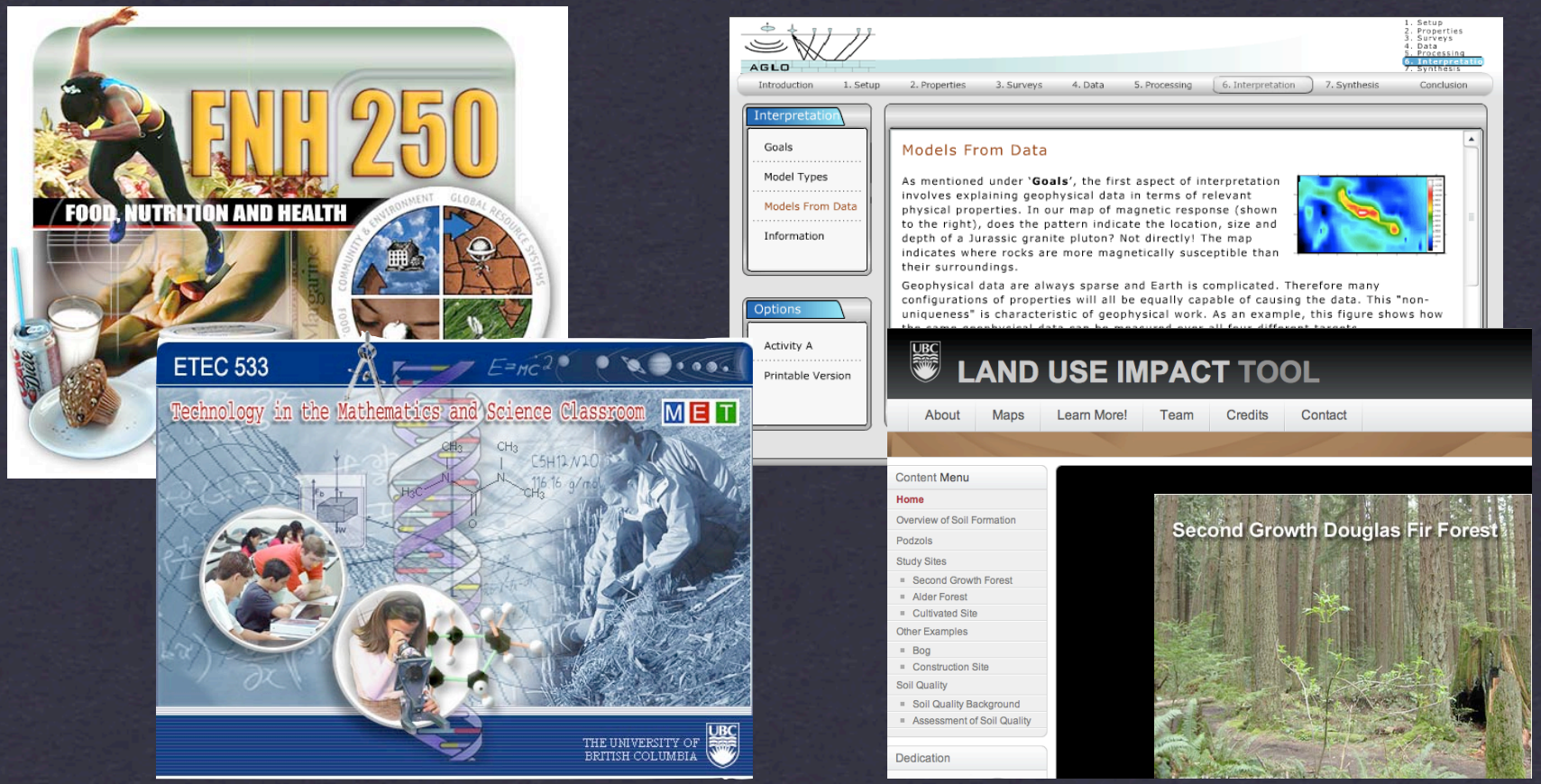
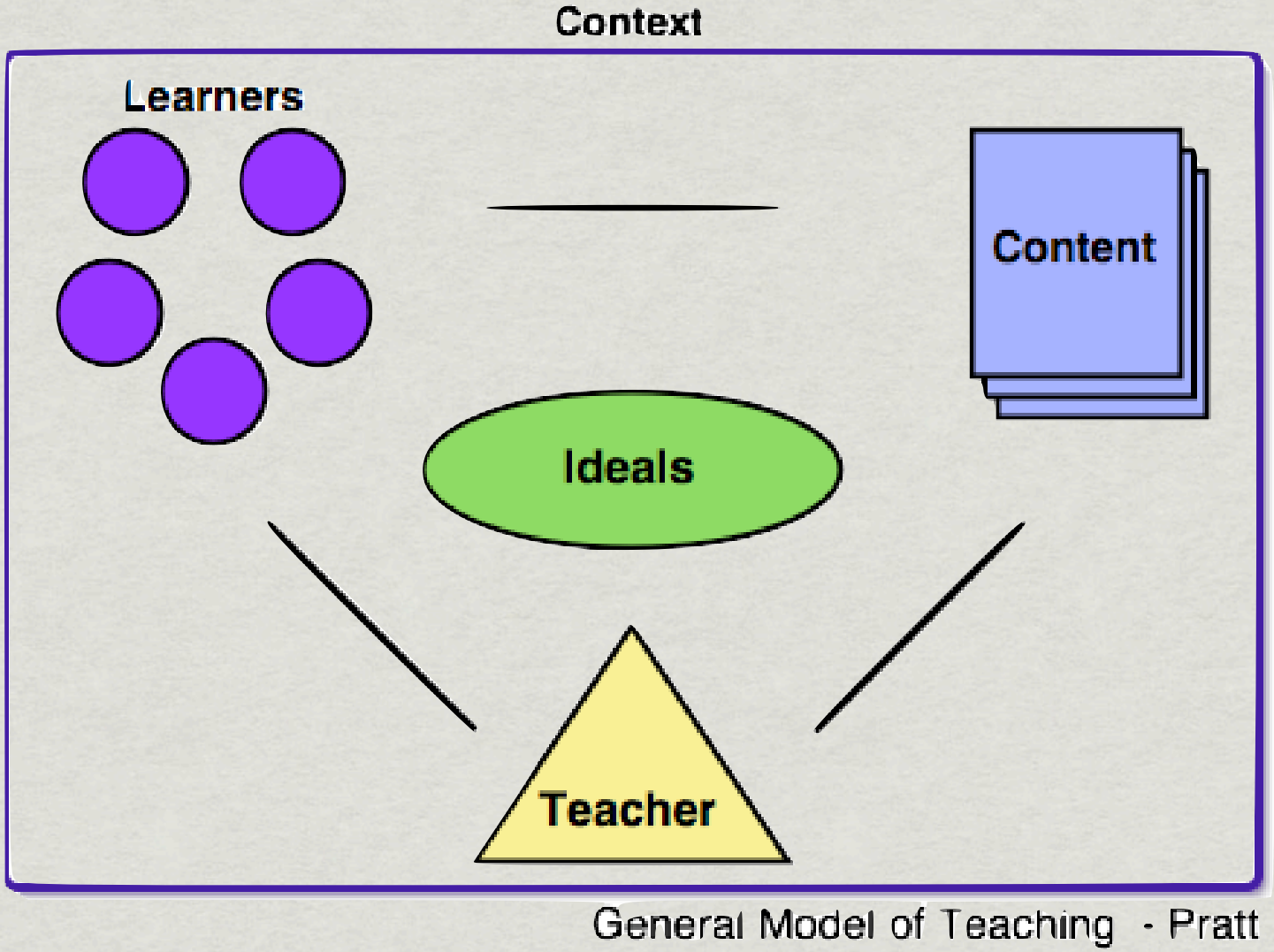
