Engaging Distance Learners
Lessons Learned from the NSSE

Pu-Shih Daniel Chen
Indiana University
Center for Postsecondary Research
Overview

• Introduction
• Beliefs about Distance Education
• Effective Educational Practices
• Methods
• Results
• Conclusions
What are some commonly held beliefs about distance education?
Distance vs. Campus-based

• Effective Educational Practices

• Student Engagement
  ➢ Academic Challenge
  ➢ Active and Collaborative Learning
  ➢ Student-Faculty Interaction
  ➢ Enriching Educational Practices
  ➢ Supportive Campus Environment
Research Questions

What are the engagement patterns, self-reported learning and personal development outcomes, and satisfaction of:

• Distance learners and campus-based learners?

• Traditional-age (<25) and adult (>24) distance learners?
Definition

• Distance learners

- Undergraduate students who took all their courses in the current academic term via the Internet
Instrument & Sample

• Instrument:
  ➢ National Survey of Student Engagement (NSSE) 2006

• Sample 1: NSSE 2006
  ➢ 3,894 distance learners
    (First-year=33%, Senior=67%)
  ➢ 185,431 campus-based students
  ➢ 367 U.S. four-year colleges and universities
Instrument & Sample

- Sample 2: Additional questions on distance learning
  - 14 distance education related items
  - 37 institutions
  - 791 distance learners (First Year = 25%, Senior=75%)
Variables

• **NSSE Benchmarks**
  - Level of Academic Challenge (.75)
  - Active and Collaborative Learning (.74)
  - Student Faculty Interaction (.72)
  - Enriching Educational Experience (.71)
  - Supportive Campus Environment (.77)

• **Deep Learning Scales**
  - Higher Order Thinking (.87)
  - Integrative Learning (.70)
  - Reflective Learning (.81)
Variables

• Student Self-Reported Gains
  ➢ Gains in Practical Competence (.83)
  ➢ Gains in Personal and Social Development (.88)
  ➢ Gains in General Education (.85)

• Satisfaction (.81)
Data Quality

• **Reliability** (coefficient alpha)
  - NSSE Benchmarks (.71 ~ .77)
  - Deep Learning Scales (.70 ~ .87)
  - Gains Scales (.83 ~ .88)
  - Satisfaction (.81)

• **Validity**
  - How often is often
  - Language bias against distance learners
NSSE Validity for Distance Learners

• How often is often?
  ➢ Never
  ➢ Sometimes
  ➢ Often
  ➢ Very Often

• Language bias against distance learners
  ➢ In classroom…
  ➢ Talk…

VALID
Methods of Analysis

• Descriptive Statistics
• Multivariate Analysis of Covariance (MANCOVA)

- Independent variable:
  distance learner (1), campus-based (0)

- Dependent Variables (scaled 0-100):
  • NSSE benchmarks (5)
  • Deep learning scales (3)
  • Self-reported gains scales (3)
  • Overall satisfaction

- Covariance
  • Gender & Enrollment Status
## Results: Who are Distance Learners?

<table>
<thead>
<tr>
<th></th>
<th>First-year</th>
<th></th>
<th>Senior</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DL</td>
<td>Campus</td>
<td>DL</td>
<td>Campus</td>
</tr>
<tr>
<td>Male</td>
<td>46%</td>
<td>36%</td>
<td>40%</td>
<td>36%</td>
</tr>
<tr>
<td>Median age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time student</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First-gen student</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grades (self-rept): ‘A’ avg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian/White</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other/Unknown</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Results: Who are Distance Learners?

<table>
<thead>
<tr>
<th></th>
<th>First-year</th>
<th></th>
<th></th>
<th>Senior</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DL</td>
<td>Campus</td>
<td>DL</td>
<td>Campus</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>46%</td>
<td>36%</td>
<td>40%</td>
<td>36%</td>
<td></td>
</tr>
<tr>
<td>Median age</td>
<td>25</td>
<td>18</td>
<td>32</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Full-time student</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First-gen student</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grades (self-rept): ‘A’ avg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian/White</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other/Unknown</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Results: Who are Distance Learners?

<table>
<thead>
<tr>
<th></th>
<th>First-year</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DL</td>
<td>Campus</td>
</tr>
<tr>
<td>Male</td>
<td>46%</td>
<td>36%</td>
</tr>
<tr>
<td>Median age</td>
<td>25</td>
<td>18</td>
</tr>
<tr>
<td>Full-time student</td>
<td>56%</td>
<td>96%</td>
</tr>
<tr>
<td>First-gen student</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grades (self-rept): ‘A’ avg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian/White</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other/Unknown</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Results: Who are Distance Learners?

