

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

Survival Models (MA4214-MA4214-D09-W1) D
- Term 09

Abraham, Jon

Playing 00:34:15 / 00:55:00

Scenes Info Help

18. 00:33:11
 Model 1: The age at death of a randomly selected birth
 $F_1(x) = \begin{cases} 0, & x < 0 \\ 0.01x, & 0 \leq x < 100 \\ 1, & x \geq 100 \end{cases}$

19. 00:34:11
 Model 1: The age at death of a randomly selected birth
 $F_1(x) = \begin{cases} 0, & x < 0 \\ 0.01x, & 0 \leq x < 100 \\ 1, & x \geq 100 \end{cases}$
DeMoivre's Law
 $f(x) = 0.01$

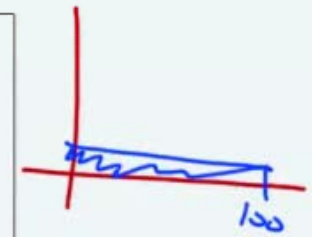
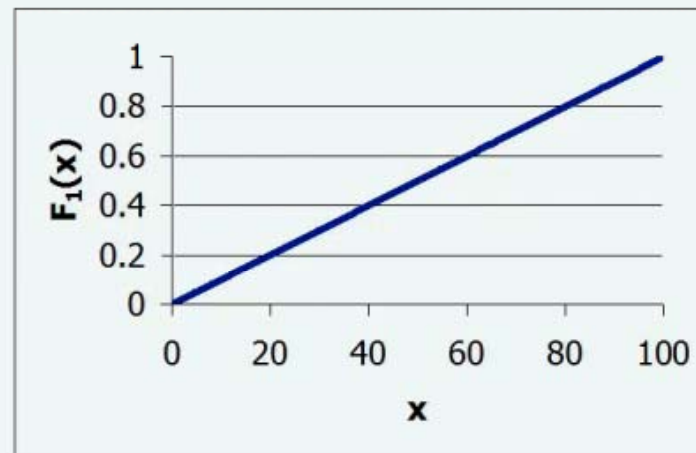
20. 00:35:12
 Model 2: The number of failures per year for randomly selected computers
 $F_2(x) = \begin{cases} 0, & x < 0 \\ 1 - \left(\frac{2000}{x+2000}\right)^2, & x \geq 0 \end{cases}$
Rayleigh

Model 1: The age at death of a randomly selected birth

$$F_1(x) = \begin{cases} 0, & x < 0 \\ 0.01x, & 0 \leq x < 100 \\ 1, & x \geq 100 \end{cases}$$

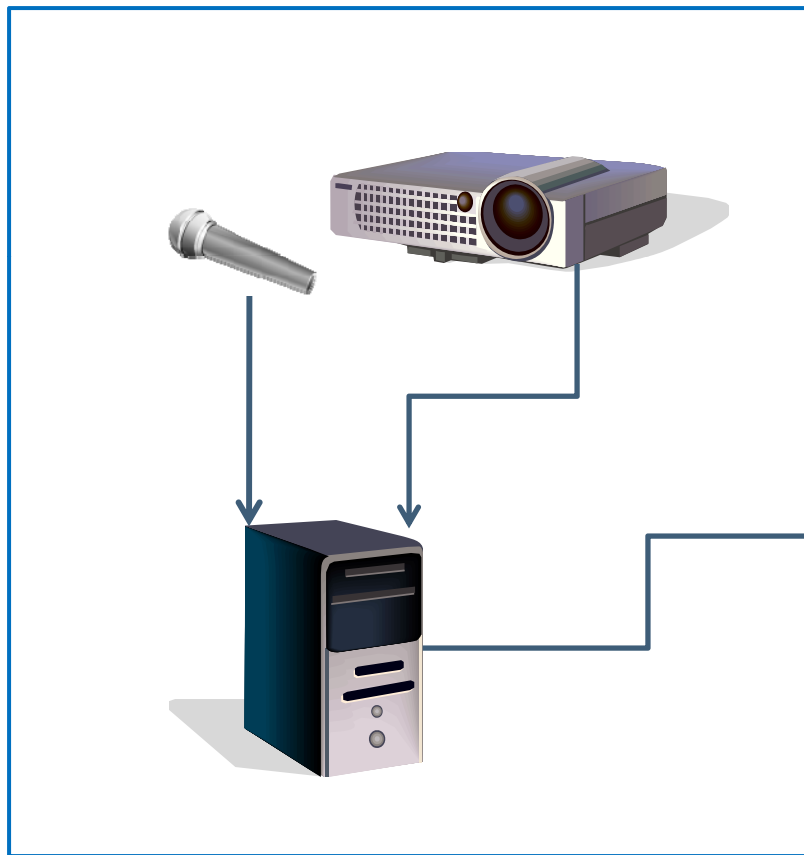
f(x) = 0.01

DeMoivre's Law
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27/111

How it Works



Classroom



Server

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 \(PH1110-PH1110-C09-LEC1\) C - Term 09](#)