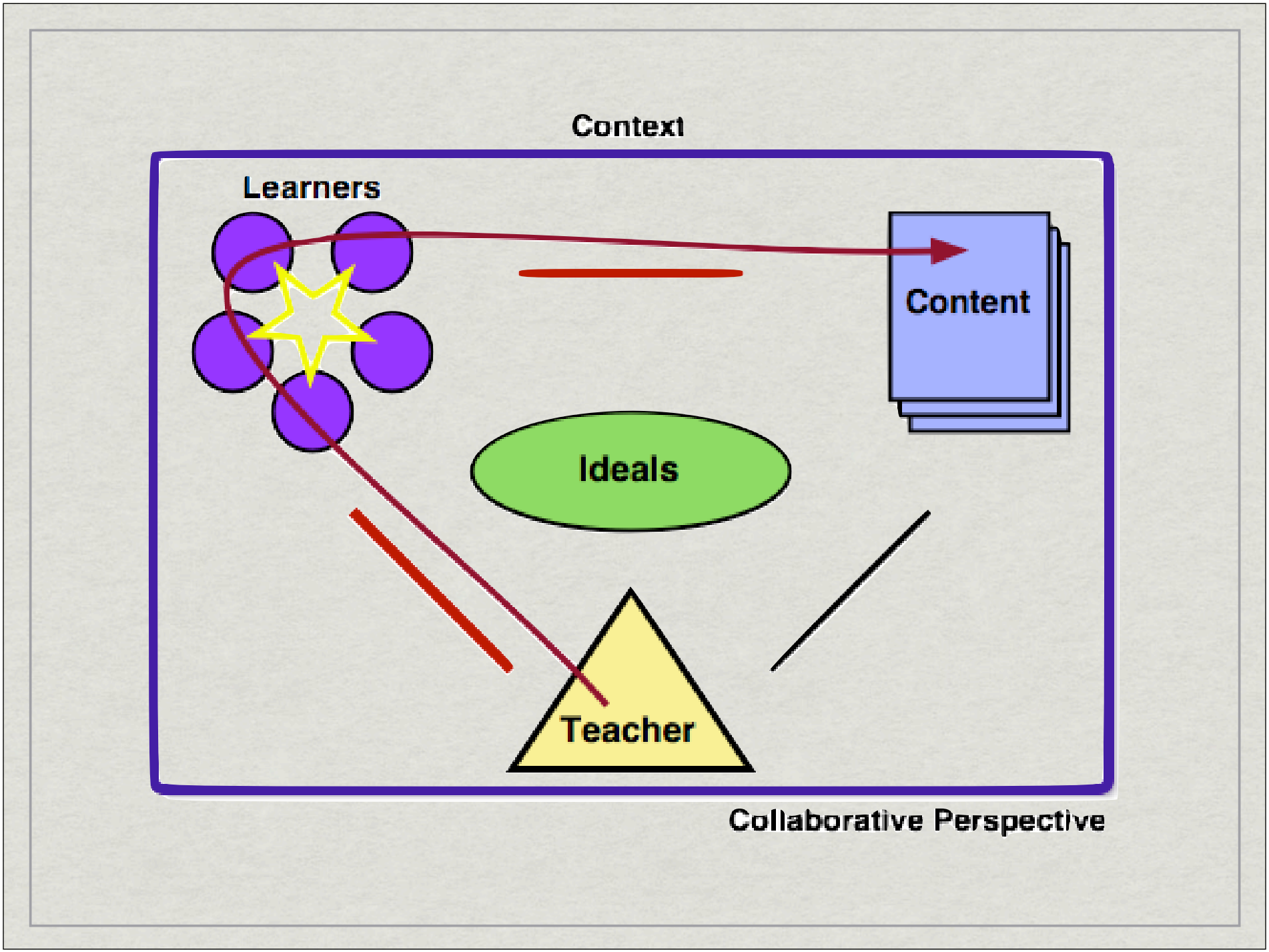


