

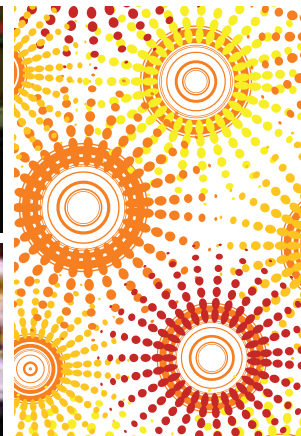
FETC

2009

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Juan Orozco

Avoiding PowerPoint Overload: Keeping the Learner in Mind
Randy Page

Serving the School Community Through Digital Storytelling
Randall Palmer

Cool Classroom Clickers Georgia Parker

Is Your District's Technology Department Ready for Student E-mail?
Jeff Patterson

It's Not the Tools You Have in Your Math Class but How You Use Them Gloria Peifer

Professional Development Practices that Work for 21st Century Learners Karen Percak

Curriculum Accessibility for Students with Visual Impairments
Jill Pfluke

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STEM, Careers and Technology: Can Content be Exciting? Yes it Can!
Karen Rasmussen

How Not to Convert a Traditional Class to an Online Format
Richard Repp

A Successful Road Map to Renaissance Place Implementation
Melinda Richwine

The Digital Bridges of Madison County Dale Rickards

Teaching Online in a Web 2.0 Context: Free Tools and Ideas
Margaret Riel

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Technology Tools for Reading and Learning: The Road to Academic Success! Beth Saunders

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Using Technology to Track Zero Tolerance Discipline Policy Infractions Brian Schoonover

Digital Portfolios: Authentic Assessment Tool for Elementary Students
Kati Searcy

Web 2.0 Risks and Rewards: Incorporating New Tools into the Classroom Linda Sharp

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Language Arts 21st Century Classrooms Melissa Shields

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Dow Williamson

21st Century Skills Learning Environments Jessie Woolley-Wilson

A Panel Discussion on Implementing Project-based Learning
Gordon Worley

Thinking 2.0: Use Web-based Scenarios to Teach Collaboration
Sandra Wozniak

Cyber Bullying: Who, What, Where, When, Why and How
Chris Wright

The Frugal, Tech-Savvy, Math Teacher David Young

No Boundaries: A NASA and USA TODAY Online STEM Careers Initiative Bill Yucuis

Information Literacy for Idiots Cynthia Zimmerman

How Not to Convert a Traditional Class to an Online Format

Richard Repp, Ph.D.
Full Sail University

FETC
Orlando, Florida
January 23, 2009
10:35 AM
Concurrent Session 5

Modern educational practice includes the trend of putting course materials on line to facilitate student access to information. One trend is to record live lectures and place them on line. Little research exists on the efficacy of the practice. The presentation highlights the conversion of a university-level course from a traditional lecture to a distance-learning format.

Much of the presentation highlights technical challenges in the procedures of converting the course, and how these challenges can be minimized. Anyone considering digitizing course materials will benefit for this portion of the presentation.

Statistical analysis of three different classes showed differences among the comparison groups: Group 1, viewing live lectures; Group 2, viewing a mix of live and podcast lectures; and Group 3, viewing all podcast lectures.

The study concludes that podcasts of live lectures do not lead to the same student success as live lectures. The chief weakness of podcasts is preparing students for tests. Student attitude seemed more negative for all-podcast classes, but attitude could not be proven statistically. The main reason for the weakness of podcasts is that students skip them, even if forced to be in front of a computer with adequate time.

For more information see
<http://richardrepp.com/>
or contact rrepp@richardrepp.com

How Not to Convert a Traditional Class to an Online Format

How Not to Convert a Traditional Class to an Online Format

Richard Repp, Ph.D.
Full Sail University
FETC
Orlando, Florida
January 23, 2009

Overview

- Media design and implementation
- Research design
- Statistical findings
- Conclusions

Background

- Enrollment gains
- Teaching load limitations
- Limited size of lab
- Need to teach advanced courses

Conversion to DL

- Began with grades on WebCT (2004)
- Students did not have to ask

Last Name	First Name	User ID	Role	Midterm	Final	FinalTest
Andega, M	Mugheh	mmandega	Student	...	...	...
Balimach, M	Michael	mbalimach	Student	...	...	...
Boates, B	Brendlyn	bboates01	Student	...	...	...
Capozzi, D	Dev'El	dcapozzi1	Student	...	...	...
Grassford, C	Christy	cgrassford	Student	...	...	...
Greenhalgh, C	Craig	cgreenhal	Student	...	...	...
Leach, P	Paul	pzeach1	Teaching Assist	...	...	...

