Recent Research on the SUNY Learning Network

Longitudinal data, narrative results, and a foray into the issue of neo-millenials

Peter Shea
LE Senior Researcher
Educational Theory and Practice &
College of Computing and Information
University at Albany
State University of New York
Overview

• SLN student survey results past 3-4 years
• SLN narrative results
• Other recent research that offers guidance
• SLN data on neo-millenials/online learning
• Conclusions - recommendations
What would you do if this course was not offered online?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take the same course in the classroom at my current college</td>
<td>1576</td>
<td>38.8</td>
<td>38.8</td>
</tr>
<tr>
<td>Take the same course in a classroom at a different college</td>
<td>258</td>
<td>6.4</td>
<td>45.2</td>
</tr>
<tr>
<td>Take the same course online at a different college</td>
<td>1163</td>
<td>28.7</td>
<td>73.9</td>
</tr>
<tr>
<td>I would not take the course</td>
<td>1060</td>
<td>26.1</td>
<td>100</td>
</tr>
</tbody>
</table>
Trends in SLN Student Satisfaction

"Overall, I was very satisfied with this course"
Trends in SLN Student Satisfaction

Overall, I was very satisfied with this course

[Bar chart showing satisfaction trends over different terms from Spring 2002 to Fall 2005. The chart includes categories for "Unsatisfied", Strongly Disagree, Disagree, Neutral, Agree. The percentages for each term are displayed.]
Trends in SLN Reported Learning

Overall, I learned a great deal in this course

<table>
<thead>
<tr>
<th></th>
<th>Spring 2002</th>
<th>Fall 2003</th>
<th>Summer 2004</th>
<th>Spring 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>7.89</td>
<td>7.34</td>
<td>10.43</td>
<td>4.09</td>
</tr>
<tr>
<td>Disagree</td>
<td>41.35</td>
<td>42.77</td>
<td>37.77</td>
<td>42.11</td>
</tr>
<tr>
<td>Neutral</td>
<td>43.71</td>
<td>43.77</td>
<td>39.63</td>
<td>45.90</td>
</tr>
<tr>
<td>Agree</td>
<td>39.63</td>
<td>42.77</td>
<td>45.00</td>
<td>37.90</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>46.92</td>
<td>43.77</td>
<td>7.38</td>
<td>2.19</td>
</tr>
</tbody>
</table>

Overall, I learned a great deal in this course
Trends in SLN Reported Learning

Overall I learned a great deal in this course

- Spring 2002: 10.73%
- Fall 2002: 9.53%
- Fall 2003: 8.92%
- Spring 2004: 9.31%
- Fall 2004: 7.30%
- Spring 2005: 6.09%
- Fall 2005: 6.66%
Take more online courses?

Consider Taking Other Online Course in the Future

- No
- No - unless absolutely necessary
- Undecided
- Yes - some additional courses
- Yes - as many as possible
Take more online courses?

Consider Taking Other Online Course in the Future?

- Total
- No
- No - unless absolutely necessary
- Undecided
- Yes - some additional courses
- Yes - as many as possible
Take entire degree online?

Planning to Complete the Entire Degree Online

- Not enrolled in a degree program
- No
- Undecided
- Yes - I'd consider this
- Yes - definitely

* Note
The options in Fall 2005 were
Yes
Not Sure
No
Take entire degree online?

Planning to Complete the Entire Degree Online

<table>
<thead>
<tr>
<th>Time</th>
<th>2002 Spring</th>
<th>2002 Fall</th>
<th>2003 Fall</th>
<th>2004 Spring</th>
<th>2005 Spring</th>
<th>2005 Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Planning to Complete Online</td>
<td>21.64</td>
<td>26.86</td>
<td>30.52</td>
<td>29.32</td>
<td>28.97</td>
<td>33.87</td>
</tr>
</tbody>
</table>

*Note: The options in Fall 2005 were Yes, No, Not Sure, Undecided, Yes - I'd consider this, Yes - definitely.
Narrative Data

We asked students several open ended questions – one of which was:

“What has been the most significant impact of the availability of online courses on your life?”

“Convenience and flexibility”

In the service of what?
Narrative Data

Responses fall into several themes -
Online learning supports inter-related and critical life transitions from:

• School to work
• Work to school
• Work to family
• Home to the “outside world”
• A difficult “status quo” to greater hope and opportunity
Status Quo to Hope

“(Online courses) have changed my life. I never thought of college as a possibility for me because of my work and family obligations.”
Status Quo to Hope

“I have a seven month old baby and limited income. I can not afford to pay someone else to watch him while i go to school. In addition, i live very far from campus.”
Home to the Outside World

“Since I have Chronic Lyme disease and am housebound the online courses give me the ability to do my schoolwork anytime of the day that I am feeling well enough to do so.”
Home (back) to Work

“I am able to complete my program at the same time my youngest goes to school. This allows me to return to the work force quickly and be able to achieve my goals for life. It also gives my children a great start at life by enabling me to be a stay at home mom.”
Home (back) to School

“I can finally work on my degree again. I have three teenagers and I haven't been able to do so till now.”
Work (back to) to family

“It has given me as a divorced mother, working full time, the ability to pursue a college degree while not giving up anything in regards to my children or my senior citizen parents. They have always been and continue to be my priority. Online fits into my life. The only thing that suffers is my sleep.”
Work (back to) to family

“That I can get a quality education from a college like SUNY without a cheesy University of Phoenix degree. I can also support myself and my family while I attend.”
Other Recent Research

Lessons we have learned...lessons we may need to learn...
Lessons we have learned about “distance educations”:

- No significant difference between f2f and “distance” education (Russell, 1999) 355 studies

- Implication: No worries – online and F2F are “the same” in terms of satisfaction and learning
How to go beyond NSD?

