Teaching and Learning in an Evolving Educational Environment

Chuck Dziuban

Research Initiative for Teaching Effectiveness
University of Central Florida
The University of Central Florida
Unbundled classroom
Emerging learning modes

- Mobile Learning
- Learning in the Cloud
- Lecture Capture
- Adaptive Learning
- Online Learning
- Web 2.0
- Flipped Classroom
- MOOCs
- Blended Learning
How do we know?
…or do we know?

Students

Success
Retention
Reactive behavior patterns
Generational comparisons

Faculty

Engagement
Demographic profiles
Strategies for success
Information fluency

Chuck, this has nothing to do with me…

SoTL projects
Faculty SoTL projects

- Civility
- Manipulatives in chemistry
- Higher order evaluation models
- Virtual worlds
- Online Persona
- Constructive Engagement
- Essay Comments
- Theater
How do you maintain your teaching persona online?

- Bill Phillips – Center for Distributed Learning

Who are you?

F2F → Online
Higher order evaluation models in online learning: Constructive engagement

- Aaron Liberman – Health and Public Affairs
- Assessment as part of the learning process

- Fairer evaluation
- Improved student interaction
- Improved instructor interaction
Online theater

Antigone

Actors at Bradley

Actors at UCF

Audience at Bradley

Audience at UCF

Internet

John Shafer - Theater
Some interesting learning models
An engagement model: Web 2.0
An authentic model:  
Public relations

Robert French  
Auburn University
Second Life model
Student success
Student success

F2F (n=647,390)  Blended (n=73,629)  Fully Online (n=189,208)

<table>
<thead>
<tr>
<th></th>
<th>Summer 12</th>
<th>Fall 12</th>
<th>Spring 13</th>
<th>Summer 13</th>
<th>Fall 13</th>
<th>Spring 14</th>
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Success Rates by Modality for the College of Sciences Summer 12 – Spring 14

<table>
<thead>
<tr>
<th>Semester</th>
<th>F2F (n=198,574)</th>
<th>Blended (n=17,427)</th>
<th>Fully Online (n=57,465)</th>
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<tr>
<td>Spring 14</td>
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<td>86</td>
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Success Rates by Modality for the College of Arts & Humanities Summer 12 – Spring 14

- F2F (n=105,365)
- Blended (n=9,958)
- Fully Online (n=38,719)

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Percentages show the success rates for different modalities across various semesters.
Generations
Some characteristics of the generations

- **Matures (prior to 1946)**
  - Dedicated to a job they take on
  - Respectful of authority
  - Place duty before pleasure

- **Baby boomers (1946-1964)**
  - Live to work
  - Generally optimistic
  - Influence on policy & products

- **Generation X (1965-1980)**
  - Work to live
  - Clear & consistent expectations
  - Value contributing to the whole

- **Millennials (1981-1994)**
  - Live in the moment
  - Expect immediacy of technology
  - Earn money for immediate consumption
Non-ambivalent satisfaction with online and blended courses

- Boomers (1946-1964): 65%
- Gen X (1965-1980): 56%
- Millennial (1981-1994): 42%

$n=526$
Disruption
Disruptive innovation!

- There’s one in YOUR future!!
- And another one right behind it!

Wayne Hodgins, 2007
Will massive, open online courses (MOOCs) revolutionize higher education?

Sebastian Thrun

- Stanford University
Analytics

Signals

MAP-Works

Degree Compass

SNAPP

Predictive Analytics Reporting (PAR) Framework

Carnegie Mellon-OLI

Civitas Learning
Metaphors for analytics

- Landscape
- Thermometer
- Road map
- ATM
- Trawl net
- Work-out room

Clan
Are you satisfied?
Student satisfaction in fully online and blended courses

![Bar chart showing student satisfaction in fully online and blended courses. The chart indicates that 91% of students were satisfied in fully online courses (N = 1,526), while 87% were satisfied in blended courses (N = 485). The chart also shows that 5% of students were undecided and 4% felt less than satisfied in fully online courses, and 9% were undecided and 3% felt less than satisfied in blended courses.](chart.png)
Students’ positive perceptions about online and blended learning

