Teaching Philosophy

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Alexander Calder (July 22, 1898 – November 11, 1976)
Constructivism

• Learning is based on constructs – taxonomies of data points (connecting the dots, not just filling them in)
• Emphasis is on experimentation and hands-on experience
• Learning is a collaborative, social process
• Dewey and Montessori were pioneers; Piaget, Vygotsky, and Papert are well known proponents
From Knowledge to Wisdom

Wisdom

Research

Quality

Epistemic

Critique

Procedural

Essays, Proofs

Schematic

“See Spot Run”, 2+2=4

Declarative

A,B,C 1,2,3

Knowledge

Tests

Quantity

Synergistic

Asking the right questions

Giving the right answers

Discrete
Learning Constructs

• Declarative
  – Basic vocabularies, acquired primarily by repetition (mnemonic techniques help), simple tests provide adequate assessment

• Schematic
  – Basic constructs, such as grammar and syntax rules, multiplication tables, etc., still acquired primarily by rote, tests still provide adequate assessment

• Procedural
  – Larger constructs, such as the five paragraph essay or a geometric proof, that require combinations of schema to deliver the desired result, assessment becomes more qualified than quantified

• Epistemic
  – Knowing how to learn, how to apply previously acquired constructs to unfamiliar problems, assessment increasingly becomes the duty of the learner
Gardner’s Multiple Intelligences
My Teaching Goals

• Provide a learning environment that:
  – Is rich with tools for exploration and experimentation
  – Supports collaboration
  – Is stable and secure

• Provide instruction that:
  – Uses multiple modalities to support different learning styles and types of information

• Use assessments that:
  – Emphasize growth, iterative learning, trial and error
  – Reward integrity, curiosity, and persistence
The **A++** Recipe for Success

- **A++itude**
  - Professional, respectful, courteous, curious
- **A++endance**
  - Regular and prompt
- **A++ention**
  - Focused
- = **A++ainmentment of your goals**
What’s really at stake?

• Much more than just a grade or a few more credits toward graduation
• Opportunities for UG research and publication, such as URECA and CIT
• Opportunities for mentoring, such as 475
• Recommendations for employment and graduate school
  – at least 2 semesters of research-related coursework