brilliance and their special gift and help them realize and develop their own brilliance and gifts
    - a. The content connects to who the learners are and what they care about
- **Challenge:** How is space supporting teachers and the learners' capacity to build a relationship with school, its people and the environment, feel a sense of belonging where parents, teachers, school identify and appreciate the learners' brilliance and special gifts (students as assets) and help them realize and develop their own brilliance and gifts; and support and develop curriculum that connects to who the learners (enactment of the curriculum) are and what they care about (culturally responsive education). In essence *learner-centered* environments. Schools are investing in renovating spaces and purchasing furniture that support new pedagogical practices. How are the spaces, equipment, furniture impacting student learning and development? What spaces and furniture support learning of a curriculum that is student centered? How can we support the design and selection of high-quality, student centered spaces for learning and furniture that compensates for the limitations of spaces designed for a teacher centered environment of the 1950's?
- **Action Taken:** Through a modality of learning called Project Based Learning (PBL) engage teachers in the analysis and design of classroom environments that support human learning and development. Over the course of three days, teachers engage with one another in solving complex questions about the latest research on student engagement, space, cognition, and teaching. They demonstrate their new understandings through the presentation of their design projects.
- **Beneficiary:** Student learning and development, teacher practice.



# TEACHERS AS DESIGNERS





Katie Fallon  
Fourth Grade  
F.R.E.S.

This classroom is designed to be a student-centered learning space that will meet demands of our 21<sup>st</sup> Century learners. There are various seating options for all sizes of student learning and group learning. With the design, I considered the various needs of students of different abilities identified in the report for Longport, the Longport Schools for Student-Centered Learning.

- safety and flexibility
- color
- noise
- materials/tables
- lighting
- acoustics
- organized

# Student Centered Learning Space

1 campfire  
6 watering holes  
24 caves

The high table allows for clear views into the courtyard - Small group and quiet work space.

These stools provide back support and adjust!

Small group learning spots

Storage functional space divider



The kidney table is for guided reading groups, small group projects and serve as the teacher's desk. The adjustable chairs swivel (a class favorite!) and allow for movement.

The cubby benches are versatile - seating around the "campfire" and storage for student supplies and folders.

These are lightweight and easily movable - great for reading and small group work.

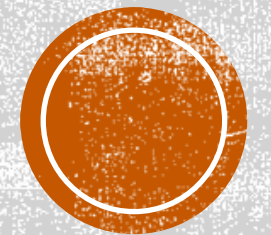
These are lightweight and easily movable - great for reading and small group work.

The bookcases are such needed storage and will fit under the chalk ledge!



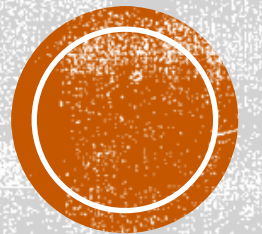


# GALLERY WALKS & FEEDBACK



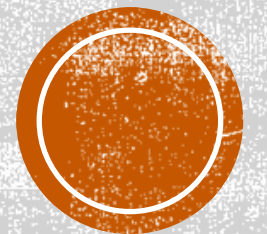


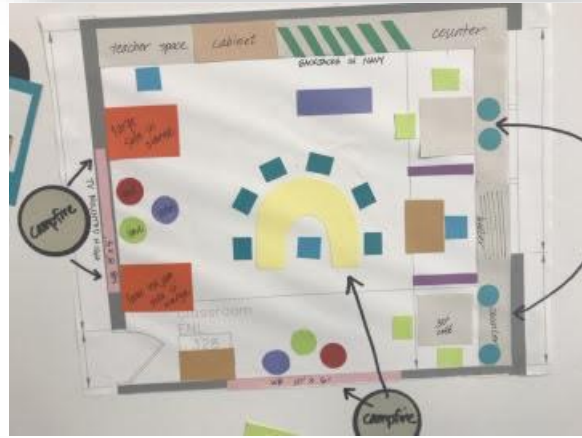
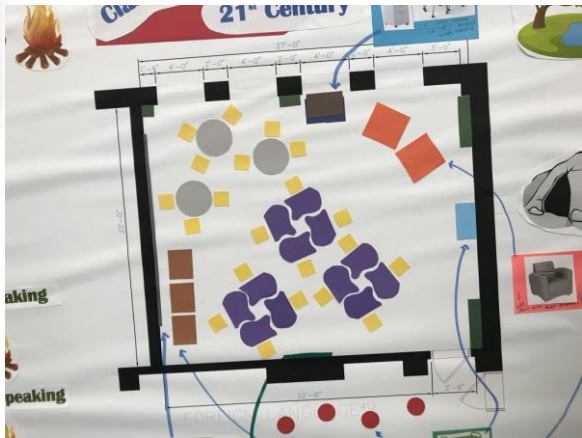
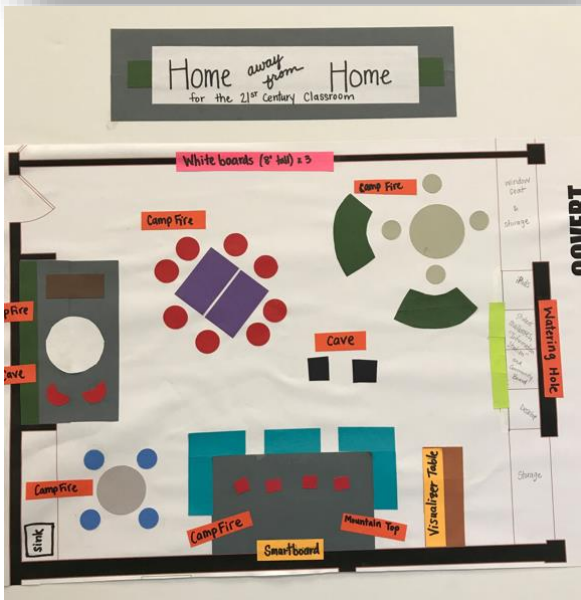
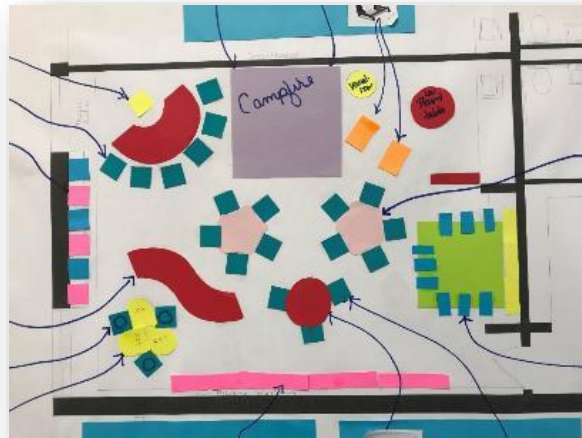
# TEACHER PRESENTATIONS





# RESPONSE TO FEEDBACK





# CLASSROOMS







6-8







# EQUITY IN EDUCATION

Definition by  National Equity Project

**Educational equity means that each child receives what they need to develop to their full academic and social potential.**

- Working towards equity in schools involves:
- Ensuring equally high outcomes for all participants in our educational system; removing the predictability of success or failures that currently correlates with any social or cultural factor;
- Interrupting inequitable practices, examining biases, creating inclusive multicultural school environments for adults and children; and
- Discovering and cultivating every human's unique gifts, talents, and interests.

## TO ACHIEVE EQUITY IN EDUCATION

**We must develop  
leaders who can...**

Transform our institutions by  
eliminating inequitable practices  
and cultivate the unique gifts,  
talents, and interests of every  
child...

So that success and failure are  
no longer predictable by student  
identity - racial, cultural,  
economic, or any other social  
factor.

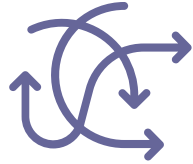
# ELEMENTS OF EQUITABLE CLASSROOM DESIGN



1

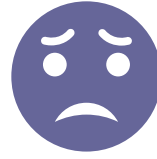
Space is welcoming (belonging) and designed to nurture positive social interaction.