Evidence from 4 new meta-analyses

If:
- Two-way interaction = better results for DL v f2f
- High instructor involvement = better results for DL v f2f
- Combined synch and asynch interaction = better results for DL v f2f
- It is recent research - after 1998 studies begin to favor DL – changing technology (interactive OLL)?
Implications

Going beyond No Significant Difference…

• It’s all about the interaction…
Lesson we need to learn?
Results related to age

• Research on the generations done at UCF and elsewhere

• EDUCAUSE - new book – free and downloadable – “Educating the Net Generation…”

• Quick hide: The neo-Millenials are coming!
Students who were very satisfied by generation

- **Boomer**: 55% (n=328)
- **Generation-X**: 38% (n=815)
- **Millennial**: 26% (n=346)
Evidence from SUNY

• Other data on the issue of age and online student satisfaction –
• $N = 24,231$
• 40 colleges in SUNY – 2yr, 4yr, Grads
• Similar to UCF results…
Satisfaction with OL Courses

Course Satisfaction

- Frequency
- strongly disagree
- disagree
- agree
- strongly agree

Course Satisfaction
Satisfaction by age
Implications of research on satisfaction by age

• New research on “neo-millenials” (e.g. Dede, 2005)
• New learning styles? **Heightened** expectations…
• Based on emerging experiences in technology-mediated environments:
  • [http://muve.gse.harvard.edu/muvees2003/animations/muvees_demo_1.ram](http://muve.gse.harvard.edu/muvees2003/animations/muvees_demo_1.ram)
What they are getting...text...
What they want/need... immersive multimedia
Evidence in support of age and multimedia effects on online student satisfaction and learning
Evidence from SUNY studies

- N = 24,231
- 40 colleges in SUNY –
- Community colleges
- Four year colleges
- Graduate schools
Satisfaction by “course used multimedia” (more is better...)
Reported learning by “course used multimedia” (more is better...)

![Bar chart showing mean reported learning by course multimedia use. The x-axis represents the level of agreement: strongly disagree, disagree, agree, strongly agree. The y-axis represents mean reported learning. The chart shows an increase in mean reported learning from strongly disagree to strongly agree.]

Complete your entire degree online? by age

(Millenials don’t want what we are offering?)
Implications: net generation

- Professional development for faculty
  - Co-design learning experiences w/ students
  - Co-instruction – student knowledge sharing as major source of content and pedagogy
  - Active learning – case-based participatory simulations
  - New kinds of assessments
But how well does age correlate with satisfaction for online students?

*Correlations* with student satisfaction in online courses and (n=24,231):

**Weak correlations:**

- Gender  \( (r=0.08) \)
- **Age**  \( (r=-0.09) \)
- Employment  \( (r=0.08) \)
- Distance  \( (r=-0.08) \)
- Computer Skills  \( (r=0.03) \)
It’s the interaction…

Strong correlations:

Quality of interaction with the instructor
S-(r=\.70) RL-(r=\.64)

Amount of interaction with the instructor
S-(r=\.65) RL-(r=\.63)

Instructor clearly communicated how to succeed
S-(r=\.63) RL-(.59)

Quality of feedback
S-(r=\.62) RL-(.58)

Prompt feedback
S-(r=\.61) RL-(r=\.54)

S = Satisfaction
RL = Reported Learning
Everyone likes multimedia, not just millennials (but MM is not a strong correlate of student satisfaction)
Interaction with the instructor “matters” much more…for everyone…
Interaction with the classmates “matters” much more…for (almost) everyone…
Satisfied with this course

Node 0

<table>
<thead>
<tr>
<th>Category</th>
<th>%</th>
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<tbody>
<tr>
<td>Strongly agree</td>
<td>38.96</td>
<td>2933</td>
</tr>
<tr>
<td>Neutral</td>
<td>11.38</td>
<td>857</td>
</tr>
<tr>
<td>Agree</td>
<td>41.52</td>
<td>3126</td>
</tr>
<tr>
<td>Disagree</td>
<td>5.13</td>
<td>386</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>3.00</td>
<td>226</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>(100.00)</td>
<td>7528</td>
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High quality of interaction with instructor

