

- **Behavioral Perspectives**
- Cognitive Perspectives
- Concepts and
- Knowledge

## Social, Cognitive and Situative Frameworks

- Overview
- Constructivism
- Situated Learning
- Socially Constructed Knowledge
- Collaborative Learning
- Instructor Immediacy

## **Learning Elements**

- Overview
- **Feedback**
- Interactivity
- Scaffolding
- <u>Assessment</u>
- Scoring Rubrics
- Learning Objects
- **Featured Approaches**

- Overview
- Problem-Based Learning
- Simulations
- Digital Games

Learning that is decontextualized (removed from real world contexts) is described as inert. Learners may be unable to apply inert knowledge learned in the classroom in the real world (even if they can pass a test about it).

Situated learning usually involves engaging in tasks which parallel real world applications. The goal is to improve learning by motivating students and by providing a rich context for learning.

Think about the difference between the following two approaches to learning computer graphic design skills:

APPROACH 1 (decontextualized, inert): go through the Photoshop reference manual, tool by tool, in alphabetical order, learning how each tool (line, paint bucket, select, etc.) works including all possible optional settings

APPROACH 2 (situated in a real world problem to solve): start with a visualization task you want to accomplish (such as, create a logo for a company). Look up and learn only a few particular tools you realize you may need to use to accomplish the design.

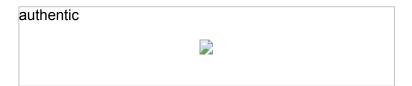
- Case Studies
- eTextbooks
- Portals



- Which approach results in more learning?
- Which approach is more motivational?
- Do you end up learning every possible command if you use APPROACH
  2?
- How long will you remember what you learned in APPROACH 1?
- Is APPROACH 2 equally motivational, equally authentic for a student who plans to become and MD, compared to a student who plans to become an instructional designer?
- · Which would serve the learner best?

A learning environment is considered *authentic* if the tasks parallel real world situations. Students who work on an authentic learning task learn associated facts and skills because they need to know these things to accomplish the task.

Class assignments have always annoyed me because they are usually an isolated exchange between the teacher and myself, with no impact on the world and little value even to me once class is over. For me, even an authentic assignment which parallels real world situations is not as compelling as a really real project. So, that's why you're stuck in this class creating real software for a real class.



Situated learning usually goes beyond a real world context, and also includes other social participants in the learner experience.

Here is an idea for authentic, situated learning. Norm Lownd and I proposed a "National K-12 Galactic Garden Virtual Laboratory." Discussions with NASA Space Scientists and our own preliminary work with sixth and third grade classes suggested it is possible to formally involve K-12 teachers and students in authentic space plant research which contributes to the U.S. Space Program's goal of growing food for astronauts. Our proposed National K-12 Galactic Garden Virtual Laboratory would have created the structure to uniquely realize this opportunity for school children to participate in real science.

A National K-12 Galactic Garden Virtual Laboratory headquarters would be in the Michigan 4H Children's Garden where ongoing, high end research is conducted, with participation from visiting students and teachers, viewable online through the Experiments Portal. Classroom Garden Laboratory kits could be used in participating K-12 science classes. An online Virtual Laboratory structure and services would connect classroom garden laboratories with advanced galactic garden research centers, plant scientist

"Dr. Norm" and his assistants, NASA scientists, data reporting tools, teacher support, an online journal, and other scaffolding to allow K-12 student participation in authentic space plant science.



## REFLECTION

Do you agree that classroom knowledge is inert, and hard to generalize to real life contexts? Consider some personal examples to define and support your position.