(the challenge is ensuring the learner stays engaged through the learning process)



2

The space offers the conditions and functionality to change and adapt to learning as a non-linear process.



3

The space considers affective as well as **cognitive aspects** of learning. Empower the students to self-regulate as they engage in learning. Learning happens at point of challenge.



4

The classroom can support the fluidity and flexibility of information processing; from input, to elaboration, to transfer of new understanding into different contexts.



5

The space meet the ergonomics of the students and facilitates self and group expressions and demonstration of understanding (thinking walls and presentation areas)

**What are your beliefs about learning?**

**What do you think you know about how people learn?**

**What conditions are necessary for people to learn?**





## **BELIEFS**

**What are your beliefs about learning?**

## **PRACTICES**

**What do you think you know about how people learn?**

## **SETTINGS**

**What are the physical conditions necessary for people to engage in the learning process?**

**COHERENCE**



# BELIEFS

Teachers explore and continually examine the influence of culture, race, power, and privilege and how that influence manifests itself in their personal and professional DECISIONS. From Cultural Competence Now by Vernita Mayfield



# BELIEFS

## *ATTITUDES AND VALUES MEDIATE LEARNING*

**STUDENTS AS ASSETS** appreciate children's brilliance, UNIQUENESS, special gifts and recognize how culture serves as a PATTERN FOR INTERPRETING REALITY that may hinder our capacity to recognize the gifts and talents in people that are different from us.

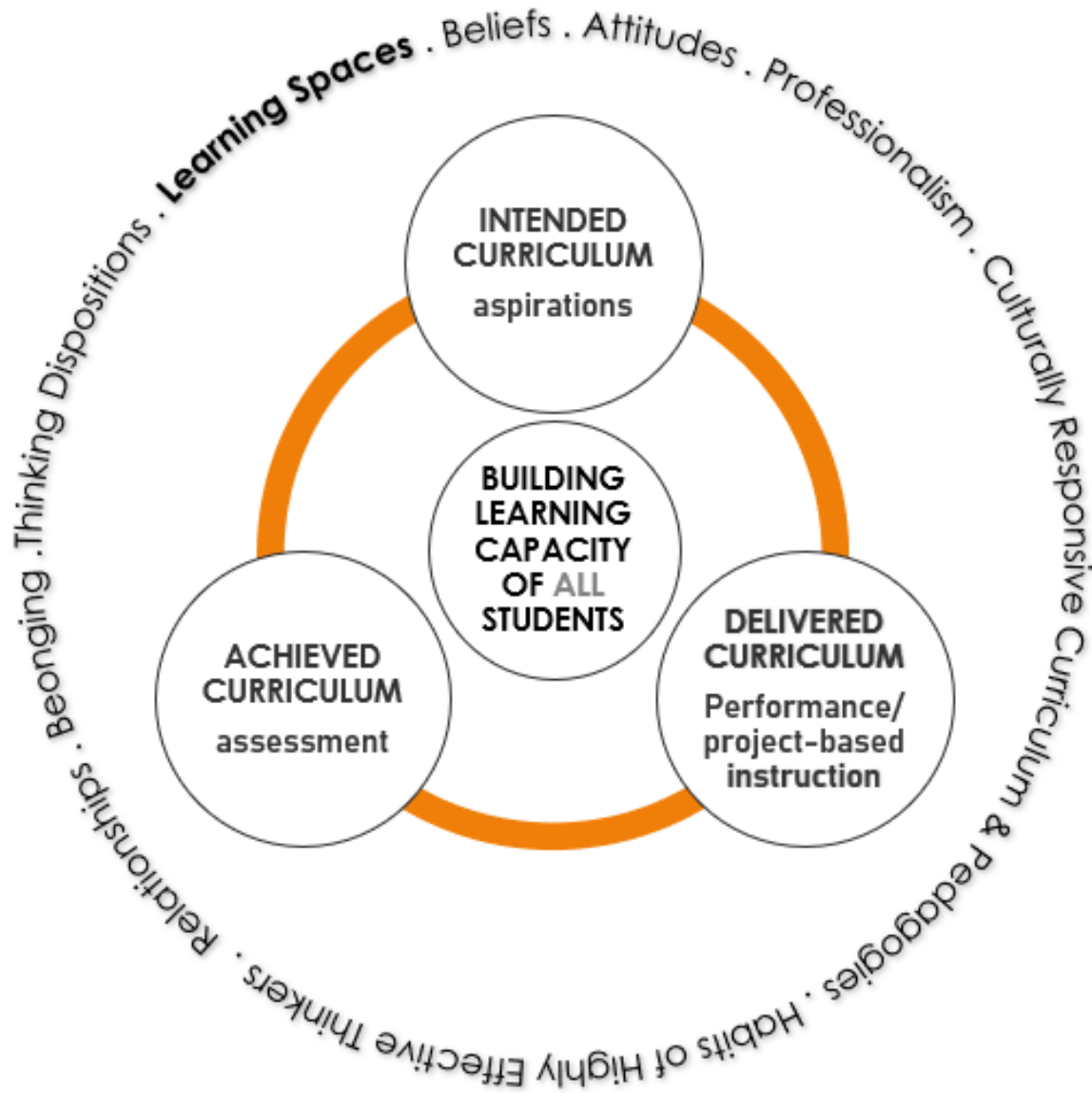
**BELONGING THROUGH A CULTURE OF DIGNITY** recognizes the basic dignity and worth of each individual and believes people should be able to exercise some control over their environment.

**LEARNING IS A PROCESS** entails more than just response to environmental stimuli and requires the learner to engage in rational thought and active participation in the learning process

**LEARNING IS SOCIAL AND EMOTIONAL** recognizes that meaning making happens with and through others and recognizes the need to meet both cognitive and affective aspect of the human condition