<table>
<thead>
<tr>
<th></th>
<th>First-year</th>
<th></th>
<th></th>
<th>Senior</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DL</td>
<td>Campus</td>
<td>DL</td>
<td>Campus</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>46%</td>
<td>36%</td>
<td>40%</td>
<td>36%</td>
<td></td>
</tr>
<tr>
<td>Median age</td>
<td>25</td>
<td>18</td>
<td>32</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Full-time student</td>
<td>56%</td>
<td>96%</td>
<td>50%</td>
<td>87%</td>
<td></td>
</tr>
<tr>
<td>First-gen student</td>
<td><strong>62%</strong></td>
<td><strong>40%</strong></td>
<td><strong>64%</strong></td>
<td><strong>43%</strong></td>
<td></td>
</tr>
<tr>
<td>Grades (self-rept): ‘A’ avg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian/White</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other/Unknown</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Results: Who are Distance Learners?

<table>
<thead>
<tr>
<th></th>
<th>First-year</th>
<th></th>
<th>Senior</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>DL</td>
<td>Campus</td>
<td>DL</td>
</tr>
<tr>
<td>Male</td>
<td>46%</td>
<td>36%</td>
<td>40%</td>
<td>36%</td>
</tr>
<tr>
<td>Median age</td>
<td>25</td>
<td>18</td>
<td>32</td>
<td>22</td>
</tr>
<tr>
<td>Full-time student</td>
<td>56%</td>
<td>96%</td>
<td>50%</td>
<td>87%</td>
</tr>
<tr>
<td>First-gen student</td>
<td>62%</td>
<td>40%</td>
<td>64%</td>
<td>43%</td>
</tr>
<tr>
<td>Grades (self-rept): ‘A’ avg</td>
<td>48%</td>
<td>38%</td>
<td>52%</td>
<td>44%</td>
</tr>
<tr>
<td>African American</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian/White</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other/Unknown</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Results: Who are Distance Learners?**

<table>
<thead>
<tr>
<th></th>
<th>First-year</th>
<th></th>
<th>Senior</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DL</td>
<td>Campus</td>
<td>DL</td>
<td>Campus</td>
</tr>
<tr>
<td>Male</td>
<td>46%</td>
<td>36%</td>
<td>40%</td>
<td>36%</td>
</tr>
<tr>
<td>Median age</td>
<td>25</td>
<td>18</td>
<td>32</td>
<td>22</td>
</tr>
<tr>
<td>Full-time student</td>
<td>56%</td>
<td>96%</td>
<td>50%</td>
<td>87%</td>
</tr>
<tr>
<td>First-gen student</td>
<td>62%</td>
<td>40%</td>
<td>64%</td>
<td>43%</td>
</tr>
<tr>
<td>Grades (self-rept): ‘A’</td>
<td>48%</td>
<td>38%</td>
<td>52%</td>
<td>44%</td>
</tr>
<tr>
<td>avg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>7%</td>
<td>7%</td>
<td>10%</td>
<td>7%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>6%</td>
<td>5%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Caucasian/White</td>
<td>62%</td>
<td>75%</td>
<td>69%</td>
<td>76%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>6%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Foreign</td>
<td>6%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Other/Unknown</td>
<td>14%</td>
<td>7%</td>
<td>11%</td>
<td>6%</td>
</tr>
</tbody>
</table>
Results: Why Study at a Distance*?

More convenient for my sched 96%
I can work at my own pace 77%
I like to learn on my own 70%
No colleges nearby have my courses 34%
Online learners are more my age 27%
Less expensive than on-campus 21%
Grading online is easier 8%

* Percent “agree” or “strongly agree”
How many hours do you spend in a typical 7-day week providing care for dependents living with you?

Campus Seniors
- 3% 0 hour
- 6% 1-5 hours
- 11% 6-10 hours
- 13% 11-15 hours
- 67% More than 15 hours

DL Seniors
- 7% 0 hour
- 9% 1-5 hours
- 12% 6-10 hours
- 30% 11-15 hours
- 42% More than 15 hours
Results

Percentage of Students Spending More than 30 Hours per Week Working for Pay

- First-year: 4.7% (Non-Distance Ed. Students), 43.5% (Distance Ed. Students)
- Senior: 15.0% (Non-Distance Ed. Students), 59.9% (Distance Ed. Students)
Results:
Campus v Distance Learners