[Download Lecture Audio](#)

[Download Enhanced Lecture Audio](#)

[Download Lecture Video](#)



01/23/2009 10:00:00 AM - General Physics - Mechanics

Capture Date/Time: 01/23/2009 10:00:00 AM

[General Physics - Mechanics \(PH1110-PH1110-C09-LEC1\) C - Term 09](#)

[Download Lecture Audio](#)

[Download Enhanced Lecture Audio](#)

[Download Lecture Video](#)

Student PC or portable device



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

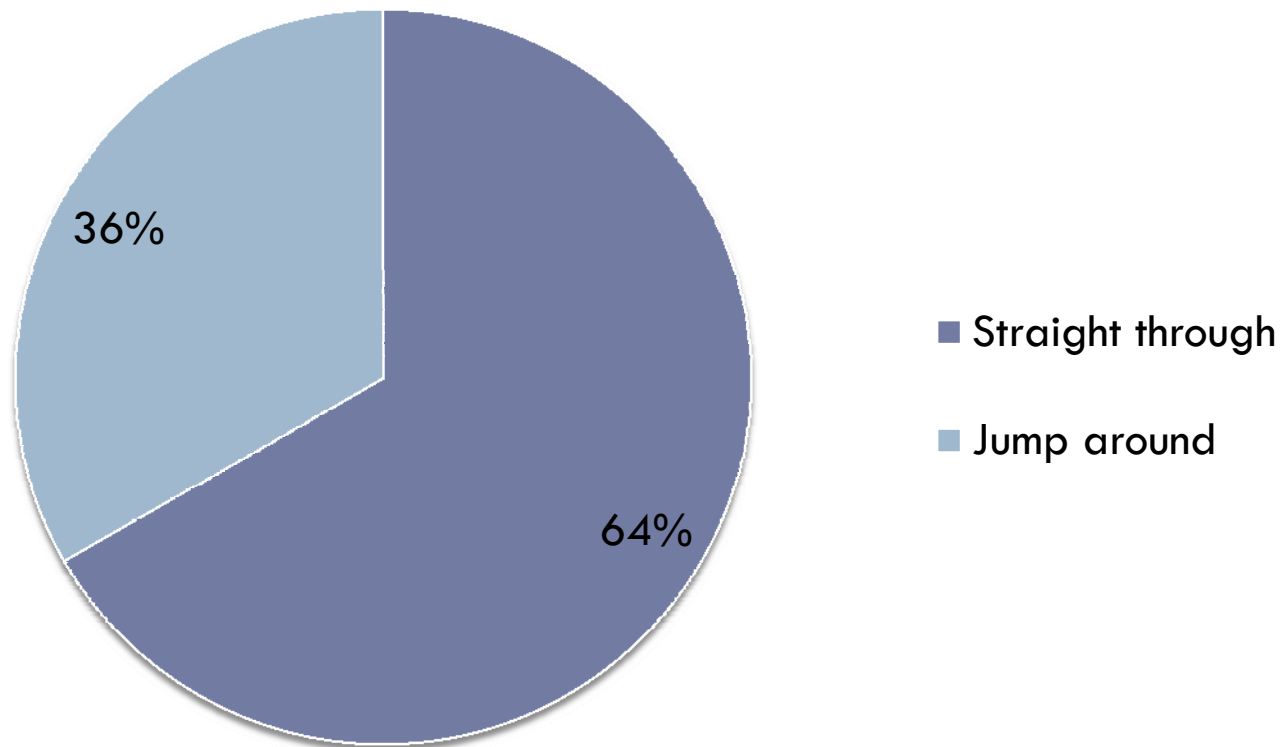
- Undergraduate Courses in
 - ▣ Biology
 - ▣ Civil Engineering
 - ▣ Engineering Sciences
 - ▣ Math
 - ▣ Mechanical Engineering
 - ▣ Physics
 - ▣ Robotics
- Graduate Courses in
 - ▣ Civil Engineering
 - ▣ Fire Protection Engineering
 - ▣ Mechanical Engineering

