

# Cognitivism

Simon and Cherie

# Let's Learn How to Race in a Seadoo!



Source: <https://www.microsoft.com/en-CA/store/p/Kinect-Sports-Rivals-Demo/C5CS839TVB7B>

# Debrief

As the participant:

- What was your experience having an audience doing this type of activity?
- Were you uncomfortable?
- Do you think this is a good way to learn how to do something? Why or why not?

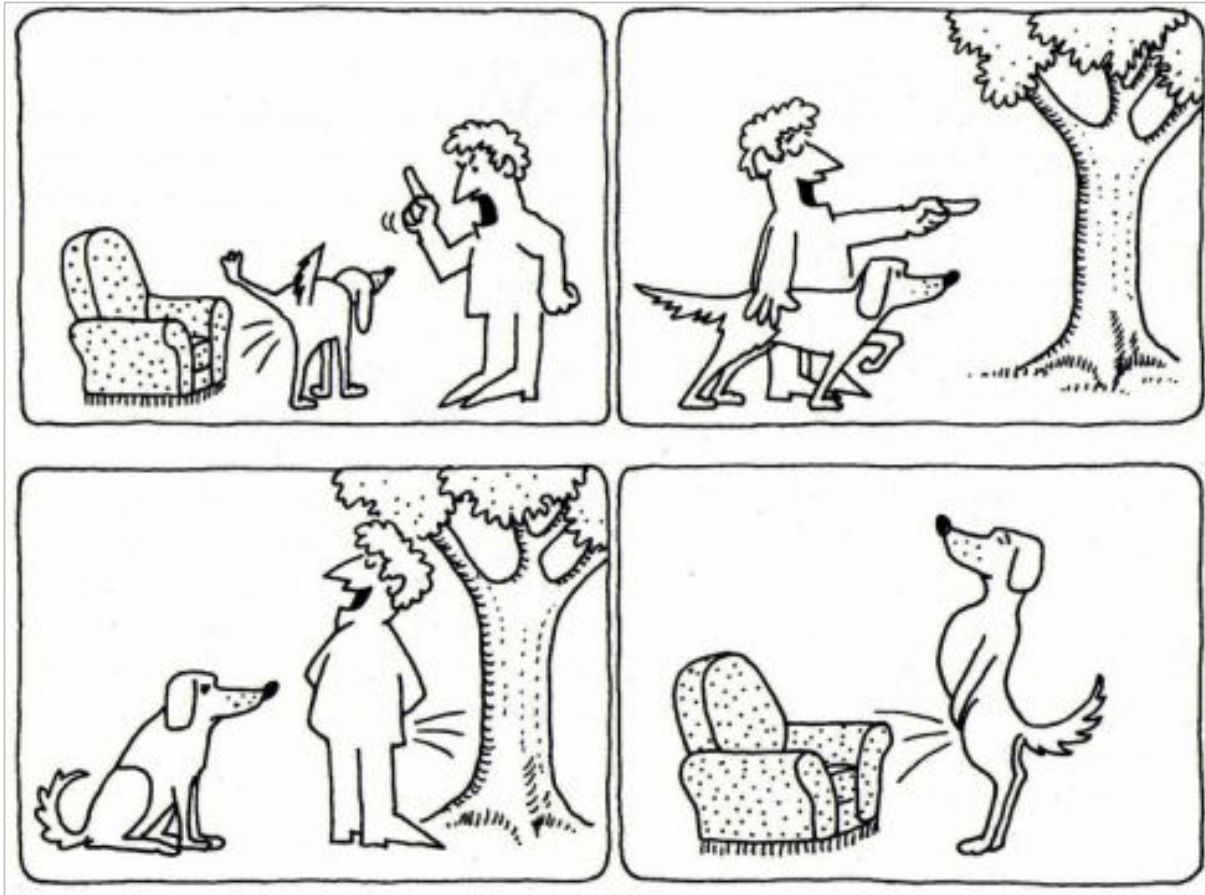
As the observers:

- Do you think watching \_\_\_\_ play, do you think you can do better than that person? Why or why not?
- Did you learn from this experience? Why or why not?

# Debrief Continued...

From an **anthropological** standpoint, as the observers of the observers (ha!):

- What kinds of interactions do you see observer to observer and observer to participant? How do you think this affects learning in this scenario? What behaviours/reactions/commentary do you notice from the observers?
- Do you think the observers are also learning how to play the game? Why or why not?



Source: Lefrancois, Guy R.: Theories of Human Learning. Belmont: Wadsworth, 2000.

# Background (Ertmer and Newby)

- Stems from **rationalism**
- Values **memory**
  - Information stored in organized and meaningful manner
  - Aided by organizers, analogies, hierarchical relationships, and matrices
- Emphasizes **complex cognitive processes**
  - Thinking
  - Problem solving
  - Information processing
  - Language
  - Concept formation

Memory foam  
never forgets anything.