Course Sampler

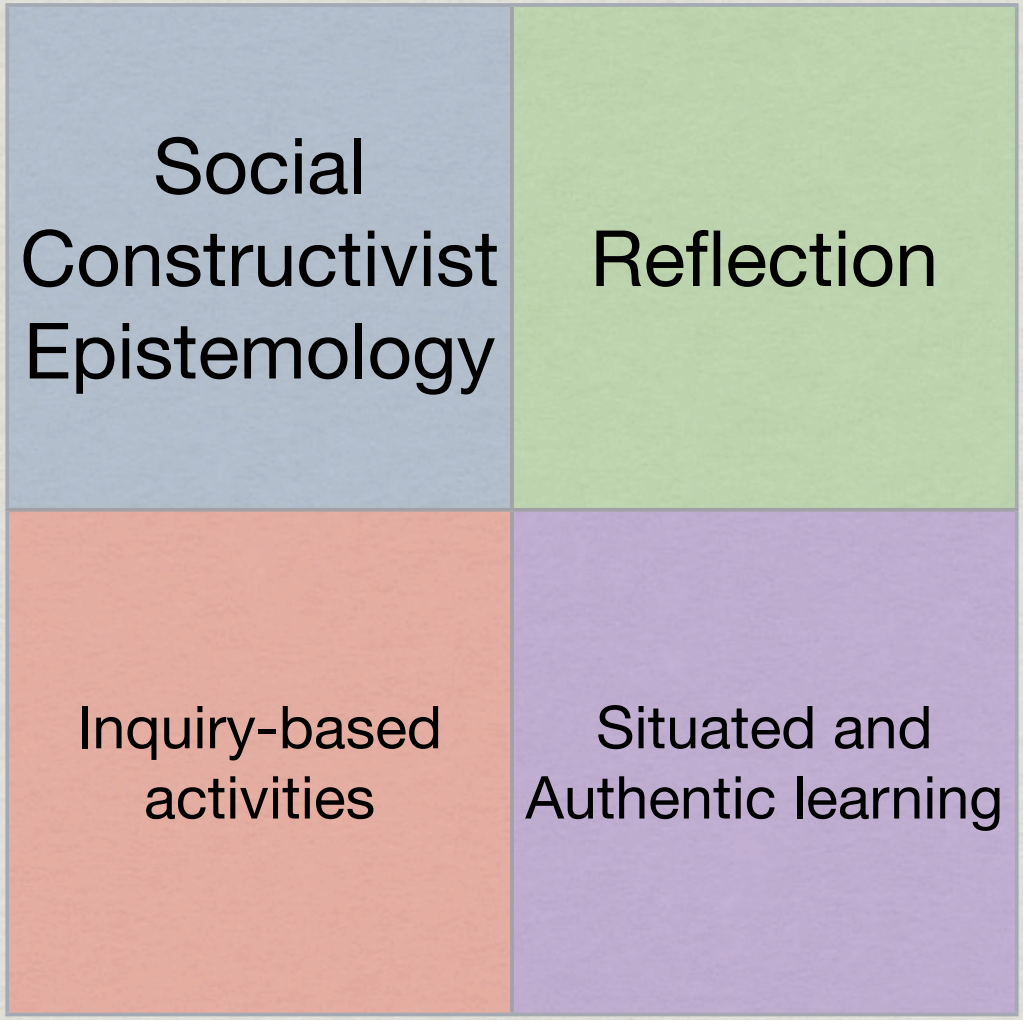
UBC/KFUPM workshop 2009



General Model of Teaching - Pratt


Context
Learners
Content
Ideals
Teacher
Collaborative Perspective

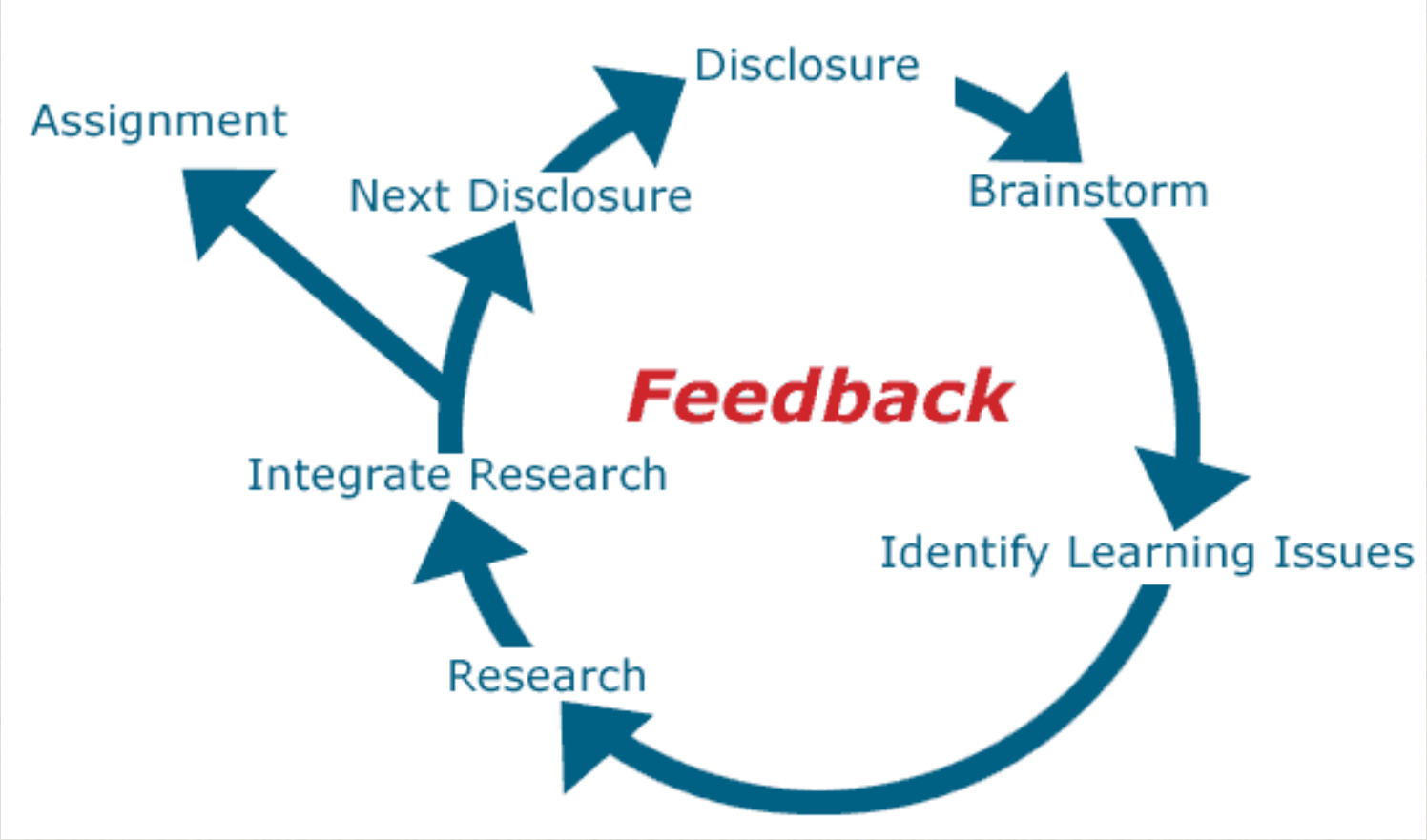
Key Design Approaches



Problem-based Learning

- Cohort-based, PBL course with up to 28 students, and a 7:1 student/facilitator ratio
- Students from around British Columbia
- Extensive PBL group process activities with individual assignments and an invigilated final examination
- Students must participate in their PBL group discussions - pass/fail basis
- Case structure, with careful organization and scheduling of course content
- Formative and Summative evaluation, within cases and for group process skills