Level of Academic Challenge

<table>
<thead>
<tr>
<th></th>
<th>FY</th>
<th>SEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus</td>
<td>53</td>
<td>56</td>
</tr>
<tr>
<td>Distance</td>
<td>54</td>
<td>58</td>
</tr>
</tbody>
</table>

- FY: $F=10.3; p<.01$
- SEN: $F=52.0; p<.001$
Results:
Campus v Distance Learners

Student-Faculty Interaction

<table>
<thead>
<tr>
<th></th>
<th>FY</th>
<th>SEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus</td>
<td>33</td>
<td>43</td>
</tr>
<tr>
<td>Distance</td>
<td>36</td>
<td>41</td>
</tr>
</tbody>
</table>

$F=36.5; p<.001$  
$F=18.7; p<.001$
Results:
Campus v Distance Learners

Higher Order Learning

FY

Campus: 65
Distance: 66

SEN

Campus: 70
Distance: 73

F=1.9; n.s.
F=36.1; p<.001
Results:
Campus v Distance Learners

Reflective Learning

<table>
<thead>
<tr>
<th></th>
<th>FY</th>
<th>SEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus</td>
<td>58</td>
<td>61</td>
</tr>
<tr>
<td>Distance</td>
<td>61</td>
<td>63</td>
</tr>
</tbody>
</table>

F = 16.7; p < .001
F = 27.2; p < .001
Results:
Campus v Distance Learners

Active and Collaborative Learning

FY
Campus 42  Distance 39  \( F = 39.4; p < .001 \)

SEN
Campus 52  Distance 46  \( F = 235.3; p < .001 \)
Results:
Campus v Distance Learners

Gains in General Education

<table>
<thead>
<tr>
<th></th>
<th>FY</th>
<th>SEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus</td>
<td>66</td>
<td>71</td>
</tr>
<tr>
<td>Distance</td>
<td>68</td>
<td>73</td>
</tr>
</tbody>
</table>

\[ F = 4.4; \ p < .05 \]

\[ F = 18.2; \ p < .001 \]
Results:
Campus v Distance Learners

Gains in Personal/Social Development

<table>
<thead>
<tr>
<th></th>
<th>FY</th>
<th>SEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus</td>
<td>54</td>
<td>58</td>
</tr>
<tr>
<td>Distance</td>
<td>58</td>
<td>62</td>
</tr>
</tbody>
</table>

- FY: $F=42.4; p<.001$
- SEN: $F=70.9; p<.001$
Results:
Campus v Distance Learners

Overall Satisfaction

![Bar chart showing overall satisfaction for Campus and Distance learners]

- **FY**
  - Campus: 74
  - Distance: 76
  - $F=10.3; p<.01$

- **SEN**
  - Campus: 74
  - Distance: 77
  - $F=52.0; p<.001$
Conclusions: Campus v Distance Learners

1. For distance learners, postsecondary education is but one of many priorities in their lives.

2. The engagement of distance learners compares favorably with that of campus-based students.
Results: Traditional v Adult Distance Learners

Academic Challenge

\[ F = 3.1; \text{n.s.} \]

\[ F = 39.6; p < .001 \]
Results: Traditional v Adult Distance Learners

Enriching Educational Experiences

\[ F=11.8; \ p<.01 \]

\[ F=83.3; \ p<.001 \]
Results: Traditional v Adult Distance Learners

Higher Order Learning

![Bar graph showing comparison of Traditional and Older learners in FY and SEN categories.](image)

- **FY**
  - Traditional: 62
  - Older: 66
  - \( F=5.0; p<.05 \)

- **SEN**
  - Traditional: 67
  - Older: 73
  - \( F=28.6; p<.001 \)
Results: Traditional v Adult Distance Learners

Active/Collaborative Learning

F=30.5; p<.001

F=44.6; p<.001
Results: Traditional v Adult Distance Learners

Gains in Practical Competencies

\[ F=11.4; p<.01 \]  \[ F=26.3; p<.001 \]
Results: Traditional v Adult Distance Learners

Gains in General Education

\[ F=8.8; \ p<.01 \]

\[ F=27.7; \ p<.001 \]
Conclusions: Traditional v Adult Distance Learners

1. Adult distance learners report more deep learning and gains, but fewer enriching experiences and active and collaborative learning.

2. Adult distance learners differ from younger online students in ways that are understandable given their different life experiences.
Limitations

• Baccalaureate institutions only
• No online institutions represented
• Students randomly sampled, but not institutions
Questions and Discussion

E-mail: nsse@indiana.edu
Web site: www.nsse.iub.edu
Phone: 866-435-6773