

Teaching, Learning, Pedagogy and the Future

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Applying learning theories to STS

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"I expect you all to be independent, innovative, critical thinkers who will do exactly as I say!"

Objectives

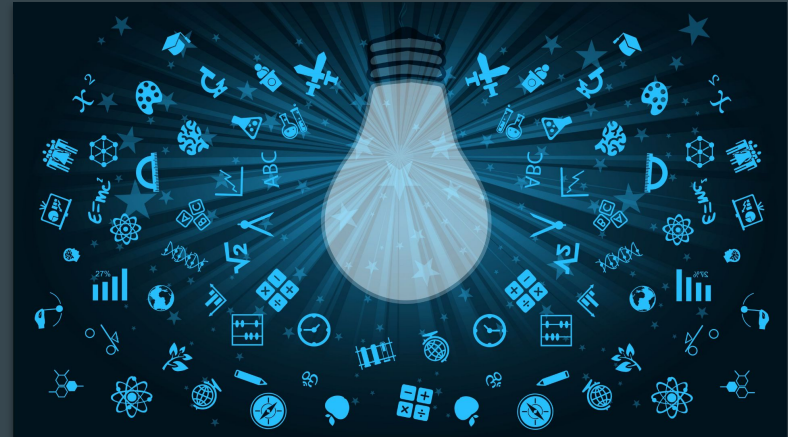
Participants will:

- Define pedagogy
- Review key learning theories of pedagogy/andragogy
- Recognize how learning theories have influenced this course
- Evaluate methods for applying learning theories to futures work
- Contemplate how understanding pedagogy can improve our own learning

Pedagogy: Hard to Say. Good to Know.

Peh·duh·go·jee (noun)

- The theory, method, and philosophy of teaching
- Technically refers specifically to the teaching of children; the name for teaching adults is **andragogy**, but pedagogy is usually used as a catch-all term
- **The science of teaching**



Major Learning Theories



Cognitive



Constructivist



Behavioral








Connectivism



Adult & Humanist

Major Learning Theories

Find out more about these and other theories as well as theorists at <https://www.instructionaldesign.org/theories/>.

Theory		Role of Teacher	Role of Student
	Cognitive	Teaches how to think	Learning happens in the mind by searching relationships between information
	Constructivist	Mentor	Learn from mistakes, learn from peers. Experience + developmental stage (not age)
	Behavioral	Everything - what will be done and how	Passive
	Connectivism	Facilitate the search for learning	Search for learning/information
	Adult & Humanist	Facilitator	Setting objectives, knowing learning preferences, connecting with past experience

Learning Theories for Futures Work

Discussion:

What examples of learning theories in action can we see in this lab course?

1. Setting lab values, principles, expectations and ground rules
2. Collective learning record
3. Determining drivers for scenarios

Learning Theories for Futures Work

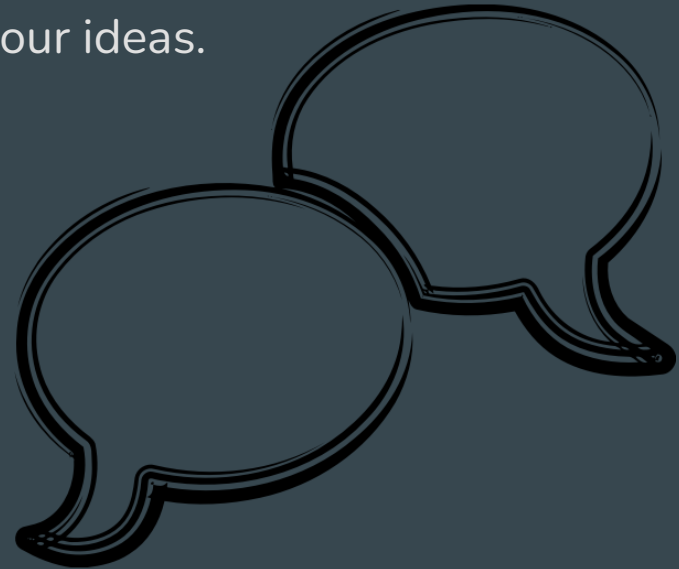
Breakout Groups Discussion:

- Which of these five theories work best with futures work?
- Do different theories apply at different stages of a project?
- How could you combine theories to support your futures work?
- How would you change your strategy for different learner types? (i.e., undergraduates, graduates, corporate training)

Applying Learning Theories to Ourselves

How could understanding pedagogy and learning theories influence and improve your own learning in this class? In others?

Go to menti.com and enter code **2005 1889** to add your ideas.



References

Bates, B. (2019). Learning Theories Simplified: . . .and how to apply them to teaching (Second ed.). SAGE Publications Ltd.

What is Pedagogy? | 4 Essential Learning Theories | Satchel. (2020, February 13). YouTube. Retrieved March 8, 2022, from <https://www.youtube.com/watch?v=QcpwEoW1uY8>