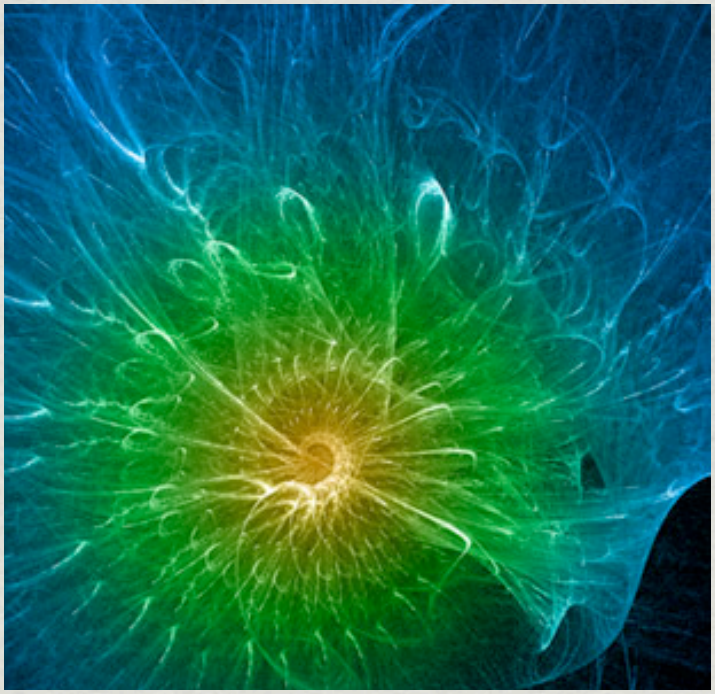
PBL Model


Disclosure
Assignment
Next Disclosure
Brainstorm
Feedback
Integrate Research
Identify Learning Issues
Research

Student Apprentices/Professionals

Technology in the Math and Science Classroom

- How do people teach and learn mathematics and science with digital technologies?
- The integration of cognitive psychology, computer science, and education provides us with a framework to study the cognitive and social affordances of technology in the mathematics and science classroom.

