

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

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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



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**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



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## ETI Team

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



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## 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



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### 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



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### Benefits of Using ET

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



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### 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)



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## Blackboard Features that Enhance Learning

- [USUHS Blackboard site](#)
- Course content
  - Syllabus
  - Readings
  - PowerPoint slides and notes
  - Supplementary content
- Discussion
- Chat
- Tests/surveys



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## Use of PDAs in Medical Education

- Clinical experience log
- Student history and physical skills observation
- Medical reference materials
- PDA resources
  - List of health and medical PDA software:  
<http://www.healthsystem.virginia.edu/internet/library/wdc-lib/services/computing/pda/medsoft.cfm>
  - PDAmD – information about PDA usage for physicians: [www.pdamd.com](http://www.pdamd.com)
  - RNpalm – information about PDA usage for nurses: <http://mpalm.com/>



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## Use of Video/Audio/Flash Files in Medical Education

- Guest speakers
- Case studies
- Complex procedures or processes



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## 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/SELFV\\_f.HTM](http://www.lumen.luc.edu/lumen/MedEd/medicine/pulmonar/cases/SELFV_f.HTM)
  - Multimedia (patient consultation skills): <http://webcampus.drexelmed.edu/mededhex/cases.html>



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## Examples

- Videos
  - Physical Exam Techniques: <http://www.med-ed.virginia.edu/courses/pom1/videos/index.cfm>
  - Surgery Webcast: <http://www.brighamandwomens.org/surgerywebcast/>
- Audio
  - Auscultation Assistant: <http://www.med.ucla.edu/wilkes/intro.html>



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## 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/other/educational-software.cfm>
  - Pathology tutorials: <http://www.med-ed.virginia.edu/courses/path/tutorials.cfm>



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## Examples

- Check your knowledge quizzes
  - Pharmacology:  
<http://www.kumc.edu/research/medicine/pharmacology/CAI/menu1.htm>
  - Radiology:  
<http://www.rad.washington.edu/maintf/index.html>
- Media
  - <http://www.mmi.mcgill.ca/mmimediасampler2004/>



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## 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



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## Questions?



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## Contact Information

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