# THE CONTENT

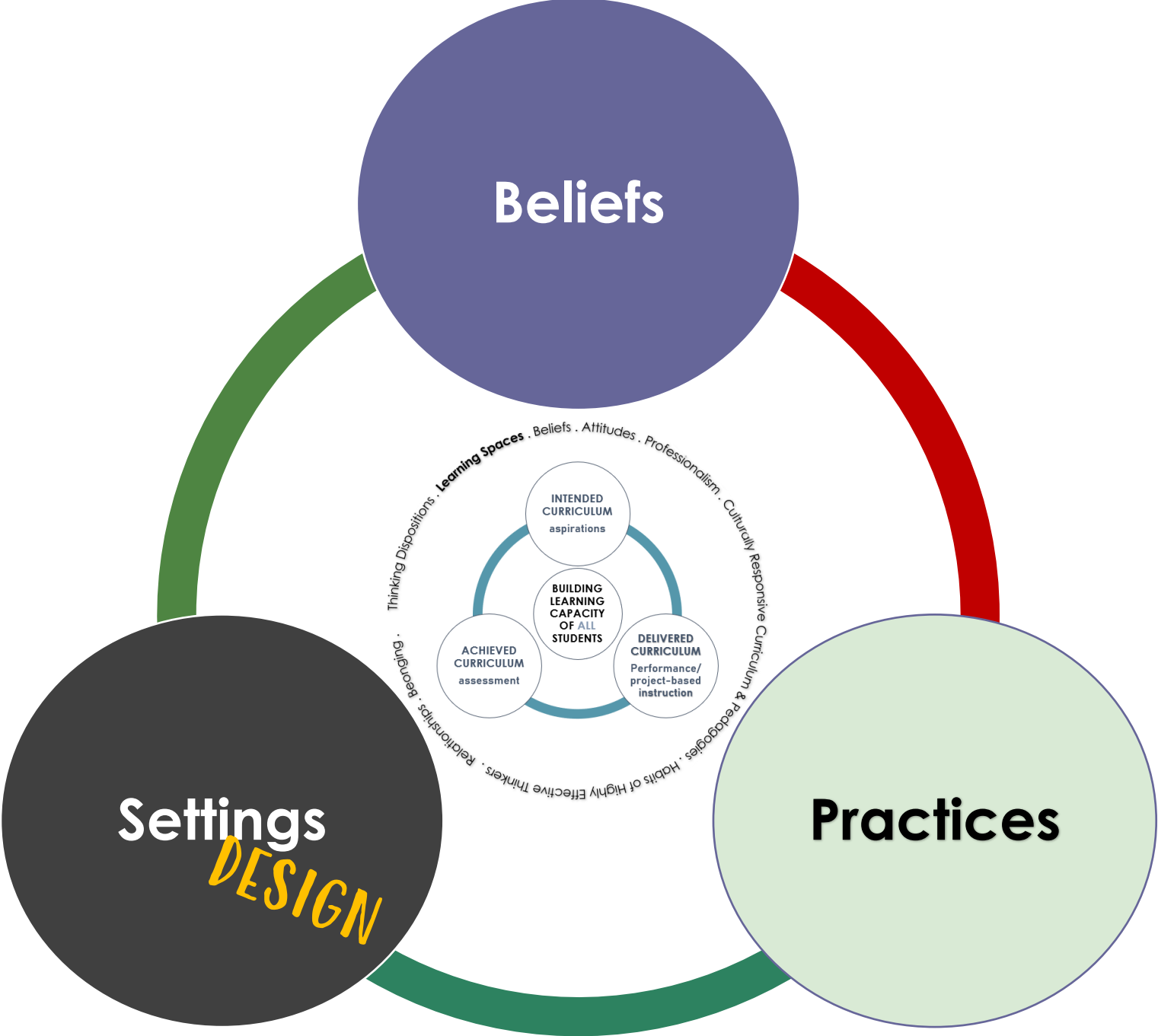


- The content connects to who the learners are and what they care about
- Preparing for interdependence; education for citizenship
- Balanced scope (breadth and depth)
- Non-linear, dynamic, flexible curricula; focus on more personalized learning (OECD)

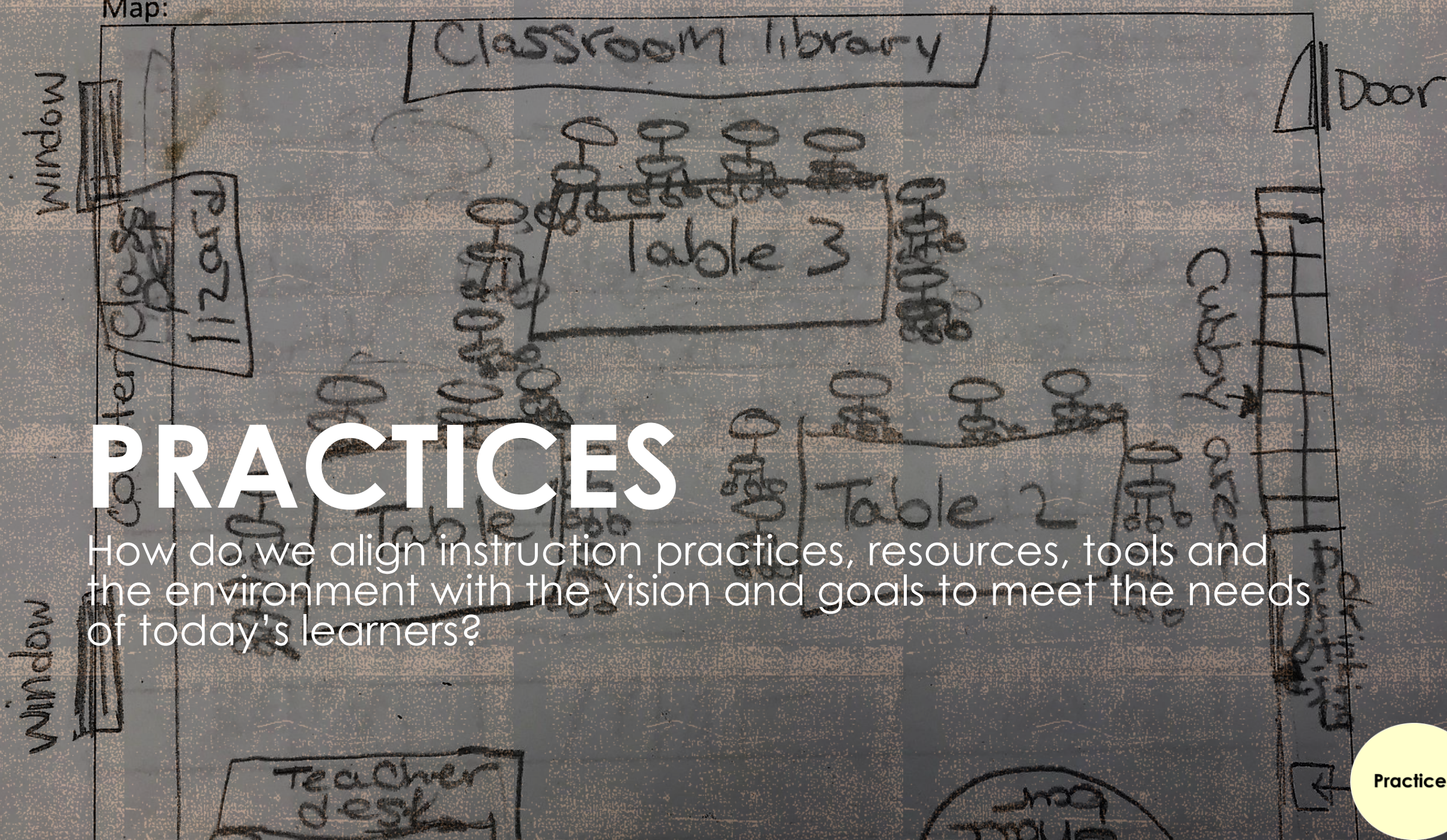


## How are these skills embodied and supported by the spaces we inhabit?

- What are the skills required of today's student and teachers?
  - Deep understanding and skill in the traditional academic disciplines – 3Rs
  - International Understanding
  - Innovation and creativity
  - Abstract thinking and problem solving
  - Interpersonal skills
  - Knowing how to learn
  - EMPATHY
  - THINKING DISPOSITIONS
  - Habits of Mind
  - Learning as a process



Map:



# PRACTICES

How do we align instruction practices, resources, tools and the environment with the vision and goals to meet the needs of today's learners?



Practices

# PRACTICES

- Learning is an active process of input, elaboration and transfer
  - The crucial action of constructing meaning is mental: it happens in the mind. Physical actions, hands-on experience may be necessary for learning, especially for children, but it is not sufficient; we need to provide activities which engage the mind as well as the hands.
- Learning is a consequence of thinking and thinking is invisible.
- New learning is built in prior knowledge. It acknowledges the learner's experiences and backgrounds. It honors and reveals the learners' schemas, values and models of their world.
- Learning involves language: the language we use influences learning.
- Learning is a social activity.
- Learning is contextual.
- One needs knowledge to learn. It is not possible to assimilate new knowledge without having some structure developed from previous knowledge to build on.
- It takes time to learn learning is not instantaneous.
- Motivation is a key component in learning. Not only is it the case that motivation helps learning, but it is also essential for learning.