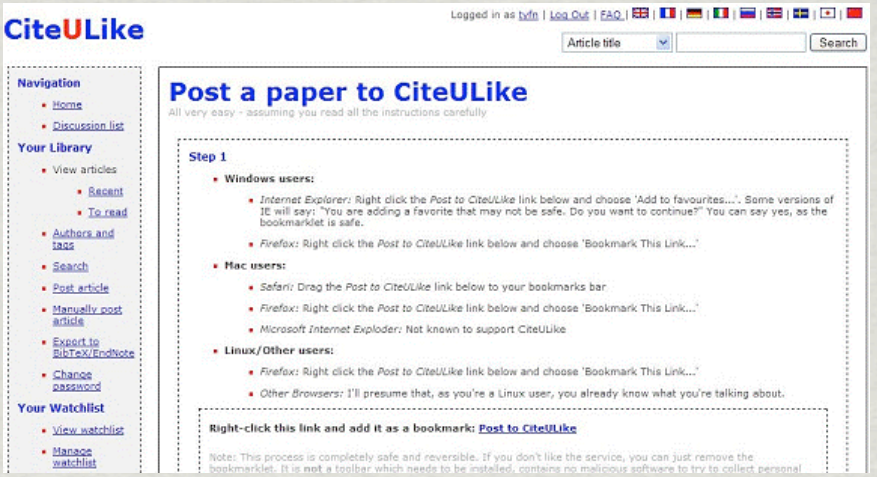


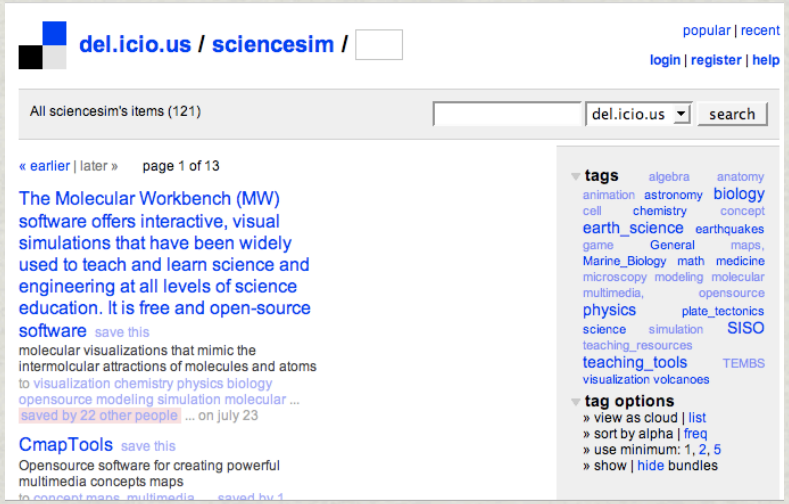
Genres of teaching and

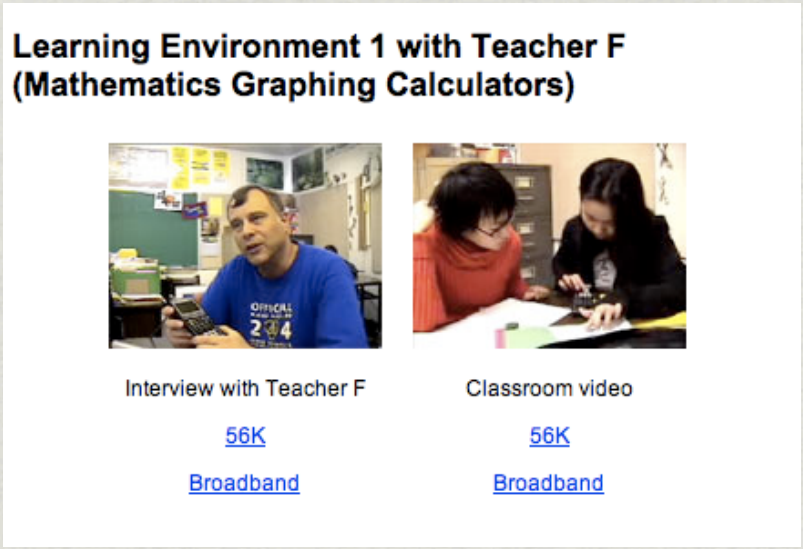
- Knowledge representation
- Knowledge diffusion
- Learning-on-demand
- Embodiment

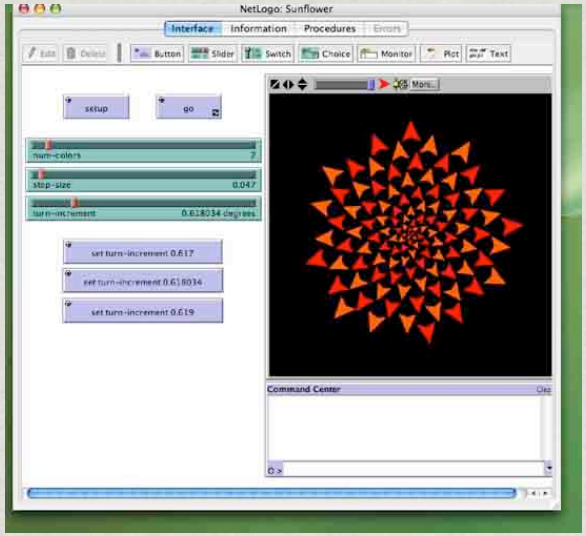
- Dynamic visualization tools
- Computer simulations
- Collaboratories
- Networked databases
- Hand held devices
- Virtual reality

