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Teaching in a Hands-On Environment

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Teaching in a Hands-On Environment



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Outline



- ⌘ Benefits of Hands-On Instruction
- ⌘ Active vs Discovery Learning
- ⌘ Demonstrations
- ⌘ Consider Discovery Learning
- ⌘ Collaborative Learning
- ⌘ Tips for a hands-on environment

Benefits of Hands-On

(as claimed by UNL Librarians)



- ⌘ Students actively engaged & participating
- ⌘ Builds instructor awareness of learning styles, attitudes, assumptions and biases of students
- ⌘ Improves Instruction
- ⌘ Leads to ideas for improving traditional instruction

Active/Hands-On Learning vs Discovery Learning



⌘ Active/Hands-on Learning

- ☑ Students are actively participating
- ☑ Learning is still relatively passive and shallow
- ☑ Learning often focuses on basic skills or mechanics
- ☑ Instructor is in control of learning

Active/Hands-On Learning vs Discovery Learning



⌘ Discovery Learning

- ☑ Students are actively engaged in problem solving and higher level cognitive skills using course content
- ☑ Learning is more in depth
- ☑ Learning focuses on more abstract, complex skills.
- ☑ Student is in control of learning

Demonstrations



Instructor uses a presenter's station to demonstrate use of a database while the students follow along on own workstations.

= Active Learning

Making the most of Demos



- ⌘ Teach in teams - Instructor & “Rover”
- ⌘ Insist on a class assignment as the basis for the hands-on class
- ⌘ Allow time for students to work on assignments in class
- ⌘ Follow-up with the students and/or professor - did the students learn what was needed?

What we've discovered about Demos



Student backgrounds vary.

If they are not prone to asking questions in a large group, one of the only ways to find out what students didn't understand is to ask them how they are doing while they work on an actual assignment.

What we've discovered about Demos



You may not know what you know!

Often times, we are so close to our topic that we don't realize what we know that we have not conveyed to the students.

Examples: Statistical Universe
 Tax Research Cases vs. Rules & Regs

What we've discovered about Demos



Database Mechanics are the easy part.

Database mechanics might not be memorable, but are usually pretty easy to figure out. Complex, abstract learning is the difficult part, and is usually not learned via demos, but with practice

Example: Choosing files in Lexis/Nexis

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What we've discovered about Demos



Students have difficulty making the leap from demos to completing assignments

Assignments often include complex, abstract reasoning that isn't apparent from simply learning how to search a database.

Examples: Describing Target Audiences
 Authority vs. the Text of a Case

Consider Discovery Learning




- ⌘ Maximize the amount of time students spend working on assignments
 - ☑ Demonstrate only the unique or key features
 - ☑ Supply handouts with instructions
- ⌘ Eliminate the demo
 - ☑ Simply a list of resources or the names of databases & let them work on their assignment

Consider Discovery Learning



- ⌘ Develop mini assignments for the students to do in class that illustrate the principles to be learned and force the students to figure out the mechanics themselves
- ⌘ Give the students more control - let them discover what they need to know
- ⌘ Be available for questions so students can get immediate feedback

One student to One computer?



Let's try an experiment.

Imagine that you are students in
an electronic classroom....

Collaborative Learning



- ⌘ Students learn more from each other, than they do working alone
- ⌘ When each student is on a computer, it is more difficult to interrupt their work, and to get the students sharing & participating as a large group
- ⌘ Seeing often leads to Doing
- ⌘ Judge the learning by the noise

Tips



⌘ Focus your instruction

- ☑ Decide what you want the students to be able to DO when the session is over
- ☑ Choose 1-3 skills as critical, and focus on building those skills
- ☑ Work with the instructor to design assignments that work for the resources at hand

Tips



⌘ Team teach

A “Rover” can solve small problems, deal with computer phobias and differences in skill levels, and limit behavioral problems

Also, team teaching can lead to better generation of solutions to teaching problems and Peer Coaching

Tips



⌘ Expect Equipment Failures

- ☑ Have a back-up plan

- ☑ Is there an emergency contact for the training room?

- ☑ Know your equipment & test it in advance

⌘ Ask the Professor to be present during the instruction - develop a partnership approach to assignments & teaching

Tips



⌘ Watch your audience

- ☑ Gage their reactions - are they getting it?
- ☑ If the audience doesn't seem to be getting it, ask them where the problem is and try to address it
- ☑ Try drawing pictures or diagrams to illustrate a point
- ☑ At times, you may want to give your audience a choices

Tips



- ⌘ Follow-up to see if students learned the skills they needed
 - ☑ Ask the professor to include a question on his/her evaluation form about the instruction.
 - ☑ Try to find out what worked and didn't work long term - immediately following the instruction, the students may not know how useful the training was.

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