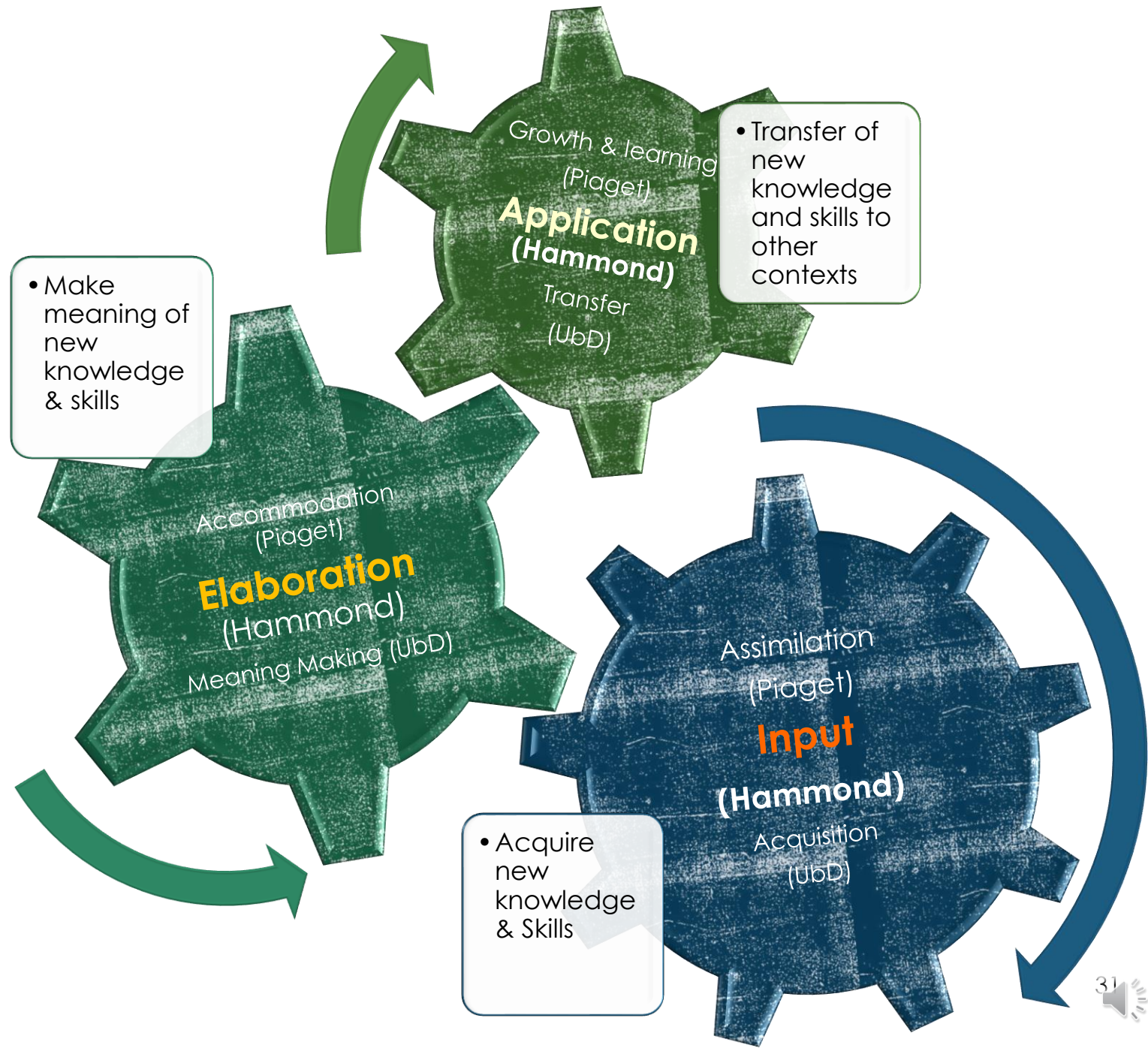


We download what we know through conversation.

We organize the new content, connect it to what we know in our brain and through conversation we start to make meaning of the new content, we distribute it to make sense of it.

# Intersectionality of Learning Theories & Models

Piaget- Accommodation Assimilation Model  
Hammond- Information Processing  
Jay McTighe & Grant Wiggins- UbD



# Learning is a Guided, Unguided & Infinite Iterative Process





# STUDENT AGENCY

Education Reimagined



Practices



# SETTINGS

How can space, the classroom cell, support the learning process, the enactment of curricula that is dynamic, flexible, and personalized to ensure that each student's unique talents are developed so ALL can realize their full potential?

# SETTINGS

[https://rosanbosch.com/en/node/51/goto/Views-exposed-form-project-project-main/0/260?field\\_category\\_tid=7](https://rosanbosch.com/en/node/51/goto/Views-exposed-form-project-project-main/0/260?field_category_tid=7)

We are natural born creative thinkers. Learning environments need to change from mind-numbing classroom boxes to playful and inspiring spaces that support the diversity of learners and a multitude of learning scenarios.

From David Thornburg to Rosan Bosch



We are natural born  
creative thinkers.  
Learning environments  
need to change from  
mind-numbing classroom boxes  
to playful and inspiring spaces  
that support the diversity of learners  
and a multitude  
of learning scenarios.



# The Program



## Learning is an active process of input, elaboration, and transfer

### ▪ **MOUNTAINTOP:**

Transfer and demonstration of knowledge

New learning is built in prior knowledge. It acknowledges the learner's experiences and backgrounds. It honors and reveals the learners' schemas, values and models of their world

### ▪ **CAVE:**

One needs knowledge to learn. It is not possible to assimilate new knowledge without having some structure developed from previous knowledge to build on.

It takes time to learn learning is not instantaneous.

### ▪ **CAMPFIRE:**

Learning is a social activity.

Learning involves language: the language we use influences learning.

### ▪ **CAVE AND CAMPFIRES**

Learning is a consequence of thinking and thinking is invisible.

New learning is built in prior knowledge. It acknowledges the learner's experiences and backgrounds. It honors and reveals the learners' schemas, values and models of their world.

### ▪ **WATERING HOLE:**

Transitional spaces where informal learning and interactions happen. Is flexible and adapts to the needs and interests of individual students, allowing them to pursue their passions and interests. Spaces where resources can be found to meet group or individual goals.

### ▪ **HANDS ON:**

The crucial action of constructing meaning is mental: it happens in the mind. Physical actions, hands-on experience may be necessary for learning, especially for children, but it is not sufficient; we need to provide activities which engage the mind as well as the hands.

### ▪ **MOVEMENT**

Teacher creates the conditions and opportunities for the learners to have choice and voice over the spaces they need. This type of learning is rooted in the development of students thinking dispositions, habits of mind, to reflect on the best choices and where and how they learn best. It is a progression of release of control achieved through the development of STUDENT AGENCY