Students Impacted

- Undergraduate
 - A2008 – 637 students
 - B2008 – 918 students
 - C2009 – 484 students
 - D2009 – 465 students
- Graduate
 - Fall 2008 – 254 students
 - Spring 2009 – 273 students

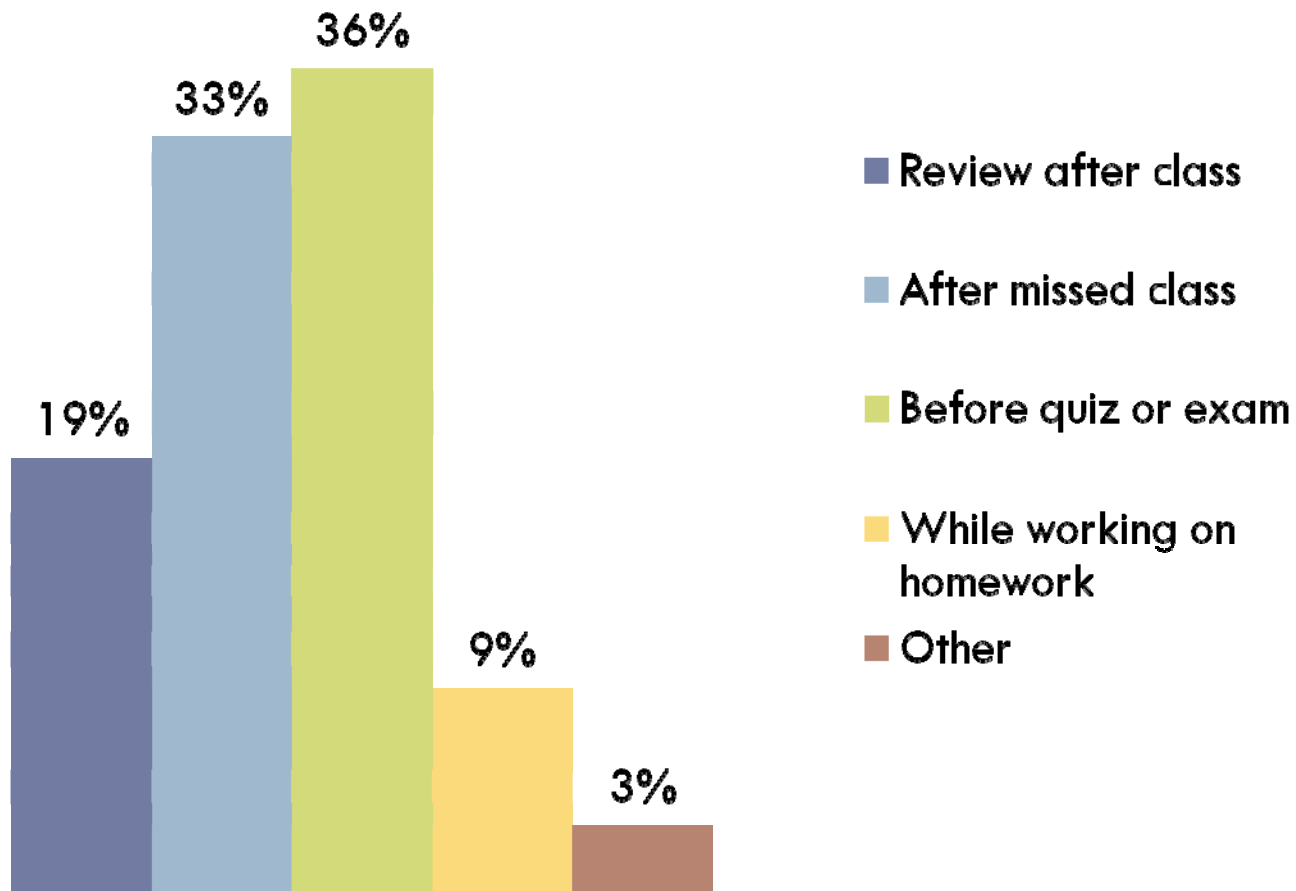