*Anything.*

Source:  
DepressedAlien

# Learning is...

- Discrete changes between states of knowledge
- Transferred by
  - Relating new information to prior knowledge
    - **Simplification** (knowledge simplified into basic building blocks)
    - **Standardization** (irrelevant information eliminated)
- Influenced by
  - **Environmental conditions** (explanations, examples/non-examples, corrective feedback, demonstration)
  - **Internal conditions/abilities** (values, attitudes, thoughts, how information is attended/coded/transformed/rehearsed/stored/retrieved)

# Learners are...

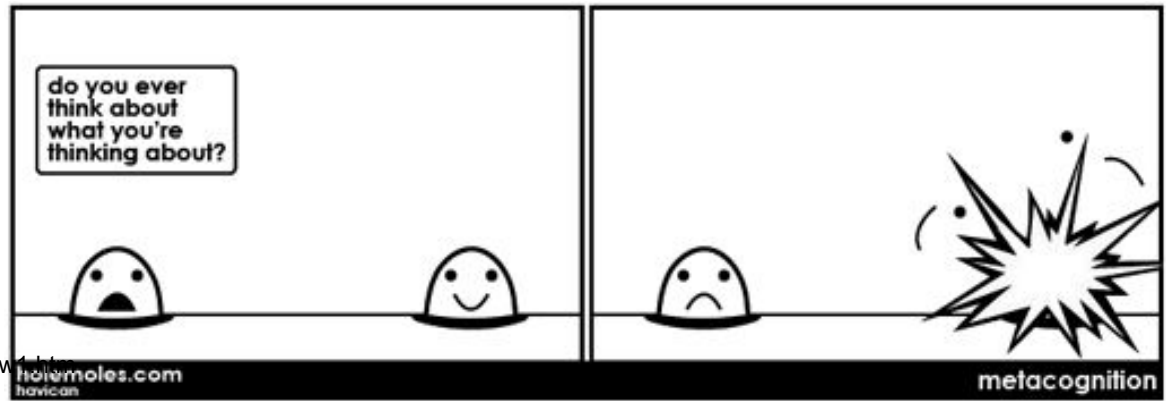
- **Active participants** who demonstrate cognitive processes
- Concerned with
  - **What** they know
  - **How** they acquire knowledge
- Encouraged to change by using appropriate learning strategies





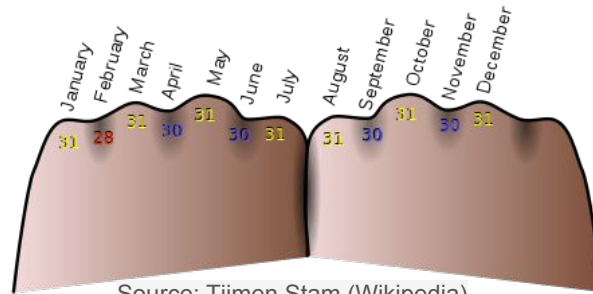
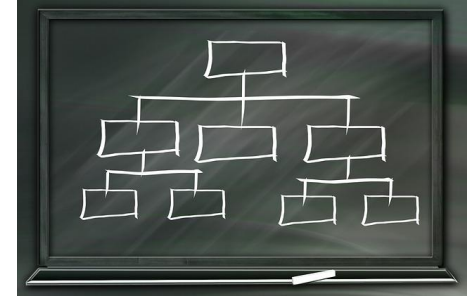
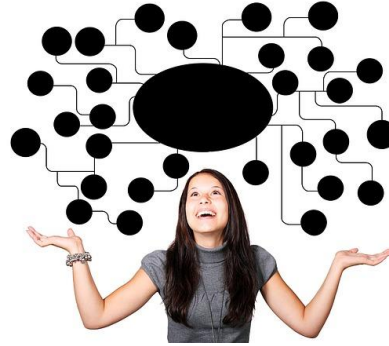
# Instructional Design (ID) focuses on...

- Making **connections**
  - New information is effectively and efficiently assimilated and/or accommodated into cognitive structure
- Using **feedback** to guide/support accurate mental connections
- Looking to learners to determinate how they activate/maintain/direct learning
- Structuring/organizing/sequencing information for **optimal processing**
- **Metacognition**

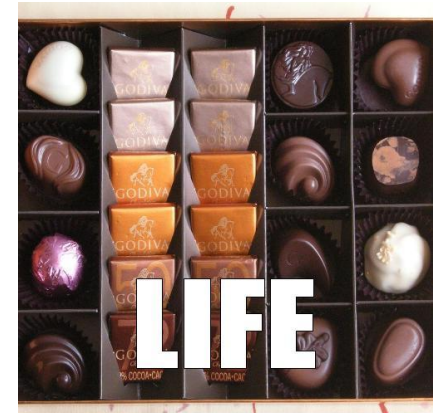


# Teaching strategies used

- Advance organizers
- Concept mapping
- Hierarchical relationships
- Matrices
- Framing
- Outlining
- Mnemonic devices
- Analogies



Source: Tijmen Stam (Wikipedia)



# Cherie's Summary and Analysis of Reflections

- Active Learning
- Self Observation ~ Enactive learning
- Multimodal learning

<https://bustedupblogger.files.wordpress.com/2014/06/funny-dog-looking-mirror-dont-even-know-who-am-anymore-pics1.jpg>



# Simon's Summary and Analysis of Reflections

Technology is too cumbersome/not feasible/as an ends as opposed to a means (there are other methods to achieve active learning)

- real time feedback -> key to self-observation

Physically active learning vs mentally active learning

- Not mutually exclusive (embodied cognition)

Meaningful learning (No learning outcomes measured, only a small amount of students participating)

- Vicarious learning

Link to cognitivism is weak (active learning = constructivism)

- A flaw in reasoning?

# U shaped discussion

Question: Where on the continuum do you lie: Is Chen et al.'s research studying cognitivism or constructivism? Why? Be prepared to place yourself on the continuum and explain why you believe this to be true.

# Food for thought: Cognitivist theory in relation to curricular philosophies

How can activities be designed using cognitive theory in each of the 4 philosophies of curriculum?

- Scholar Academic
- Social Efficiency
- Learner Centred
- Social Reconstruction

Describe how you implement cognitive theory in your classroom and which philosophy of curriculum it adheres to.