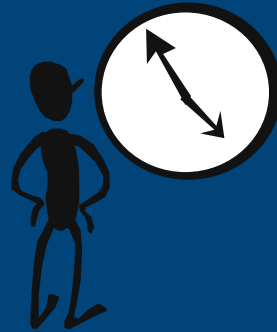


Cognition and Instructional Design

Topic Overview

Exercise

- Take two minutes and write down a brief account of how learning takes place.



Some Answers

How does knowing this help?

What Science Does

- **Systematic methods of inquiry**
 - *Understanding*
 - *Intelligent Control*
 - *Less haphazard*
 - *Less routine*
- **But what is science?**

“Systematic methods of inquiry, which, when they are brought to bear on a range of facts, enable us to understand them better and to control them more intelligently, less haphazardly and with less routine.” Dewey: Sources of a Science of Education, p 8 - 9

The definition of science is the main point here. Is it objective use of mathematics or objective, rigorous methods?

Or can we use methods that are looser in their concepts?

Where we are starting

- Advent of psychology
- Early issues
 - *How can learner know something new?*
- Early perspectives
 - *Plato*
 - *Locke*
 - *Dewey*

Psychology became a separate study from philosophy at the end of the 19th century

New University demanded scientific disciplines

How can learner know something new? This is a question of what knowledge is needed to learn (if any). It can be best illustrated by a newborn baby. How is it that babies can learn (and do so quickly)?.

Prior concepts of learning reflected interesting compromises. Plato felt we “remembered” from previous existences - illustrated by Meno, where a slaveboy “recalls” the Pythagorean theorem through a series of problems. The knowledge was “in his soul.” This makes learning a rather passive state

The myth of Er (at the end of the Republic) tells of souls about to return to Earth spending the night next to the Forgetful River. It is there they drink - some a lot and therefore have less intelligence, while others only the minimum.

The passivity of Plato’s concept.

Locke conceived of the Tabla Rasa (blank tablet) - that no knowledge could be present. Yet there must be mental powers or tendencies wired in to allow experience to form knowledge - especially since humans tend to share this

Our course of Study

- **Thinking about theory**
- **Behaviorism**
- **Cognitive Information Processing**
- **Genetic Epistemology**
- **Social learning theory**
- **Biology**
- **Motivation**
- **Theories of Instruction**

Finis

Questions?