NEGOTIATING KNOWLEDGE INDIVIDUALLY AND IN COMMUNITY

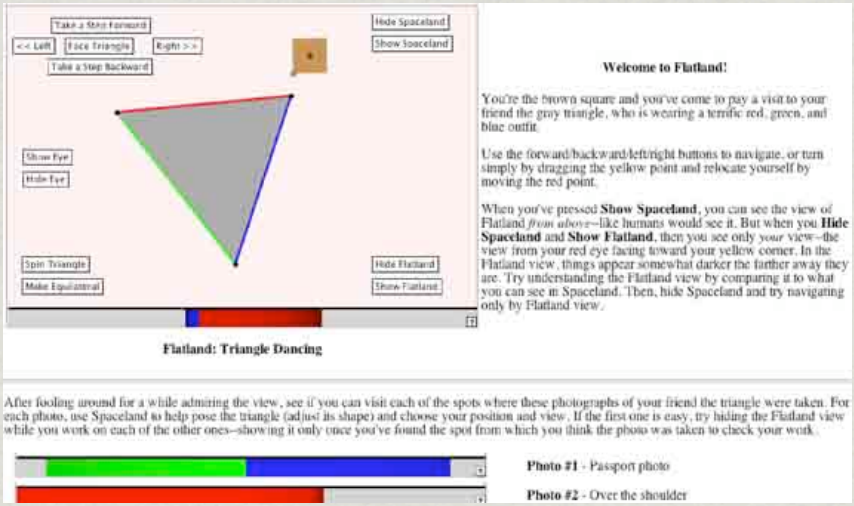




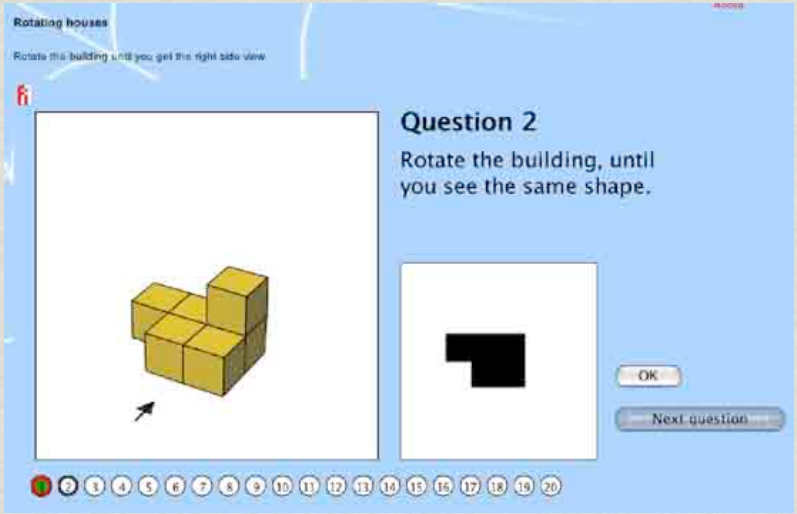




NETLOGO (SIMULATIONS)