- Convenience
- Reduced Logistic Demands
- Increased Learning Flexibility
- Technology Enhanced Learning

Reduced Opportunity Costs for Education
Students’ less positive perceptions about online and blended learning

- Reduced Face-to-Face Time
- Technology Problems
- Reduced Instructor Assistance
- Overwhelming
- Increased Workload

Increased Opportunity Costs for Education
The Anna Karenina principle

“Happy families are all alike; every unhappy family is unhappy in its own way”
I can’t get no....
Student satisfaction

- Ambivalence
- Enriched Learning Environment
- Rules of Engagement
- Instructor Committed to Learning
- Respect and Concern
- Engagement
- Learning Latitude
“This guy is so boring, my pillow needs a pillow!”
-Ratemyprofessor.com
Rate My Professors: University of Central Florida

• “She is very powerful in motivating the class to participate and is very clear. She is a very kind teacher who teaches from her heart!”

• “Explains everything so clearly and is really enthusiastic about the material. I loved going to class.”

• “Works really hard to ensure all of his students succeed in his class. He returns assignments filled with remarks and suggestions. Very friendly and easy to talk to.”

• “Often late or unprepared. Never available outside class. Can be cruel and intimidating to students.”

• “She is lacking in creativity and consistently fails to engage the class because all she does is read from her PowerPoints without expanding.”

• “Boring, biased, boring, arrogant, boring, self-absorbed—did I say boring?...”
Rate My Professors: Emory University

- “She is very powerful in motivating the class to participate and is very clear. She is a very kind teacher who teaches from her heart!”
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- “She is lacking in creativity and consistently fails to engage the class because all she does is read from her PowerPoints without expanding.”
- “Boring, biased, boring, arrogant, boring, self-absorbed—did I say boring?...”
An evaluation protocol

- Feedback
- Interest in learning
- Use of class time
- Organization
- Continuity
- Pace of course
- Assessment of your progress
- Texts and supplemental material
- Description of objectives
- Communication
- Expression of expectations
- Availability to assist
- Respect and concern
- Stimulation of interest
- Facilitation of learning
- Overall assessment
A decision rule for the probability of faculty member receiving an overall rating of *Excellent* (n=1,280,890)

<table>
<thead>
<tr>
<th></th>
<th>Excellent</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
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<tr>
<td>Facilitation of learning</td>
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<tr>
<td>Communication of ideas</td>
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<tr>
<td>Respect and concern for students</td>
<td>★</td>
<td></td>
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</tbody>
</table>

Then...

The probability of an **overall** rating of *Excellent* = .97  &

The probability of an **overall** rating of *Fair* or *Poor* = .00
A decision rule for the probability of faculty member receiving an overall rating of *Poor* ($n=1,280,890$)

<table>
<thead>
<tr>
<th>If...</th>
<th>Excellent</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
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<td></td>
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<td>[●]</td>
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</tbody>
</table>

Then...

The probability of an overall rating of *Poor* = 0.90 &

The probability of an overall rating of *Very Good* or *Excellent* = 0.00
A comparison of excellent ratings by college unadjusted and adjusted for instructors satisfying rule (n=1,280,890)

<table>
<thead>
<tr>
<th>College</th>
<th>Overall % Excellent</th>
<th>If Rule %</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>Education</td>
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Excellent ratings by course modality for all instructors and those satisfying the rule (n=126,672)

<table>
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<th>Course Modality</th>
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<th>If Rule % Excellent</th>
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<td>Lecture capture</td>
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<td>Blended LC</td>
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A comparison of excellent ratings by class size decile unadjusted and adjusted for instructors satisfying the rule (n=1,176,664)

<table>
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<tr>
<td>10</td>
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What could this be???

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Taleb: The black swan

- Monumental impact
- Retrospective prediction
- Unpredicted
- Market crash
- Back-filled narrative
- Undetectable outliers
- Technology enhanced learning
- 9/11
- Google
- Harry Potter
- Y2K
Research Initiative for Teaching Effectiveness

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