Added tests 2005

- Difficult to produce
- Automatic grading

1515Midterm
Richard Repp
Started: February 26, 2007 1:06 PM | 51 Questions

23. (3.0 points)
Match the software category:

Drill and Practice [Simulus/response]

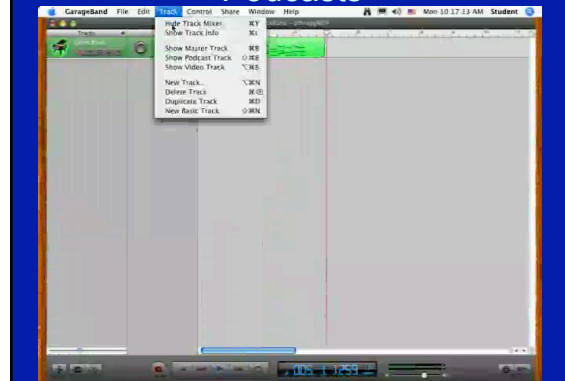
Flexible Practice [Simulus/response with more choices]

Simulation [Select choice...]

Multimedia [Emulates real-world experience, Lots of graphics and choices, Simulus/response with more choices]

Question Status	1	2	3	4	5
Unanswered	0	0	0	0	0
Answered	6	7	8	9	10
	11	12	13	14	15
	16	17	18	19	20
	21	22	23	24	25
	26	27	28	29	30
	31	32	33	34	35
	36	37	38	39	40

Podcasts



How Not to Convert a Traditional Class to an Online Format

Podcasts

- Recordings of lectures Fall 06
- ScreenRecord® software
- [Uncompressed approached 1GB](#)
- [Compressed version for web](#)
- iSight camera for show and tell

Challenges in recording

- Awkwardness
- Who is the target audience, the class or the recording?
- Microphone does not pick up students
- Tethered to teacher's station
 - Fixing student computer
 - Silence on recording
- iSight poor for whiteboard

Technical challenges

- [Audio dropouts](#) despite fast computer
 - Particularly on Audio software
 - Recorded safety audio to another computer [because...](#)
- QuickTime would not convert large files
 - Broke into segments for web
 - Placed segments in WebCT...



Fall 06 formats for course alternated

- Live lectures
- Podcasts projected
 - Awkward for me
 - Ability to observe students reactions
 - Ability to help in real time
 - Great self-evaluation
- Podcasts on individual computers

Evaluation surveys

- Anonymous
- Given at end of semester
- Separate from normal evaluations
- Likert-type responses
- Reactions to anticipated positive and negative events gleaned from interviews

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Please rank the following advantages of using movies for lectures:

Having extra time in class to work on projects.	Not advantageous	1	2	3	4	5	6	7	very advantageous
Average = 5.5	Standard Deviation = 1.7								
Reviewing lectures from missed classes.	Not advantageous	1	2	3	4	5	6	7	very advantageous
Average = 5.4	Standard Deviation = 1.8								
Material available to study for test.	Not advantageous	1	2	3	4	5	6	7	very advantageous
Average = 5.3	Standard Deviation = 2.0								
Ability to pause and rewind movies.	Not advantageous	1	2	3	4	5	6	7	very advantageous
Average = 6.0	Standard Deviation = 1.5								
Ability to take lectures home.	Not advantageous	1	2	3	4	5	6	7	very advantageous
Average = 5.4	Standard Deviation = 2.0								

Please rank the following problems:

Technical problems with movies, such as audio skipping.	Not a problem	1	2	3	4	5	6	7	A huge problem
Average = 3.5	Standard Deviation = 1.7								
Difficulties in asking questions.	Not a problem	1	2	3	4	5	6	7	A huge problem
Average = 3.6	Standard Deviation = 2.0								
Feeling of isolation, lack of personal contact.	Not a problem	1	2	3	4	5	6	7	A huge problem
Average = 3.5	Standard Deviation = 2.2								

Preferences

- Did you prefer
 - a.) Live lectures,
 - b.) Recorded lectures with headphones, or
 - c.) Recorded lectures played for the class.
- Count (N=21):
 - a.) 13
 - b.) 6
 - c.) 2
- Total for “live” 13 (62%),
Total for “recorded” 8 (38%)

Initial conclusions

- Recording lectures was feasible, if not optimal.
- Prerecorded lectures would have produced a better result.
- Students were accepting of the recorded lectures, but preferred live lectures.

Spring 2007

- All lectures given in podcast format
- Attendance required
- Students worked at their own pace
- Instructor available for questions

Comparison groups

1. Spring 2006, all live lectures
2. Fall 2007, mix of live and podcast
3. Spring 2007, all podcasts

All other class procedures remained the same.

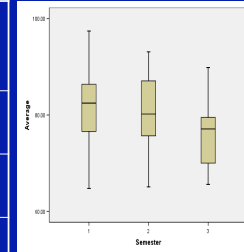
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Measurements

- Course success measured by class grade (ANOVA, all groups)
- Attitude measured by survey (t-test, groups 2 & 3)
- And class evaluations (comparison of data from forms)

Course averages

Group	Mean (Max. 100)	Std Dev.
1.	82.0	7.9
2.	80.7	7.5
3.	76.1	6.9



Results of Statistics

- ANOVA Significant difference between groups
($F=3.6$, $df=2$, $p<.034$)
- Where...

Tukey HSD

- Members of the live lecture group (1) scored significantly higher than the all Podcast group (3).