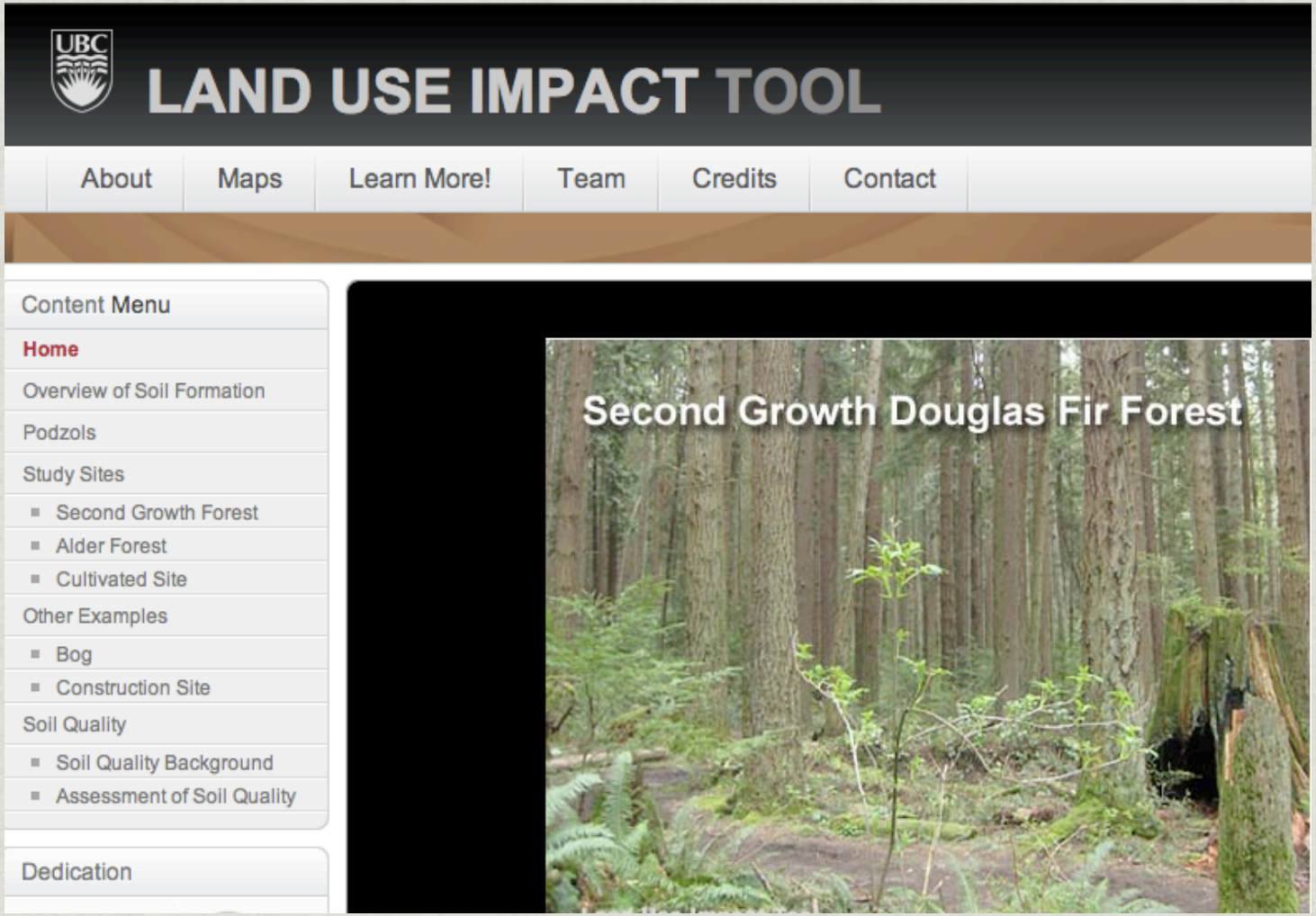


GEOMETER'S SKETCHBOOK



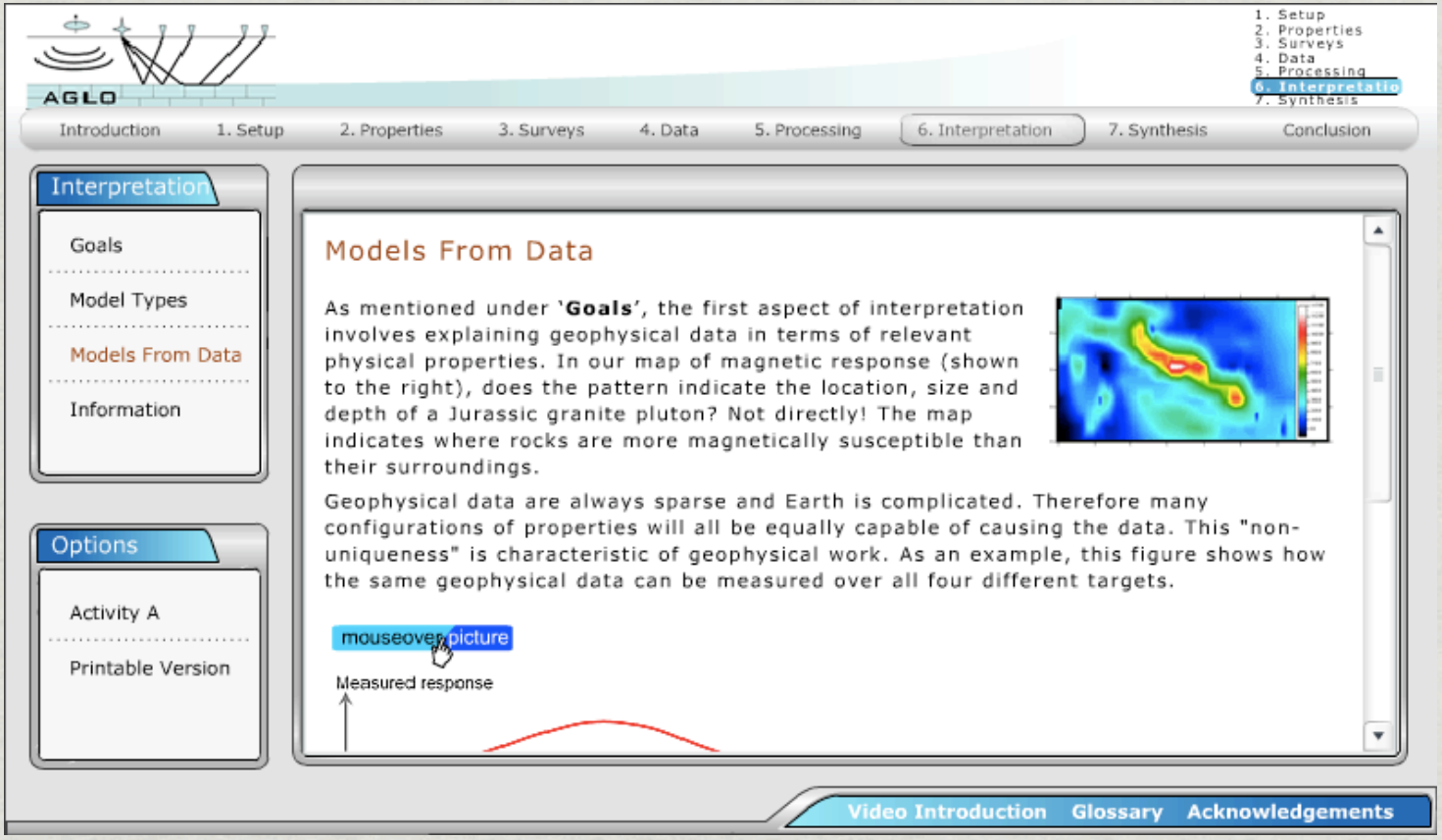
WISEWEB (MATHEMATICS)

EXPLORATORIUM



http://soilweb.landfood.ubc.ca/luitool/

Applied Geophysics



http://www.eos.ubc.ca/public/resources/appgeop/framework/index.htm