One Year Later: A Follow-up on Lecture Capturing

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What is Lecture Capturing?

- Automated capture of class lectures
- Audio/video of instructor and projector signal are integrated in convenient interface
- Lectures automatically sent to myWPI course site
- Students play back lectures as needed
- Lectures can be viewed straight through or thumbnails can be used to jump around
Goals of the Pilot

- Enhance student learning
- Little impact on faculty time
- Handled by existing IT staff
- Meet students’ interest in using more technology for learning
Model 1: The age at death of a randomly selected birth

\[ F_t(x) = \begin{cases} 
0, & x < 0 \\
0.01x, & 0 \leq x < 100 \\
1, & x \geq 100 
\end{cases} \]

\[ f_t(x) = 0.01 \]

DeMoivre's Law
How it Works

myWPI

- **About Captured Lectures**
  01/21/2009 10:00:00 AM - General Physics - Mechanics
  Capture Date/Time: 01/21/2009 10:00:00 AM
  General Physics - Mechanics (PH1110PH1110-LEC1) C: Term 09
  Download Lecture Audio
  Download Enhanced Lecture Audio
  Download Lecture Video

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- **Student PC or portable device**
- **Server**
- **Classroom**
Faculty Role

- Turn on projector
- Turn on wireless microphone
- Use Sympodium, tablet PC or Mimio instead of chalkboard
- Market the recorded lectures to students
Demos

- Jon Abraham’s MA1021 course
  (Thumbnail 14)
- Tom Keil’s PH1110 course
  (Thumbnail 14)
Innovative Uses at WPI

- Supplemental recordings to augment regular lectures
  - Jim Van de Ven’s ME3311 course
- Use of lecture capturing to record during weeks with no class meeting (due to schedule adjustments)
  - Mike Buckholt’s Biology laboratory courses
- Selective release of captures right before exams
  - Martha Cyr’s ES3003 course
- Online Mechanical Engineering grad class
  - Capturing ME612 (taught by Gretar Tryggvason)
- Fundamental of Engineering Review Course
  - Approximately 30-60 students attend face-to-face meeting each week (out of 117 enrolled)
- Online Summer classes
  - Calc 2 and Calc 3 offered Summer 2009
2008-2009 Lecture Capturing Courses

- Undergraduate Courses in
  - Biology
  - Civil Engineering
  - Engineering Sciences
  - Math
  - Mechanical Engineering
  - Physics
  - Robotics

- Graduate Courses in
  - Civil Engineering
  - Fire Protection Engineering
  - Mechanical Engineering
Students Impacted

- Undergraduate
  - A2008 – 637 students
  - B2008 – 918 students
  - C2009 – 484 students
  - D2009 – 465 students

- Graduate
  - Fall 2008 – 254 students
  - Spring 2009 – 273 students
Student Surveys

Primary Method of Watching

- Straight through: 64%
- Jump around: 36%
When do you view the captured lectures?

- Review after class: 33%
- After missed class: 36%
- Before quiz or exam: 19%
- While working on homework: 9%
- Other: 3%
Student Surveys

Do captured lectures affect attendance?

- Yes: 87%
- No: 13%
Student Surveys

Positive impact on performance?

- Yes: 75%
- No: 7%
- Not sure: 18%
Should captured lectures be used in more courses?

- **Yes**: 88%
- **No**: 9%
- **Maybe**: 3%
Student Surveys

- “The best thing is once I'm lost in class, the captured video can help me to review what's going on so that I can help myself understand the materials better.”

- “Because I am international student I do not catch everything in the lecture so it is good to me to hear what I miss at that day.

- “The lack of video recording encourages professors to no longer use blackboards and rely solely on power point presentations, a much less effective method of presenting information and causes many students undue difficulty in learning the information.” (Non Sympodium classroom)
Faculty Feedback

- Jon Abraham (Math)
- Tom Keil (Physics)
Additional Faculty Feedback

- Conference/lab instructors review captures
  - Nancy Burnham (Physics): conference instructor in C-term for PH1110 (does not attend lectures)
- Technology translates to other non-captured courses
  - i.e. Using Sympodium in non-captured classes
- Using Camtasia in non-lecture capturing rooms
  - Liz Ryder and Mike Buckholt’s Biology course
Discussion Points

- Can lecture capturing help us address challenges such as...
  - High-enrollment courses
  - Challenging courses
  - Academic Advising & Disability services
    - note-takers, tutors, etc.
- Should WPI promote lecture capturing to incoming students/parents?
  - University of New Haven
  - UCF College of Engineering and CS
Engineering & Science Institutions that use Lecture Capturing

- University of Central Florida
- Purdue
- University of Michigan
- UNC Charlotte
- Duke
- MIT (home grown)
- Georgia Tech
- Arizona State University
Conclusions

- At WPI, lecturing capturing
  - Is considered a helpful tool by students
  - Does not negatively impact attendance
  - Has not been proven to improve grades... yet
  - Does not require additional work on part of faculty
  - Could differentiate WPI from competitors
  - Could help with increased course enrollments
  - Could offer flexibility for academic and disability support services
Additional Resources

- Educause Learning Institute: 7 Things You Should Know about Lecture Capturing
- Tegrity Webinars
- iTunes University Better Than the Real Thing
- Proven Strategies to Accelerate Your Campus Wide Online Learning Initiative
- Lecture Capturing No Longer optional
- The Lectures are Recorded, so Why Go to Class?
- Online Literacy is a Lesser Kind
- Is Higher Ed Technology Keeping up with Student Demand?
Contact Us!

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This presentation will be available later this week at:
http://www.wpi.edu/Academics/ATC/Collaboratory/News/lecturecapturing.html