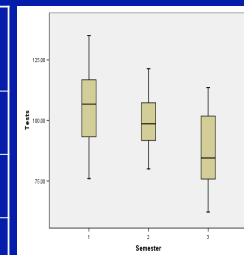
p<	1	2	3
1		.843	.034
2	.843		.115
3	.034	.115	

More analysis

- Grading consisted of Projects and Tests
- Sub-Hypothesis: Students in the podcast group C skipped the lectures and might have done poorly on the tests.

Test averages

	Mean (Max 150)	Std. Dev.
1.	104.7	15.9
2.	99.4	10.9
3.	87.9	15.5



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Results of ANOVA

- ANOVA Significant difference between groups
($F=7.7$, $df=2$, $p<.001$)
- Where...

Tukey HSD

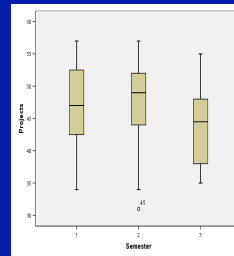
- Members of the live lecture group (1) scored significantly better than podcast group.
- Members of the mixed group (2) scored significantly better than the podcast group (3).

p<	1	2	3
1		.429	.001
2	.429		.027
3	.001	.027	

Sub-Hypothesis 2

- Because the students in the all podcast group had more flexible time to spend on the projects, their project grades would be superior to the other groups.

Project score averages



Group	Mean (Max 60)	Std. Dev.
1.	47.1	6.7
2.	46.7	7.1
3.	44.0	5.8

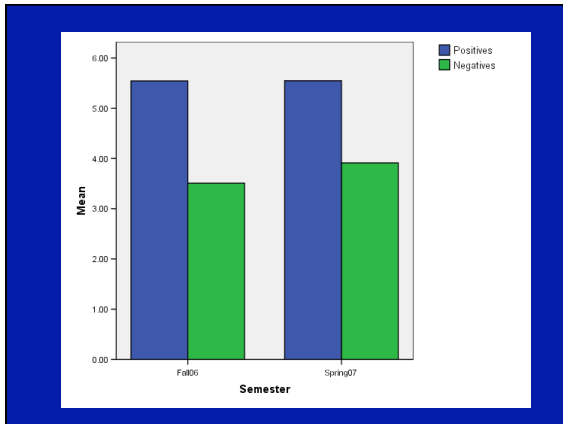
Results of ANOVA

- No significant difference among the groups.
- ($F=1.4$, $df=2$, $p>.260$)
- (No Tukey HSD necessary)

Attitude measure-in class survey

- Given only to groups B and C.
- Would not make sense to all lecture group
- Asked to agree with positive aspects of technology or negative aspects

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Analysis

- Although the negatives were slightly higher for the podcast group, no significant differences existed.
- ($t=.839, p>.409$)
- Student comments were less positive generally than previous semester.

Attitude measure

University course evaluations

- Instructor and course ratings for the podcast group were 0.7 points lower on a 5-point Likert-type scale
- Unacceptable result
- Statistical analysis impossible; no access to raw data
- Student comments very negative in this anonymous survey

In class survey questions for podcast group only

- How likely to watch lectures for tests
- How likely to watch lectures for projects
- Average slightly more than half of podcasts watched
- No significant difference

A bar chart with 'Semester' on the x-axis (Spring07) and 'Mean' on the y-axis (0 to 5). The legend indicates 'Podcasts_Lab' in blue and 'Podcasts_Lectures' in green. For Spring07, Podcasts_Lab is approximately 4.1 and Podcasts_Lectures is approximately 3.4.

Semester	Podcasts_Lab	Podcasts_Lectures
Spring07	4.1	3.4

Conclusions

- Podcasts of live lectures do not lead to the same student success as live lectures.
- The chief weakness of podcasts is preparing students for tests.
- Student attitude seemed more negative for all-podcast classes, but attitude could not be proven statistically.
- The main reason for the weakness of podcasts is that students skip them, even if forced to be in front of a computer with adequate time.

WARNING

This study does NOT prove that distance learning is inferior to classroom instructions.

In order to produce a meaningful statistical result, all other factors except for content delivery needed to be the same in this study.

Distance learning necessities

- Distance learning courses need more feedback than traditional courses.

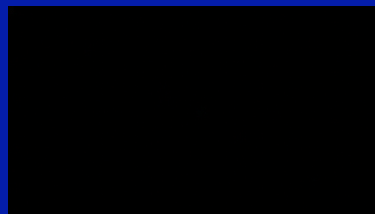
Live lectures are too chaotic to make a good podcast.

- Produce high quality podcasts.
- Budget 1 hour prep time for 1 minute of podcast time.
- Limit podcasts to 20 minutes.
- Use a script.

Recording

- Buy a good microphone
- Do not use camcorder audio
- Record in a quiet room
- Use a tripod for live shots
- Limit talking heads
- Edit
- (Example...)

MTA Trailer



- For more tips on podcasting, visit the Full Sail University booth.

Thank you

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