Using Technology and the Resources of the Education & Technology Innovation (ETI) Support Office to Improve Clinical Teaching

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Faculty Development Grand Rounds
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Session Objectives

By the end of this session, you will be able to:

• Identify the resources available at the ETI Support Office
• Summarize advantages of using technology in medical education
• Describe specific ways that technology can be used to enhance medical education
• Identify the “next steps” to follow if you would like to work with the ETI

ETI Organization – Who are we?

• Staffed by educators
  – Experience with face-to-face teaching and distributed learning (DL)
  – Experience with adult learners
  – Focus on instructional design
• Technical staff to support specialty items
ETI Team

- Director of the ETI
- Deputy Director of the ETI
- Academic Liaisons
- Instructional Designers
- Graphic Designers
- Developers
- ETI Contact Person at School

ETI Services

- Curricular strategic planning
- Classroom instruction development and implementation
  - Observation and consultation
  - Activity development
  - Media development/integration
- Distributed Learning (DL) course design, development and modification
- Evaluation and assessment of course activities and assignments
Educational Technology Rationale

• Theories underlying use of Distributed Learning (DL) and Educational Technology (ET)
  – Andragogy / Pedagogy
  – Social learning (Bandura)
  – Constructivism (Bruner)
  – Motivation (Keller)
• Application of theory in DL and ET design

Benefits of Using ET

• Anytime/anywhere
• Consistent content
• Active learning
• Multiple learning preferences
• Lower-risk environment
• Exposure to technology
• Expands content beyond personal experience

Research on the Use of ET

• Interactivity increases motivation and time on task (Gao and Lehman, 2003)
• Actively engaging learners improves learning outcomes for students in internal medicine residency program (Cook et al., 2006)
• Use of Web-based assessment identifies medical students during an internal medicine clerkship who would benefit from remedial instruction (Alexander et al., 2006)
• Use of Web-based cases increases test scores and learning efficiency for medical students (from different schools) in clinical rotations and the difference is maintained over time (Kerfoot et al., 2006)
Blackboard Features that Enhance Learning

- USUHS Blackboard site
- Course content
  - Syllabus
  - Readings
  - PowerPoint slides and notes
  - Supplementary content
- Discussion
- Chat
- Tests/surveys

Use of PDAs in Medical Education

- Clinical experience log
- Student history and physical skills observation
- Medical reference materials
- PDA resources
  - PDAmd – information about PDA usage for physicians: [www.pdamd.com](http://www.pdamd.com)
  - RNpalm – information about PDA usage for nurses: [http://rnpalm.com](http://rnpalm.com)

Use of Video/Audio/Flash Files in Medical Education

- Guest speakers
- Case studies
- Complex procedures or processes
Examples

- Online Case Studies
  - Text-based (emergency medicine): http://www.med-ed.virginia.edu/courses/em/case1/
  - Text-based (pulmonary): http://www.lumen.luc.edu/lumen/MedEd/medicine/pulmonar/cases/SELFED_V_1HTM
  - Multimedia (patient consultation skills): http://webcampus.drexelmed.edu/medethex/cases.html

Examples

- Videos
  - Surgery Webcast: http://www.brighamandwomens.org/surgerywebcast/
- Audio
  - Auscultation Assistant: http://www.med.ucla.edu/wilkes/intro.html

Examples

- Online Content
  - Infectious diseases tutorial: http://medsci.indiana.edu/c602web/602/c602web/inftut/docs/intro.html
  - Radiology tutorials: http://www.healthsystem.virginia.edu/internet/radiology/ct/hr/educational-software.cfm
  - Pathology tutorials: http://www.med-ed.virginia.edu/courses/path/tutorials.cfm
Examples

• Check your knowledge quizzes
  – Pharmacology:  http://www.kumc.edu/research/medicine/pharmacology/CAI/menu1.htm
• Media

How to work with the ETI

• Contact “ETI Contact Person” at school or department
• Set up initial consultation with Academic Liaison from ETI
• Determine scope of project
• Review and provide feedback

Questions?
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