Validating NSSE for Distance Education Students

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National Survey of Student Engagement
Is NSSE a valid instrument to measure the educational engagement of distance learners?
Outline

- Rationale
- How often is “often” – Distance learners vs. campus-based students
- Revised items testing
- Looking forward
- Questions and Discussion
NSSE & Distance Education

- NSSE designed with assumption of campus-based learning
- NSSE Administration since 2000: Paper and Web
- NSSE Policy: Include distance learners in sample
Identifying Distance Learners

New Item in 2006 – Web version only

- “Thinking about this current academic term, are you taking all courses entirely online?” (yes/no)
Of concern...

- Distance learners may interpret a response scale differently than do campus-based learners
  - Example
    - How often is often?
      - Distance learners – twice per week?
      - Campus-based learners – once per week?
Of concern...

- Survey language may present a bias against distance learners ... behaviors not appropriately measured

- Examples
  - “In class” or “during class”
  - “Outside of class”
  - “Talked about”

- Content Analysis for problematic words/phrases
Not a Concern…

- Distance learners may not have opportunity to engage in certain activities
  - Example
    - Study abroad
    - Diversity experiences
    - Community service
How often is often?

- Students told us what they meant when they marked the option “never”, “sometimes”, “often”, or “very often”
- 12 total items (4 reported here)
- Data
  - 55 four-year institutions
  - 609 distance learners (27% FY students)
  - 30,667 campus-based learners (40% FY students)
Items Studied

- Asked questions in class or contributed to class discussions (CLQUEST)
- Made a class presentation (CLPRESEN)
- Talked about career plans with a faculty member or advisor (FACPLANS)
- Discussed ideas from your readings or classes with faculty members outside of class (FACIDEAS)
<table>
<thead>
<tr>
<th>Median Times per Week</th>
<th>Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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<td>14</td>
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</tbody>
</table>
How often is often?

(Data are not real!)

Median Times per Week

<table>
<thead>
<tr>
<th></th>
<th>First-Year CB</th>
</tr>
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<tbody>
<tr>
<td>Never</td>
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14
12
10
8
6
4
2
0

Never | Sometimes | Often | Very Often
How often is often?

(Data are not real!)

Median Times per Week

First-Year CB

Senior CB

Never  Sometimes  Often  Very Often
How often is often?

Median Times per Week

Perfect Situation (Hypothetical):
All students interpret the meaning of “how often” about the same

(Data are not real!)
Participating in Class Discussions

Median Times per Week

- First-Year CB
- Senior CB
Made a Class Presentation

- First-Year CB
- Senior CB

Median Times per Week: Never, Sometimes, Often, Very Often

Graph shows the median times per week for first-year and senior students when making class presentations.
Made a Class Presentation

Median Times per Week

- First-Year DL
- First-Year CB
- Senior DL
- Senior CB

Never | Sometimes | Often | Very Often
Talked about Career Plans with Faculty

Median Times per Week

- First-Year CB
- Senior CB

Never | Sometimes | Often | Very Often

0.0 | 0.2 | 0.4 | 0.6 | 0.8 | 1.0
Talked about Career Plans with Faculty

Median Times per Week

- **First-Year DL**
- **First-Year CB**
- **Senior DL**
- **Senior CB**

Diagram shows the median times per week at different levels of frequency: Never, Sometimes, Often, Very Often.
Discussed Ideas... with Faculty Outside of Class

Median Times per Week

First-Year CB

Senior CB

Never     Sometimes    Often    Very Often
What have we learned so far?

- On 3 of the 4 items campus-based students and distance learners perceive the meaning of “how often” about the same.
- Distance learners overestimate the meaning of “very often” when asked how often they participate in class discussions.