Student Surveys

Primary Method of Watching



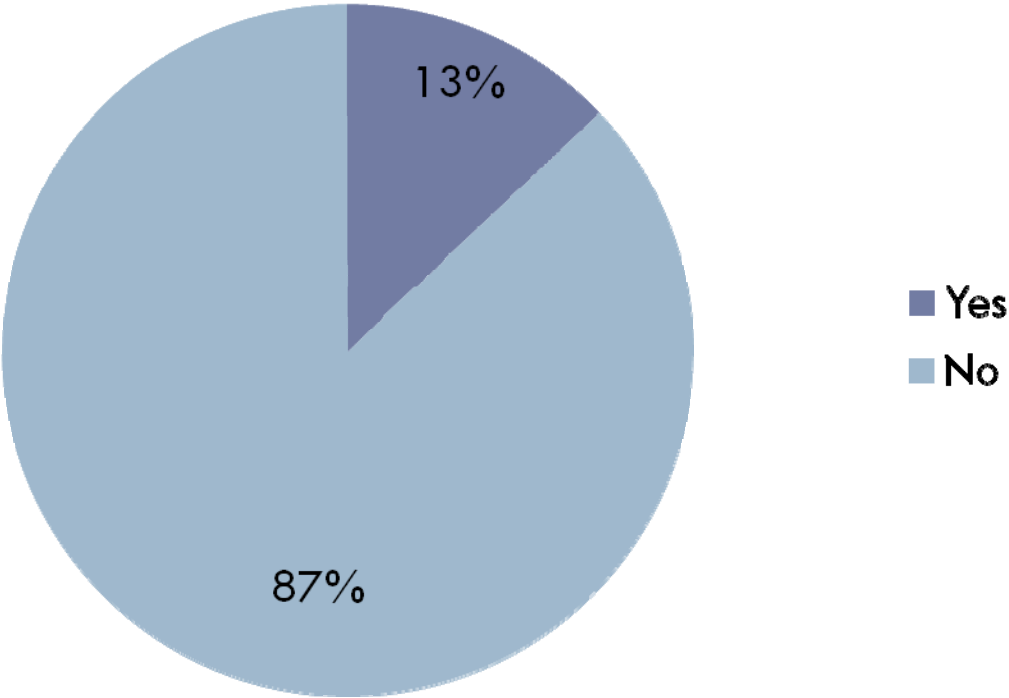
Student Surveys

When do you view the captured lectures?



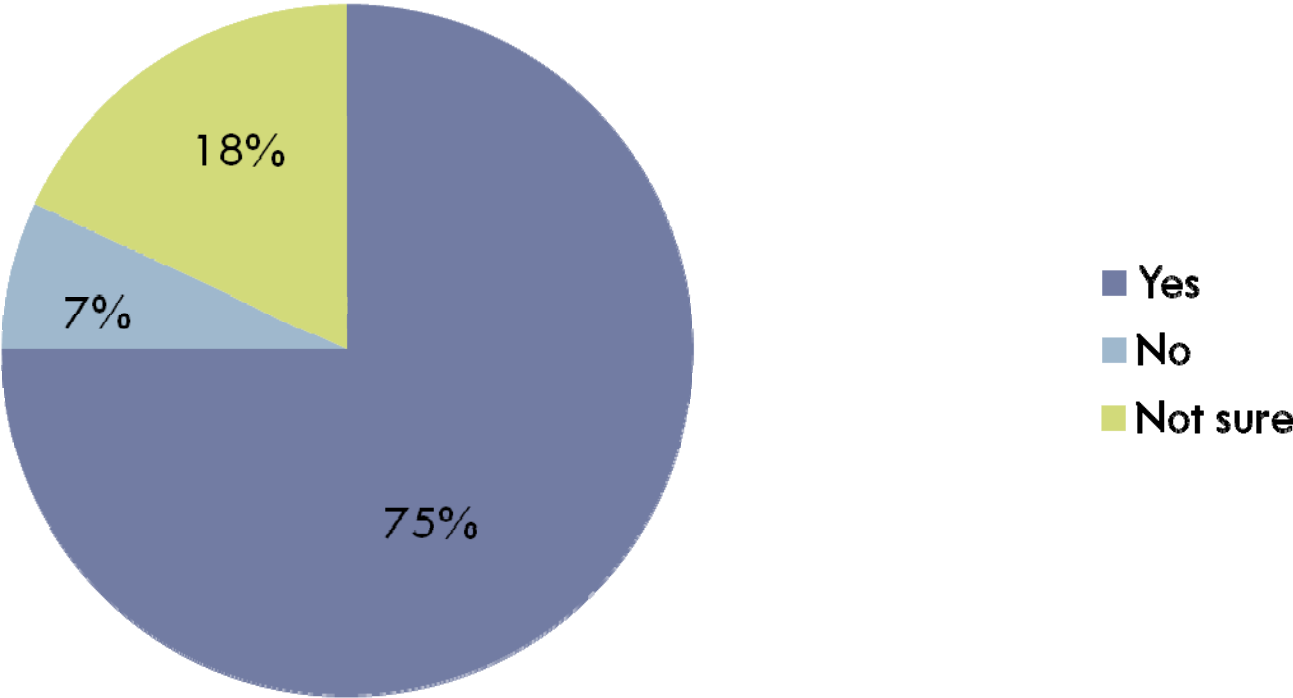
Student Surveys

Do captured lectures affect attendance?