Mountain Top



Cave



Campfire



Watering Hole



Hands-on

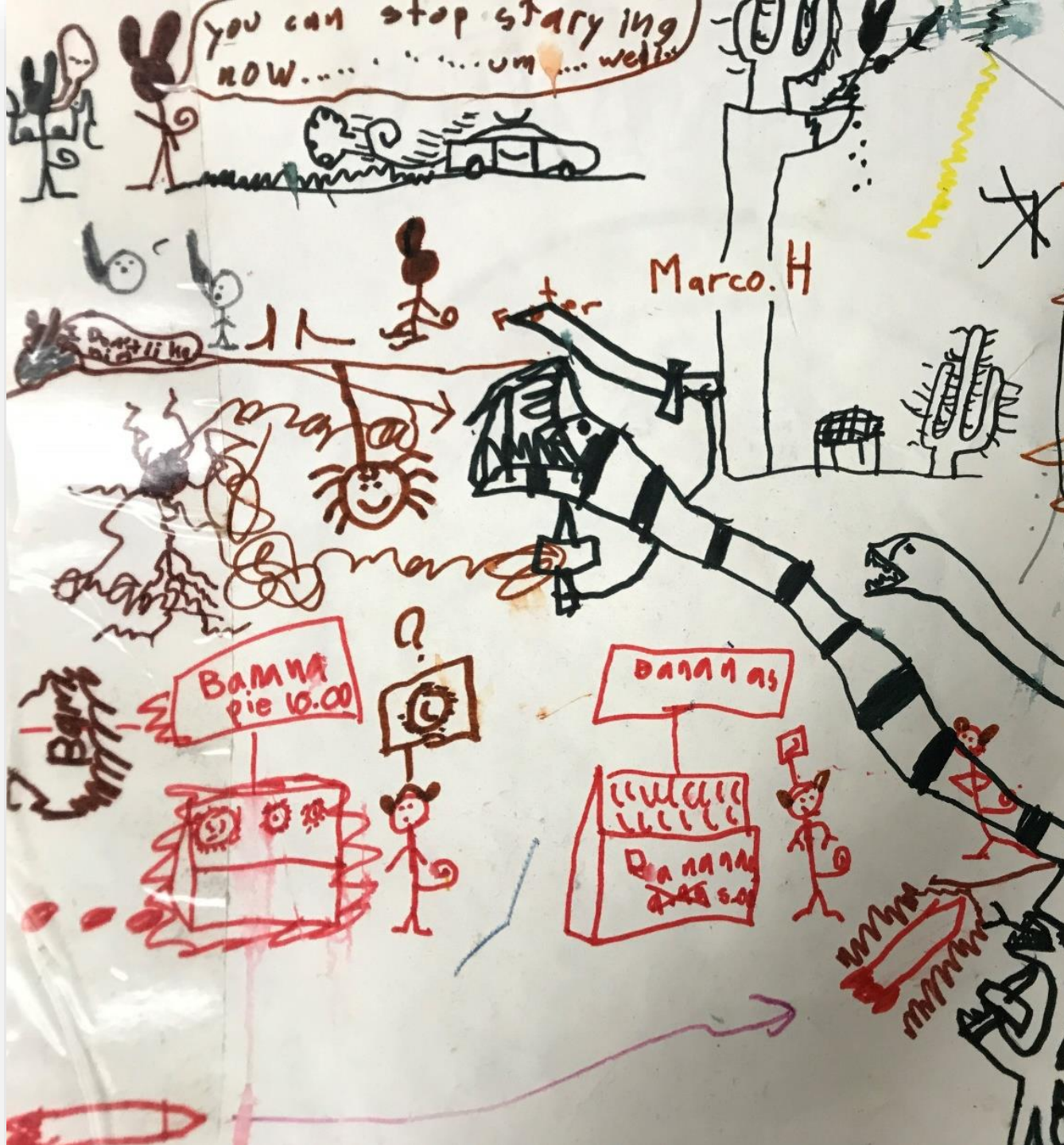
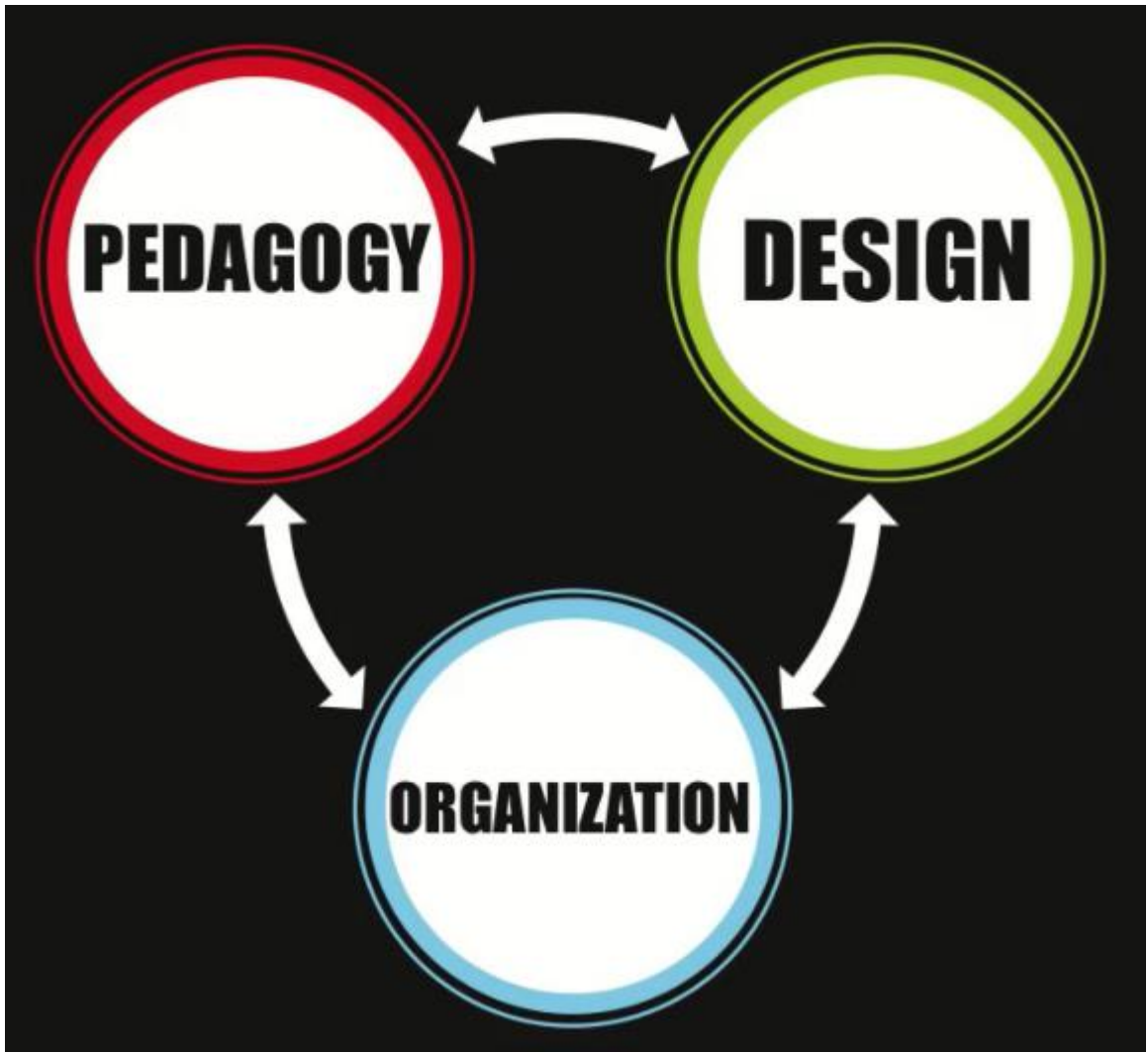


Movement



# Learning is a process.

Information Processing & the Brain







## MOUNTAINTOP

Transfer and demonstration of knowledge

New learning is built in prior knowledge. It acknowledges the learner's experiences and backgrounds. It honors and reveals the learners' schemas, values and models of their world.

Student thinking and understanding can be visible as in projects, presentations, etc.

Projectors, writing walls, mobile surfaces.





## CAVE

Learning is a consequence.

The cave supports the specific functions of the brain activity such as storing, recall; use of information, as in mental processes such as pattern recognition and categorization, etc.

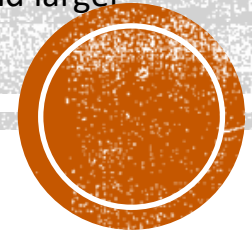
Is a space for individual processing.

Is a space where the learner connects new learning to prior knowledge.

It is opportunity to recall and connect, acknowledges the learner's experiences and backgrounds.

It honors and reveals the learners' schemas, values and models of their world to themselves.

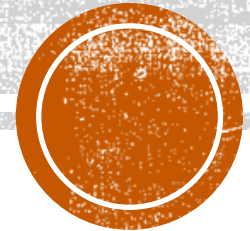
It readies the individual to engage with their mediate and larger context.

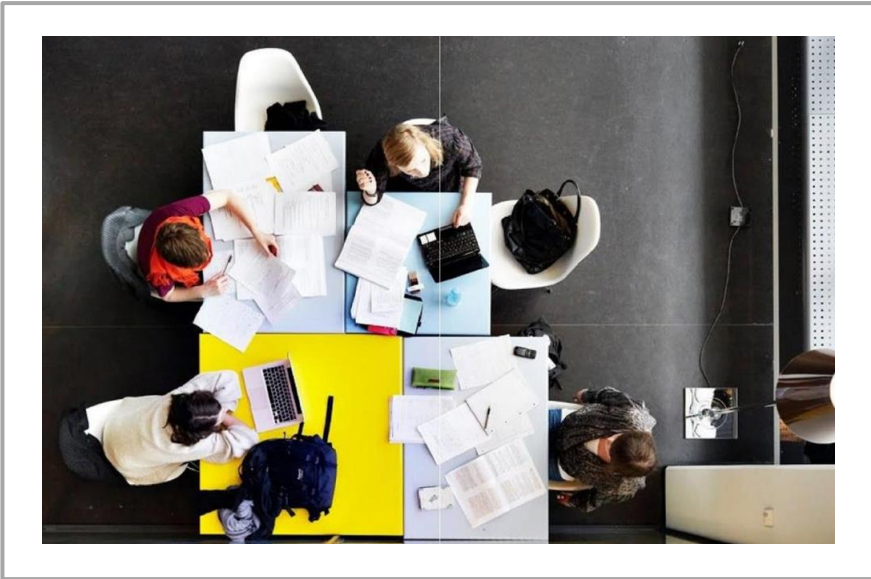




## WATERINGHOLE

Spaces for informal exchange and processing of new information. Also, spaces for building connection and developing relationships. Spaces for negotiation and the development of interconnectedness, and construction of knowledge.





