## RESEARCH HIGHLIGHTS
### COST-EFFECTIVENESS OF ONLINE EDUCATION

<table>
<thead>
<tr>
<th>Area of Focus</th>
<th>Indicator(s)</th>
<th>Measure(s) of Effectiveness</th>
<th>Progress Indices</th>
<th>Institution and Research Sites</th>
</tr>
</thead>
</table>
| Institutional Commitment | Cost reduction | Lower instructional expenses while holding student enrollments steady.                      | Cost savings per student ranged from $31 (University of Central Florida) to $105 (University at Buffalo) while enrollments remained constant or increased slightly. | Penn State  
U at Buffalo  
U of Central Florida  
U of Colorado-Boulder  
U of Illinois-Urbana  
UW-Madison  
VA Tech  
For individual school results, see  
http://www.center.rpi.edu/PewGrant/rd1award.html  
See Pew Grant Round I Actual Savings Summary at  
http://www.center.rpi.edu/PewGrant/Rd1saving.html |
|               |                               | Reduce rented space needs by utilizing classroom space more efficiently.                      | U of Central Florida specifically addressed this need by implementing a mixed delivery model that combined f2f and online class sessions. | U of Central Florida  
See UCF results at  
http://www.center.rpi.edu/PewGrant/rd1award/ucf.html |
|               | Cost containment              | Increase student enrollments without additional expense.                                    | Increased section sizes at IUPUI and University of Southern Maine resulted in goal achievement. Rio Salado met its objective by reallocating a faculty member’s time across course sections and adding a course assistant. | IUPUI  
Rio Salado  
U. Southern Maine  
See Pew Grant Round I Actual Savings Summary at  
http://www.center.rpi.edu/PewGrant/Rd1saving.html |

### Institutional Commitment
- **Maximize available resources**
  - Form partnerships and consortia to leverage costs and benefits to the institution.
  - Through the development of a college/university consortium, the Virtual Library of Virginia (VIVA) has been able to achieve cost savings, improve library services, and expand the holdings of the individual institutions.
  - See VIVA homepage at [http://www.viva.lib.va.us/](http://www.viva.lib.va.us/)
  - For financial report, see [http://www.gmu.edu/library/fen/viva/about.html#BUDGET](http://www.gmu.edu/library/fen/viva/about.html#BUDGET)

### Faculty Support
- **Reduce the amount of faculty time spent on administrative tasks**
  - Implement efficient course management system that allows faculty to record and calculate grades, post changes in syllabi, etc.
  - Faculty used various CMS products (commercial and proprietary) to handle administrative functions more efficiently. According to the research, CMS contributed extensively to redesign efforts and effective time management.
  - For individual school results, see [http://www.center.rpi.edu/PewGrant/rd1award.html](http://www.center.rpi.edu/PewGrant/rd1award.html)
  - For summary results, see [http://www.center.rpi.edu/PewGrant/Rd1saving.html](http://www.center.rpi.edu/PewGrant/Rd1saving.html)