NEXT STEP
Creating Distance Learner Friendly Items

- Testing items on both campus-based and distance learners
- Language changes will affect both distance learners and campus-based students
- If there is no bias, the change of language should have the same effect on both groups
- If one group was affected more than the other by the change of language, there may be bias in the original item
Old vs. New (CLQUEST)

- Asked questions **in class** or contributed to **class discussions**
Old vs. New (CLQUEST)

- Asked questions **in-class** or contributed to **class discussions**
- Asked questions or contributed to **classroom or online discussions**
Old vs. New (CLPRESEN)

- Made a **class presentation**
Old vs. New (CLPRESEN)

- Made a **class presentation**
- Made a **presentation in class or online**
Talked about career plans with a faculty member or advisor
Old vs. New (FACPLANS)

- Talked about career plans with a faculty member or advisor

- Communicated about your career plans with a faculty member or advisor
Discussed ideas from your readings or classes with faculty members outside of class
Old vs. New (FACIDEAS)

- Discussed ideas from your readings or classes with faculty members outside of class

- Discussed ideas from your readings or classes with faculty members outside the class environment
Comparing Old v. New Items

- **Step 1:** Making new items equivalent to old items for campus-based students
- **Step 2:** Comparing distance learners’ responses on new v. old items

**Data**
- 32 four-year institutions
- 965 distance learners (24% FY students)
- 15,962 campus-based Learners (46% FY students)
## Example – CLQUEST (FY)

### Before Adjustment

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<tr>
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<tr>
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<td>2.73</td>
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</tr>
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Identical T-test
T-test Results Explained

- **Statistical significant (p < .05)**
  - The change of wording has an unique effect on distance learners after controlled for the effect on campus-based students
  - Potential bias existed in the NSSE item

- **Statistical non-significant (p > .05)**
  - The change of wording has the same effect on distance learners and campus-based students
  - More confidence in the NSSE item
Results – First Year Students

<table>
<thead>
<tr>
<th></th>
<th>CLQUEST</th>
<th>CLPRESEN</th>
<th>FACPLANS</th>
<th>FACIDEAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>3.2</td>
<td>.25</td>
<td>.99</td>
<td>.66</td>
</tr>
<tr>
<td>Sometimes</td>
<td>2.0</td>
<td>2.3</td>
<td>2.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Often</td>
<td>3.4</td>
<td>.28</td>
<td>&lt;.01</td>
<td>.03</td>
</tr>
<tr>
<td>Very often</td>
<td>4.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

p = < .01, ES = .25, < .01, < .001, .99, .66
Results – Seniors

<table>
<thead>
<tr>
<th>Scale</th>
<th>CLQUEST</th>
<th>CLPRESEN</th>
<th>FACPLANS</th>
<th>FACIDEAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>3.27</td>
<td>2.41</td>
<td>1.97</td>
<td>1.81</td>
</tr>
<tr>
<td>Sometimes</td>
<td>3.51</td>
<td>2.74</td>
<td>1.97</td>
<td>1.84</td>
</tr>
<tr>
<td>Often</td>
<td>3.27</td>
<td>2.41</td>
<td>1.97</td>
<td>1.84</td>
</tr>
<tr>
<td>Very often</td>
<td>3.51</td>
<td>2.74</td>
<td>2.11</td>
<td>1.84</td>
</tr>
</tbody>
</table>

p = < .01  < .01  < .01  .44
ES = .33   .33   .18   .03
Result Summary

- Possible Bias Items
  - Asked questions in class or contributed to class discussions
  - Made a class presentation
  - Talked about career plans with a faculty member or advisor

- More Confident
  - Discussed ideas from your readings or classes with faculty members outside of class
Limitations

- Small numbers of institutions (32)
- Small numbers of items (4)
- Campus-based students who took some courses online were not identified
Conclusions

- On 3 of the 4 items campus-based students and distance learners perceive the meaning of “how often” about the same

- Most NSSE items do not contain language that has a potential bias against distance learners

- A small group of NSSE items may have language (talk, classroom...etc.) biases against distance learners
Looking Forward

- Testing more NSSE items on distance learners and other student sub-population
- Conducting focus groups
- Collect institution’s feedback on NSSE usage
- NSSE 2.0?
Questions & Discussion

- What changes would you like to see in the NSSE survey to accommodate the increase of distance learners and "hybrid learners"?

Center for Postsecondary Research

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