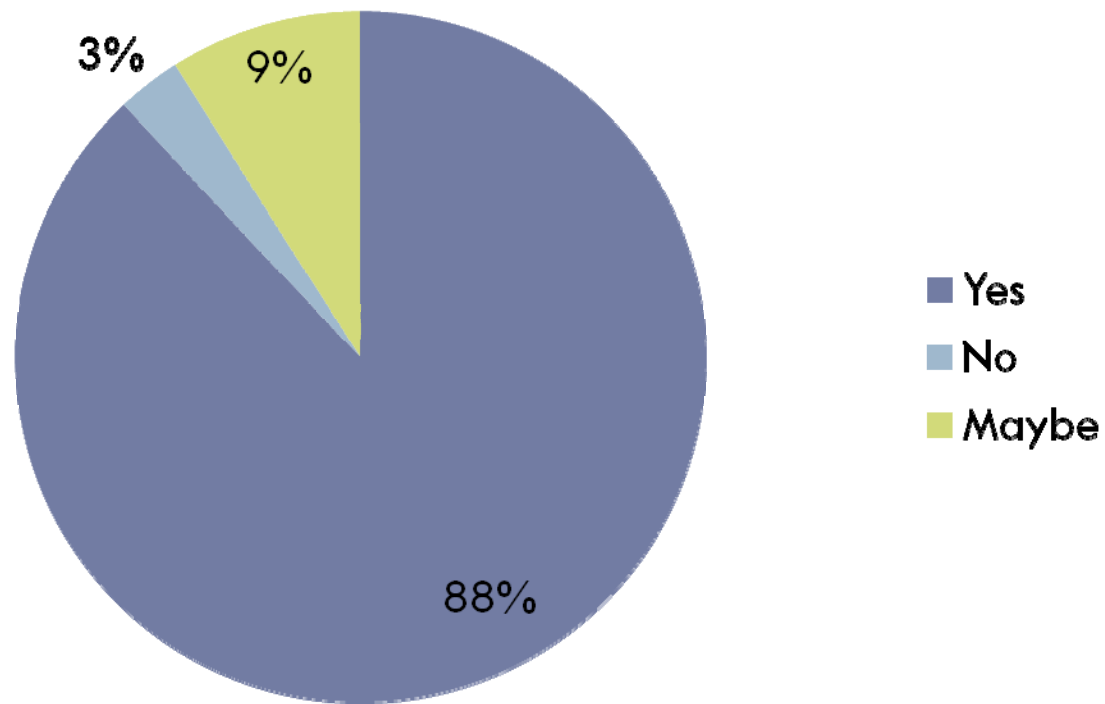
Student Surveys

Positive impact on performance?



Student Surveys

Should captured lectures be used in more courses?



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 Symposium 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](#)

The High-Tech Edge



What if you missed an important point and wanted to review a lecture again, on your own time, in your own way? Or what if you wanted to input your notes electronically on your own computer? And wouldn't it be valuable if your professor could electronically survey the members of the class about a specific point — in real time — to make sure that they were understanding the issue?

When you come to UNH, you enter the amazing new world of educational technology. As Vincent Mangiacapra, Chief Information Officer, notes, "We are definitely among the nation's educational pioneers in using technology in the classroom."

Thanks to Tegrity, a system that was launched in the spring of 2006, you can review lectures at your leisure; write your notes electronically using a special Logitech® iC digital pen; and participate in a real-time survey in class, among other extraordinary innovations.

"The use of technology in the classroom at UNH has taken off like a rocket," explains Mangiacapra. "The faculty love it; the students love it. We're on a roll."

Getting to Know Tegrity
UNH students get an early exposure to all the benefits of Tegrity during summer orientation. During the first semester that Tegrity was in use, students often called up past lectures — no surprise — right before exams!



At UNH, "smart classrooms" enhanced with innovative programs such as Tegrity give both students and teachers a powerful high-tech edge.

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>