### Automate various assessments to reduce faculty labor
- **Implement efficient online assessment process for exercises, quizzes, and tests to reduce faculty labor in preparing, grading, recording assessments and posting results.**
  - Automated process greatly reduced faculty time on these processes and generated tests more quickly.
  - For individual school results, see [http://www.center.rpi.edu/PewGrant/rd1award.html](http://www.center.rpi.edu/PewGrant/rd1award.html)
  - For summary results, see [http://www.center.rpi.edu/PewGrant/Rd1saving.html](http://www.center.rpi.edu/PewGrant/Rd1saving.html)
<table>
<thead>
<tr>
<th>Area of Focus</th>
<th>Indicator(s)</th>
<th>Measure(s) of Effectiveness</th>
<th>Progress Indices</th>
<th>Institution and Research Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Support</td>
<td>Increase faculty productivity</td>
<td>Provide mechanisms for faculty to share resources, such as revised curricula and course materials.</td>
<td>Substantial amounts of faculty time have been reduced in course redesign efforts by eliminating duplicative efforts and streamlining process.</td>
<td>See Penn State results at <a href="http://www.center.rpi.edu/PewGrant/rd1award/PSU.html">http://www.center.rpi.edu/PewGrant/rd1award/PSU.html</a> For summary results, see <a href="http://www.center.rpi.edu/PewGrant/Rd1saving.html">http://www.center.rpi.edu/PewGrant/Rd1saving.html</a></td>
</tr>
<tr>
<td>Student Support</td>
<td>Help students be better prepared for class discussions</td>
<td>Develop and implement online tutorials with key concepts and discussion points to increase student participation.</td>
<td>Tutorials provided consistency in the presentation of key concepts and provided opportunity for more efficient usage of both student and faculty time.</td>
<td>See U Wisconsin-Madison results at <a href="http://www.center.rpi.edu/PewGrant/rd1award/UWM.html">http://www.center.rpi.edu/PewGrant/rd1award/UWM.html</a> See VA Tech results at <a href="http://www.center.rpi.edu/PewGrant/RD1award/VA.html">http://www.center.rpi.edu/PewGrant/RD1award/VA.html</a> For summary results, see <a href="http://www.center.rpi.edu/PewGrant/Rd1saving.html">http://www.center.rpi.edu/PewGrant/Rd1saving.html</a></td>
</tr>
<tr>
<td></td>
<td>Increase student retention</td>
<td>Improve drop-failure-withdrawal (DFW) rates.</td>
<td>Redesigned courses at two institutions resulted in decreases in DFW rates ranged between 2–14%. Another school reported a 9% decrease in failure rate. Yet another found a 7% increase in students completing redesigned course in comparison to traditional offering.</td>
<td>Penn State (Elementary Statistics) IUPUI (Sociology) Rio Salado (Mathematics) VA Tech (Linear Algebra) For individual school results, see <a href="http://www.center.rpi.edu/PewGrant/rd1award.html">http://www.center.rpi.edu/PewGrant/rd1award.html</a></td>
</tr>
</tbody>
</table>

**RESOURCES RELATED TO COST-EFFECTIVENESS**

**Operational Definitions**

Cost-Effectiveness


**Ng, K.** Costs and effectiveness of online courses in distance education. *Open Learning* 15(3): 2000.

**ROI (Return on Investment)**


**Metrics for Research and Evaluation**


The National Association of College and University Business Officers provides a template for reporting cost of instruction that is useful for internal benchmarking. Searching NACUBO for “Cost of College Project” will produce the downloadable template: http://www.nacubo.org.

Pew costing method, Pew Course Redesign Project Outcomes Analysis.


**Standards**

http://www.adec.edu/admin/papers/di...niples.html.

American Distance Education Council. Guiding principles for distance learning. ADEC, 2002.
http://www.adec.edu/admin/papers/di...niples.html.


Middle States Association, titled “Characteristics of Excellence in Higher Education.”


Open and Distance Learning Quality Council (ODLQC). Standards in open and distance education, 2000.

**Benchmarking**

Middaugh’s research titled The Delaware study of instructional costs and productivity: “A consortial approach to assessing instructional expenditures” (in Higher Education Cost Measurement: Public Policy Issues, Options, and Strategies, 2000) uses some national benchmarks for traditional instructional courses by discipline. See this URL to read that paper and others.

The Southern Regional Board Distance Education Laboratory examines issues such as “tuition, fees and charges, funding methods, costs and resource management, and education as e-commerce. Case studies of four SREB states—Georgia, Kentucky, Maryland, and North Carolina—representing centralized, decentralized, mixed, and freestanding were used in the analysis are described, along with ‘lessons learned’ from the casework.” See “Using Finance Policy to Reduce Barriers to Distance Learning” at this URL: http://www.electroniccampus.org/policylab/Reports/Finance_Final_9.06.pdf.

**Key Reports and Research Sites**
(See replicable effective practices at Sloan-C “Effective Practices”—cost-effectiveness site.):
http://www.sloan-c.org/effective/index.asp

(See Sloan cost-effectiveness ALN research included in the following publications.)

See ALN research published in the Sloan-C Journal of Asynchronous Learning (JALN) :

American Council on Education (Center for Institutional and International Initiatives— see Cost Awards for Distance Education): http://www.acenet.edu/programs/cost-awards/.