Adj. P-value=0.0000, Chi-square=5877.0659, df=16

Strongly agree

Node 3

<table>
<thead>
<tr>
<th>Category</th>
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<th>N</th>
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<tr>
<td>Strongly agree</td>
<td>80.60</td>
<td>1641</td>
</tr>
<tr>
<td>Neutral</td>
<td>1.38</td>
<td>28</td>
</tr>
<tr>
<td>Agree</td>
<td>17.13</td>
<td>348</td>
</tr>
<tr>
<td>Disagree</td>
<td>0.49</td>
<td>10</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>0.20</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>(26.96)</td>
<td>2031</td>
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Neutral (missing)

Node 4

<table>
<thead>
<tr>
<th>Category</th>
<th>%</th>
<th>N</th>
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<tbody>
<tr>
<td>Strongly agree</td>
<td>12.62</td>
<td>192</td>
</tr>
<tr>
<td>Neutral</td>
<td>24.13</td>
<td>367</td>
</tr>
<tr>
<td>Agree</td>
<td>55.62</td>
<td>846</td>
</tr>
<tr>
<td>Disagree</td>
<td>4.38</td>
<td>95</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>3.21</td>
<td>48</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>(20.20)</td>
<td>1521</td>
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</table>

Strongly disagree

Node 5

<table>
<thead>
<tr>
<th>Category</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>1.43</td>
<td>5</td>
</tr>
<tr>
<td>Neutral</td>
<td>14.04</td>
<td>49</td>
</tr>
<tr>
<td>Agree</td>
<td>14.33</td>
<td>50</td>
</tr>
<tr>
<td>Disagree</td>
<td>26.65</td>
<td>93</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>43.55</td>
<td>182</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>(1.64)</td>
<td>349</td>
</tr>
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</table>
Student Satisfaction/Engagement Predictors

Online students are most satisfied when they:

- are more active learners
- perceive advantages in the online learning environment
- have high levels of interaction and high quality interaction with the instructor
- have high levels of interaction and high quality interactions with their fellow students
Implications: Faculty development – should stress good “teaching presence” - and reflective practice

- Interaction with the instructor
- Quality of interaction with the instructor
- Quality of feedback
- Prompt feedback
- Facilitating interaction with classmates
- Communicating clear expectations
- Encouraging active participation
- Low levels of technical difficulties
Implications: LMS design – should stress convenient interaction

- Easier interaction with the instructor
- More prompt feedback
- More convenient interaction with classmates
- Easier “Co-design of learning experiences w/ students”
- Easier “Co-instruction – student knowledge sharing as major source of content and pedagogy”
Thank You!

Peter Shea
LE Senior Researcher
Educational Theory and Practice &
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University at Albany
State University of New York
Teaching Presence

- Instructional Design and Organization
- Facilitation of Discourse
- Direct Instruction
Instructional Design and Org.

- Setting the curriculum
- Designing methods
- Establishing time parameters
- Utilizing the medium effectively
- Establishing netiquette
Facilitating Discourse

- Identifying areas of agreement and disagreement
- Seeking to reach consensus/understanding
- Encouraging, acknowledging, and reinforcing student contributions
- Setting climate for learning
- Drawing in participants, prompting discussion
- Assessing the efficacy of the process
Direct Instruction

• Presenting content and questions
• Focusing the discussion
• Summarizing the discussion
• Confirming understanding
• Diagnosing misperceptions
• Injecting knowledge from diverse sources
• Responding to technical concerns
Instrument

- 60 item instrument
- Measuring levels of “teaching presence”
- IDO, FD, DI and impact on
- Rovai’s Classroom Community Index
  - Levels of connectedness between students and faculty, collaboration, perceived learning and satisfaction
- 2314 respondents – large sample
Analysis

• Factor Analysis – do the Teaching Presence items “cohere” into factors?
  • Are we measuring what we think we are measuring?

• Regression Analysis – do the Teaching Presence “factors” predict Rovai’s Classroom Community Index scores?
  • Is instructor “teaching presence” a good predictor of students connectedness and learning – “Learning Community”?
Some research results

Strong association between “teaching presence” and levels of satisfaction/community/learning

• Effective Instructional Design and Organization
• “Strong” Directed Facilitation of Discourse

Lead to better satisfaction, community, learning

• Trained faculty get better results
Directed facilitation

When the professor:

• draws in participants
• creates an accepting climate for learning
• keeps students on track
• diagnoses misperceptions
• identifies areas of agreement and disagreement
• helps to resolve these by looking for areas of consensus
• reinforces student contributions
• injects their own knowledge
• confirms student understanding

Students are significantly more likely to report better “connectedness” and learning relative to courses where this does not occur as much
Instructional Design and Organization

When the professor clearly communicates:

- time parameters, due dates, and deadlines
- clear course goals, course topics
- instructions on how to effectively and appropriately participate

Students are also significantly more likely to report better “connectedness” and learning relative to courses where this does not occur as much
So what?

Conclusion – we can promote online learning community by focusing on teaching presence -
It's not just what happens *in* the online classroom...
Source: “Beyond the Administrative Core: Creating Web-Based Student Services for Online Learners,” Western Cooperative for Educational Telecommunications (WCET), 2002
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