## CAMPFIRE

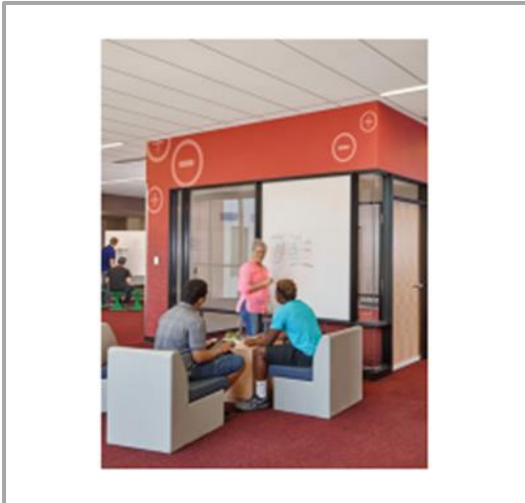
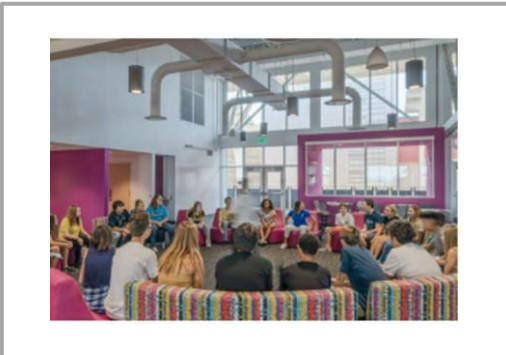
Campfire supports learning in its social context. Learning is situated in a specific social and cultural context. What is learned is shaped by the particular environment in which the learning occurs.

Learning is not an individual process, but a social one.

According to this theory, people learn from each other through social interaction, observation, and modeling.

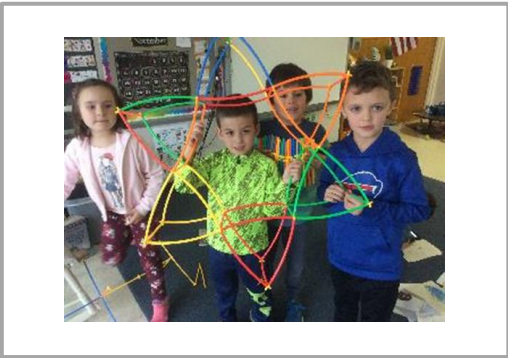
Learning is a social activity.

Learning involves language: the language we use influences learning.





**HANDS ON**  
Spaces that support learning as the process whereby knowledge is created through the transformation of experience. Students engage in activities that help them apply concepts and skills in real-world settings





Mountain Top



Cave



Campfire



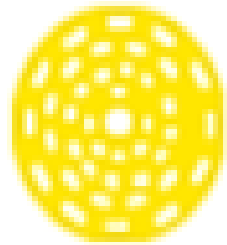
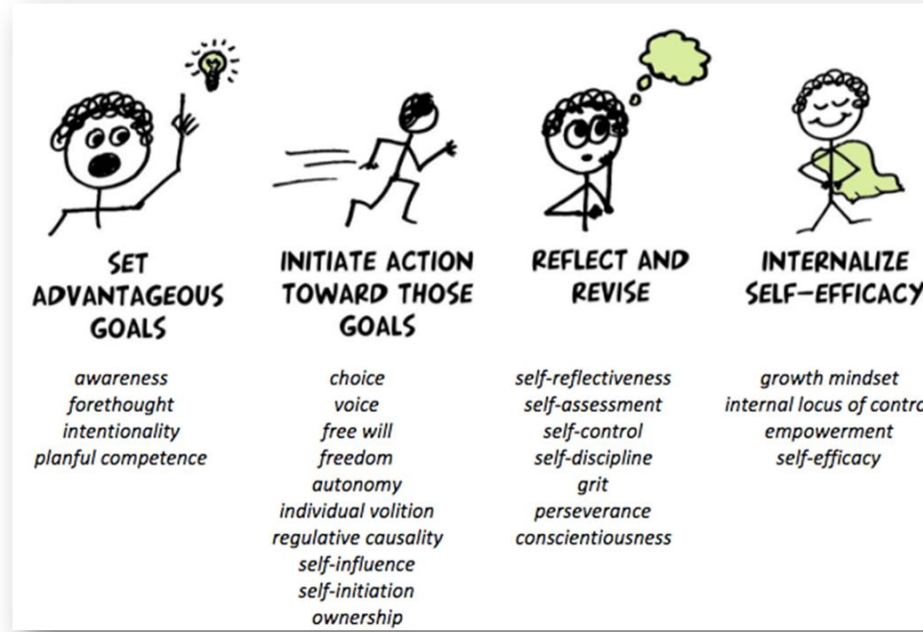
Watering Hole



