Online Learning in Higher Education: Research on Challenges and Success

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Publications


Online Learning as Educational Innovation

- Up to 1/3 of all US college students enrolled in fully online courses last year. Millions more enrolled in MOOCs.
- 5.5-7.1 million students – has greatly expanded access to higher ed.

How about quality?
- Challenges
- Successes
- Opportunities
Some Challenges

- Online community college students
  - Evidence that overall course pass rates, achievement gap, other outcomes, worse
- Reputational issues for some for-profits
- Faculty attitudes
  - Low levels of acceptance (because of for-profits?)
Virginia and Washington State CC Systems

- Online learning outcomes worse
  - Smith Jaggars & Xu, 2010; Xu & Smith Jaggars, 2011
  - N=24,000 in 23 institutions in Virginia CC System
  - N=51,000 in 34 institutions in Washington State CC System (Xu & Smith Jaggars, 2011)
- More failing/withdrawing from online courses
- Online students less likely to return
- Students w higher proportion of credits online less likely to attain credential or to transfer to 4 year institution
Study 1: Goals

- Analyzed national data (US Dept of Education BPS 04-09) (n=16,000+) on 3 outcomes for community college students
- Looked at students with/without online education net of other differences (See also Shea & Bidjerano, 2014)
- Outcomes:
  - Attainment of first associate degree
  - Transfer
  - Dropout

Definitions
- Online student = took at least one online course
- Non-online students = took no online courses
Classroom-Only CC Students

Graph showing the hazard probability over years for three categories: Associate Degree, Transfer, and Dropout. The graph indicates a peak in hazard probability for Transfer in Year 3, with Associate Degree and Dropout showing lower and more consistent probabilities throughout the years.
Online CC Students

![Graph showing the probability of different outcomes for online CC students over six years. The graph compares Associate Degree, Transfer, and Dropout categories. The probability peaks and troughs are highlighted for each category.](image-url)
Results

- This innovation “works”- helps students even in cc college graduate at higher rates and faster.
Faculty Issues

“A continuing failure of online education has been its inability to convince the most important audience – higher education faculty members – of its worth. (Allen & Seaman, 2014).”
Faculty Beliefs

- Nationwide **9% of faculty** strongly believe outcomes for online learning are equivalent to classroom outcomes.
- Even for experienced online faculty **only 16%** strongly believed learning outcomes were equivalent.
- Only **5% of faculty** who had not taught an online course strongly agreed that outcomes were equivalent.  
  (Jaschik & Lederman, 2014, p. 11).
Sixteen (16) meta-analyses

- Consensus on the effectiveness of all forms of DE (including online) compared with CI.
- Average effect sizes range from $d^+ \approx 0.00$ for conventional DE and correspondence education to $d^+ \approx 0.05–0.15$ for online learning.
- There is little difference in these instructional modes, but *in the aggregate online is slightly better.*
Successes: Why this innovation “works”

- Overall equivalence of outcomes with vast expansion in access, flexibility
- Online student degree completion higher, time-to-degree faster
- SUNY faculty acceptance – much better
Study 2 Research Questions

- Do SUNY faculty (n=402) hold different attitudes about online learning than do faculty in a recent national study?
- What demographic and experiential factors predict faculty perceptions of outcomes and quality of online education?
- Do perceptions of level of institutional resources (e.g., institutional support and technology use) predict perceptions of outcomes and quality of online education over and above experiential and demographic characteristics?
OL student learning outcomes that are at least equivalent...ANY Institution

![Bar chart showing student learning outcomes comparison between SUNY and Nationally.

- Strongly Agree:
  - SUNY: 30%
  - Nationally: 30%
- Strongly Disagree:
  - SUNY: 0%
  - Nationally: 7%]
OL student learning outcomes that are at least equivalent...MY Institution

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SUNY At MY institution</td>
</tr>
<tr>
<td>2</td>
<td>IHE Survey At MY institution</td>
</tr>
</tbody>
</table>

37% 13%

29% 19%

21% 22%

8% 8%

22% 24%

22% 22%

24% 5%
OL student learning outcomes that are at least equivalent...MY discipline

<table>
<thead>
<tr>
<th></th>
<th>SUNY In My department or discipline</th>
<th>IHE Survey My department or discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>44%</td>
<td>12%</td>
</tr>
<tr>
<td>2</td>
<td>22%</td>
<td>16%</td>
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<tr>
<td>3</td>
<td>21%</td>
<td>18%</td>
</tr>
<tr>
<td>4</td>
<td>24%</td>
<td>7%</td>
</tr>
<tr>
<td>5</td>
<td>29%</td>
<td>6%</td>
</tr>
</tbody>
</table>

SUNY Nationally

Strongly Agree | Strongly Disagree
OL student learning outcomes that are at least equivalent... MY Courses

SUNY
Nationally

SUNY

IHE Survey

In the classes that I teach
Strongly Agree
Strongly Disagree

1
2
3
4
5

14%
21%
15%
14%
8%

23%
34%

50%
Why?

- The strongest bi-variate correlations were between **technology use** and outcomes ($r = .35, p<.001$) and **institutional support** and outcomes ($r = .26, p<.001$).

- Faculty who feel **supported by the institution** (especially men – see below), who use technology, and experience online teaching are most likely to believe outcomes are equivalent.
Gender differences

The graph shows the relationship between perceptions of outcome and support levels for men and women. The x-axis represents support levels (Low Support to High Support), and the y-axis represents perceptions of outcome. The solid line indicates men, and the dashed line indicates women. The data suggests a higher perception of outcome for men across both support levels compared to women.
Discussion/Conclusion

- Initial results reflect well on SUNY (SLN/OpenSUNY).
- SUNY faculty up to 4x as likely to rate outcomes equivalent across contexts than faculty nationwide.
- Infrastructure/culture of online faculty development and institutional support can make a big difference.
- Additional qualitative research necessary to document how and why questions.
Future at UAlbany

- UAlbany will be continuing to fund Online Teaching and Learning course and program development.
- Also will support blended learning courses that increase student engagement and make better use of classroom space.
Thank you!

- Questions