

# Epistemology

## Connectivism

- Ability to see connections between fields, ideas, and concepts is a core skill.
- collective connections between all the 'nodes' in a network that result in new forms of knowledge
- Learning becomes the ability to tap into significant flows of information, and to follow those flows that are significant
- Decision-making is itself a learning process. Choosing what to learn and the meaning of incoming information is seen through the lens of a shifting reality
- Knowledge in networks is not controlled or created by any formal organization
- How we learn via the Internet
  - The main purpose of a teacher appears to be to provide the initial learning environment and context that brings learners together, and to help learners construct their own personal learning environments that enable them to connect to 'successful' networks, with the assumption that learning will automatically occur as a result, through exposure to the flow of information and the individual's autonomous reflection on its meaning

## Objectivism

- This may consist of facts, formulas, terminology, principles, theories and the like.
- Belief that there exists an objective and reliable set of facts, principles and theories that either have been discovered and delineated or will be over the course of time.
- This position is linked to the belief that **truth exists outside the human mind**, or independently of what an individual may or may not believe.

## Changing Nature of Knowledge

- What constitutes truth
- How truth is best validated
- Knowledge as Commodity
  - this requires more emphasis on developing and learning skills of how best to apply knowledge
  - Not valued for what it is but what it can do.
  - learners need to develop the skills and learn to use the tools that will enable them to continue to learn
- "Instead, there will be many truths, many knowledges and many forms of reason" - Lyotard
- Internet has changed the nature of knowledge
- massive meta-data correlations can replace 'traditional' scientific approaches to creating new knowledge

## How to guide students to acquire knowledge

- Teaching perspective
- Academic Knowledge
  - second-order form of knowledge that seeks abstractions and generalizations based on reasoning and evidence
  - "**applied knowledge** is practical knowledge that is produced by putting academic knowledge into practice. It is gained through experience, by trying things out until they work in real-world situations" - Gilbert

## How do we know what we know?

Nature and justification of knowledge

## Constructivism

- Constructivists believe that meaning or understanding is achieved by assimilating information, relating it to our existing knowledge, and cognitively processing it (in other words, thinking or reflecting on new information)
- emphasise the importance of consciousness, free will and social influences on learning
- knowledge is essentially subjective
- Social Constructivist:
  - Discussion and social interaction
  - create order in their minds out of disorder
  - seeking relationships between what was known and what is new, identifying similarities and differences, and testing hypotheses or assumptions. Reality is always tentative and dynamic
  - social process, requiring communication between learner, teacher and others - Tech facilitates!

## Approaches to teaching

- brainstorm particular solutions
- online collaborative learning
- Reflection, seminars, discussion forums, small group work, and projects
- strong emphasis on learners developing personal meaning through reflection, analysis and the gradual building of layers or depths of knowledge through conscious and ongoing mental processing
- brains have more plasticity, adaptability and complexity than current computer software programs

## Cognitivism

- identifying mental processes
- internal and conscious representations of the world
- identifying and describing mental processes that affect learning, thinking and behaviour, and the conditions that influence those mental processes
- Bloom's taxonomies of learning objectives
- teaching learners how to learn

## Behaviorism

- Human behavior is above all seen as predictable and controllable.
- An attempt to model the study of human behaviour on the methods of the physical sciences.
- concentrates attention on those aspects of behaviour that are capable of direct observation and measurement