Hands-on

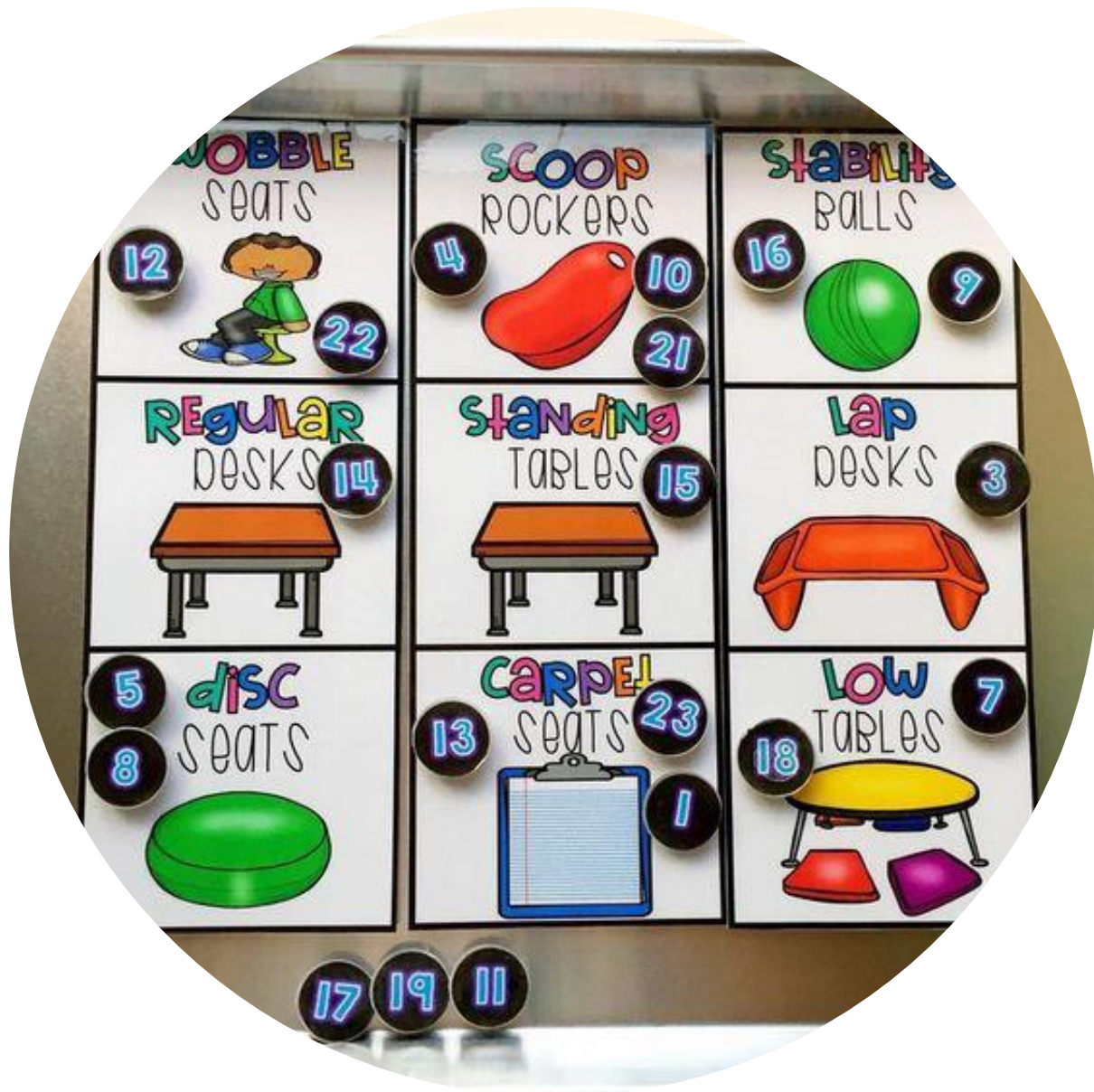


Movement



## MOVEMENT

Teacher create the conditions and opportunities for the learners to have choice and voice over the spaces they need. This type of learning is rooted in the development of students thinking dispositions, habits of mind, to reflect on the best choices and where and how they learn best. It is a progression of release of control achieved through the development of STUDENT AGENCY




# Classroom Operations

- How do you manage the daily routine?
- Where do students keep their supplies?
- How do you communicate messages to kids throughout the day?
- Flexible Seating Contract...

## Flexible Seating Contract

I, \_\_\_\_\_ promise to use all of the flexible seating workspaces appropriately. I will choose a seat that will allow me to do my best work. I will take care of the community supplies and respect the other students around me. If I do not follow these rules, I understand that my teacher will move me to a spot that will better meet my needs.

Name \_\_\_\_\_ Date \_\_\_\_\_




- THINKING DISPOSITIONS
  - SELF MANAGEMENT
  - METACOGNITION
  - MANAGING IMPULSIVITY
  - PERSISTANCE
  - WORKING INTERDEPENDENTLT

## Flexible Seating RULES

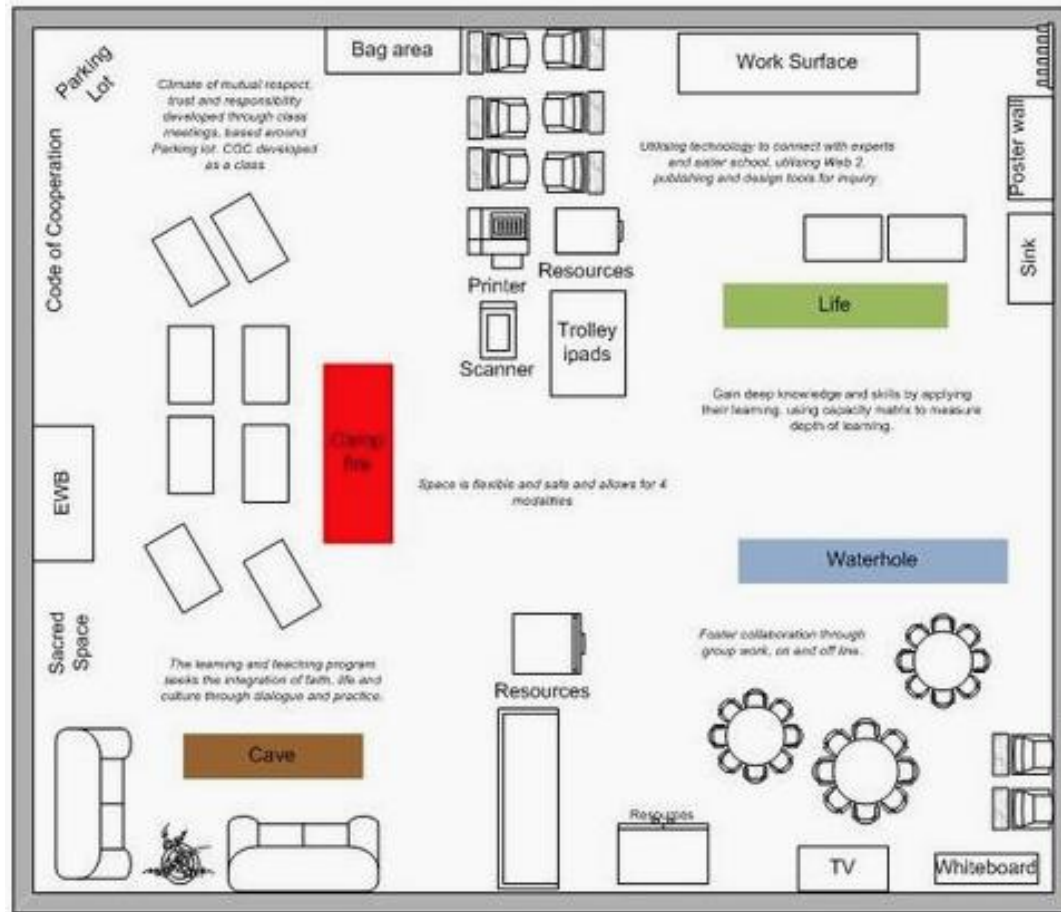
1. Choose a **WORKING** spot that helps you do your **BEST!** → **SMART SEAT**
2. Use each seat the **RIGHT WAY!**
3. If a spot is **NOT WORKING** for you, **MOVE** so you can do your **BEST!**
4. Take care of our classroom supplies! **CLEAN UP** after yourself & others

\* Ms. Olejarski can move **ANYONE** at **ANYTIME** if they don't follow the rules!



# SELF MANAGEMENT

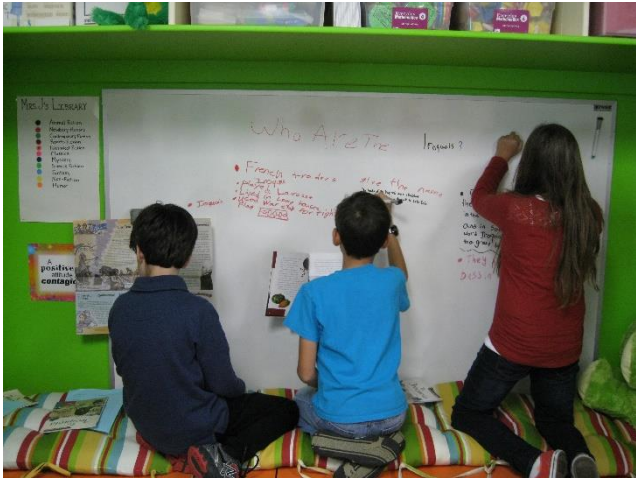




# What are Campfires, Watering Holes and Caves?



# What's in 'our' space?



# Nature of Cognition

We need to recognize three precepts to properly explore the nature of cognition and its role in built environmental experience.



## First:

What our minds think is largely shaped and profoundly influenced by the human body.



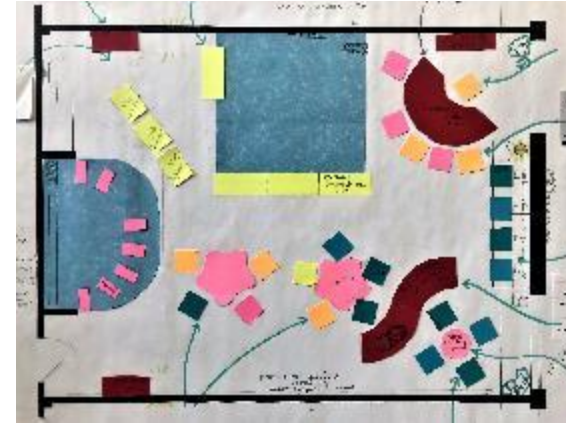
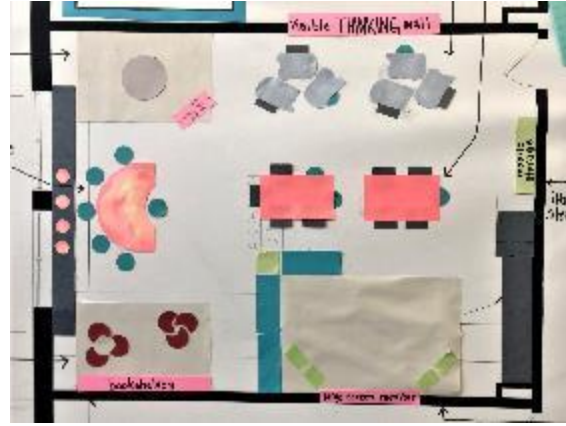
## Second:

Much of our internal cognitive life takes place outside language and below the level of our conscious awareness.

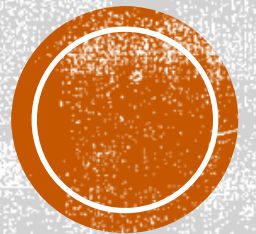


## Third:

These factors transform our understanding of how humans live in the world by making us less the sovereign agents over our experiences that we often believe ourselves to be. We are thoroughly environmentally embedded beings.



**PATTERNS EMERGED**



# FRES Learner Centered Environments

**Zone 4**  
 Cave Concept  
 Individual work  
 Literacy/research nook  
 Cognitive engagement/reflection

**Zone 5**  
 Maker Concept  
 Hygiene zone  
 Art and messy projects

**Zone 6**  
 Mountaintop/Cave Concept  
 Whole group instruction or Individualization area



**Zone 3**  
 Campfire + Mountain Top  
 Large group + small group  
 4-5 student tables  
 Thinking becomes visible in this area with gallery walks  
 Dynamic & stimulating

**Zone 2**  
 Student Teamwork, the campfire  
 High café table or low small group table

**Zone 1**  
 Teacher led + individualization

**INPUT**

- Lecture
- Reading
- Watching videos
- Listening to podcasts
- Small group discussion
- Research
- Curiosity & discovery

**ELABORATION**

- Learners build knowledge as they converse and engage with others
- Personalized and self-paced learning
- Collaborative learning
- Informal learning
- Feedback galleries
- Documenting thinking
- Whole group discussion
- Small group discussion

**TRANSFER**

Demonstrate competency through multiple modes of performance based tasks presentations, demonstrations, performances.

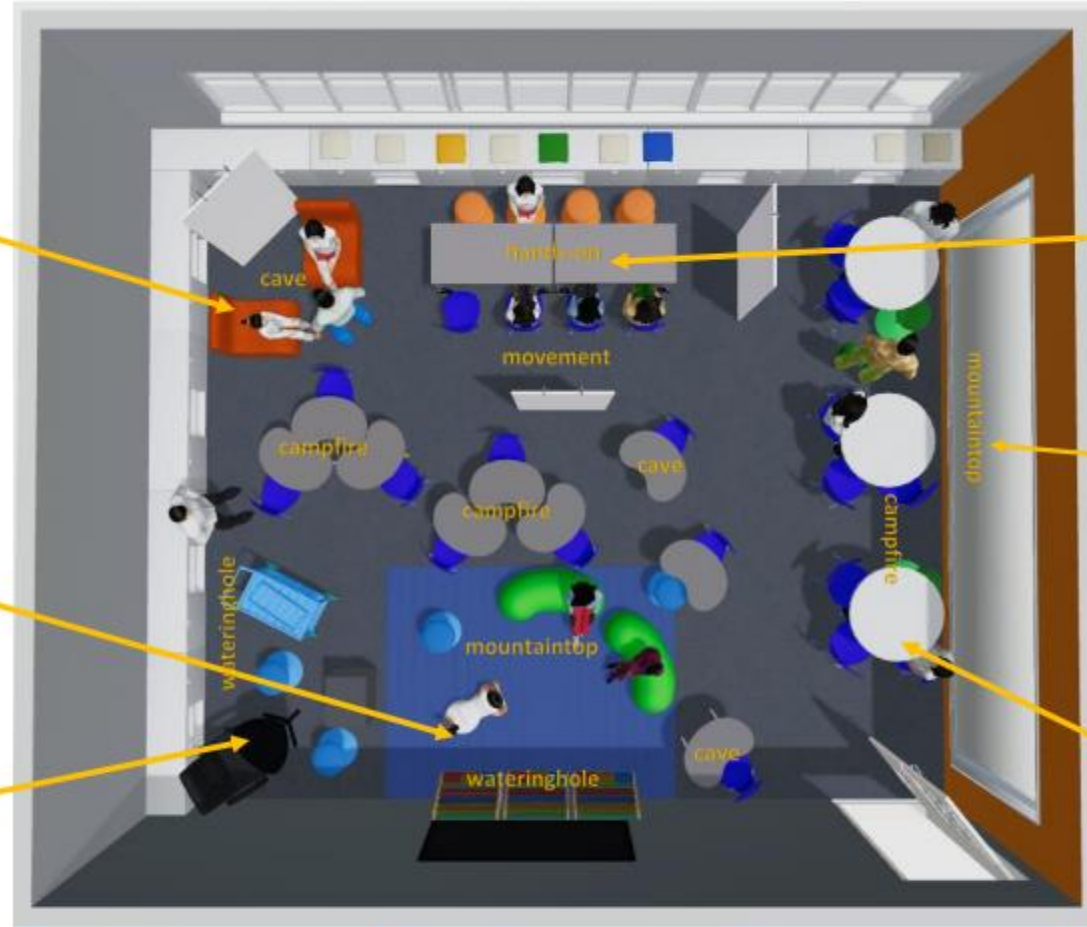
Close the learning cycle. From inert content to usable and transferable knowledge.

# TCMS Learner Centered Environments

**Zone 3**  
 Cave Concept  
 Individual work  
 Literacy/research nook  
 Cognitive engagement/reflection

**Zone 2**  
 Mountaintop or Cave Concept  
 within the flexible use of the  
 space  
 Whole group instruction or  
 Individualization area (cave)  
 with comfortable seating on the  
 floor or stools

**Zone 1**  
 Teacher led + individualization



**Zone 4**  
 Maker Concept  
 Art and messy projects with  
 larger surface areas to display  
 materials  
 Resources are available to  
 students in carts, cubbies or  
 maker container with supplies

**Zone 5**  
 Campfire + Mountain Top  
 Large group + small group  
 3-4 student tables  
 Thinking becomes visible in this  
 area with gallery walks  
 Dynamic & stimulating

**Zone 6**  
 Student Teamwork, the campfire  
 High café table or low small  
 group table

INPUT	ELABORATION	TRANSFER
<ul style="list-style-type: none"> <li>Lecture</li> <li>Reading</li> <li>Watching videos</li> <li>Listening to podcasts</li> <li>Small group discussion</li> <li>Research</li> <li>Curiosity &amp; discovery</li> </ul>	<ul style="list-style-type: none"> <li>Learners build knowledge as they converse and engage with others</li> <li>Personalized and self-paced learning</li> <li>Collaborative learning</li> <li>Informal learning</li> <li>Feedback galleries</li> <li>Documenting thinking</li> <li>Whole group discussion</li> <li>Small group discussion</li> </ul>	<p>Demonstrate competency through multiple modes of performance-based tasks presentations, demonstrations, performances.</p> <p>Close the learning cycle. From inert content to usable and transferable knowledge.</p>

# APPRECIATION

- *Appreciations are expressed for...*
  - Something that someone said that helped clarify what you'd been struggling with
  - Someone gave you a new way of thinking about something
  - Someone recognized and affirmed your presence in the room
  - Someone suggested a new practice for you
  - Someone helped you think more critically about your assumptions

# RESOURCES

- <https://www.cultures-of-thinking.org/>
- Cultural Competence Now: 56 Exercises to Help Educators Understand and Challenge Bias, Racism, and Privilege
- <https://pz.harvard.edu/>
- Culturally Responsive Teaching and The Brain: Promoting Authentic Engagement and Rigor Among Culturally and Linguistically Diverse Students
- <https://rosanbosch.com/en>