


## Using NSSE Results to Chart New Territory in Institutional Assessment and Educational Effectiveness

NASPA Student Affairs Assessment and Retention  
Conference, Atlanta, 2005



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National Survey  
of Student Engagement

## Overview



- ◆ NSSE Overview
- ◆ Accountability and Assessment
- ◆ NSSE and Retention
- ◆ Elon University
- ◆ Improving Educational Effectiveness

NSSE

## Advance Organizers

1. What data do you have about the quality of students experience on your campus?
2. How can you get more students to take greater advantage of resources for learning?
3. What is the relationship between student engagement and retention?
4. How are institutions using NSSE data in assessment and institutional improvement?


NSSE

## Challenges for Student Affairs

- ◆ Documenting contributions to student learning
- ◆ Creating enriching opportunities aligned with educational mission and desired outcomes
- ◆ Partnering with campus and community constituents
- ◆ Getting *more* students to engage more frequently in the activities that *matter to their success*

NSSE

## What *Really* Matters in College: Student Engagement



Because individual effort and involvement are the critical determinants of college impact, institutions should focus on the ways they can shape their academic, interpersonal, and extracurricular offerings to encourage *student engagement*.

*Pascarella & Terenzini, How College Affects Students, 2005, p. 602*

NSSE

## Lessons from the Research

- ◆ What matters most is what students do, not who they are
- ◆ A key factor is the quality of effort students expend
- ◆ Educationally effective institutions channel student energy toward the right activities

NSSE

**National Survey of Student Engagement**  
*(pronounced "nessie")*



**Community College Survey of Student Engagement**  
*(pronounced "sessie")*



College student surveys that assess the extent to which students engage in educational practices associated with high levels of learning and development

**Two Components of Student Engagement**

What *students* do -- time and energy devoted to educationally purposeful activities

What *institutions* do -- using effective educational practices to induce students to do the right things



**Principles for Good Practice in Student Affairs** *(Blimling & Whitt, 1999)*

- Engages students in active learning
- Helps students build coherent values and ethical standards
- Sets high expectations for learning
- Uses systematic inquiry to improve student and institutional performance**
- Uses resources effectively to help achieve goals
- Forges partnerships that advance learning
- Builds supportive and inclusive communities

**NSSE**

1 In your experience at your institution during the current school year, about how often have you done each of the following? Mark your answers in the boxes. Examples:  or

	Very often	Often	Some-times	Never
a. Asked questions in class or contributed to class discussions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Made a class presentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Prepared two or more drafts of a paper or assignment before turning it in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>


www.iub.edu/~nsse

**NSSE Project Scope**

- Launched in 2000
- First Years & Seniors
- Spring Administration
- Database = 613,500 students from 850+ different schools
- 50 states, Puerto Rico, Canada
- 40+ consortia


Project Year	Colleges & Universities
2000	276
2001	321
2002	366
2003	437
2004	473
2005	520

**Customized Institutional Report**



- Overview
- Institutional data
- Means and frequencies
- 1st year students and seniors
- Comparisons by Carnegie, national
- National benchmarks (available in November)


## Topic 1 – Student Affairs Assessment and Accountability



Evidence about quality of student experience

- Indicators at item level
  - Student participation in tutoring peers (1j)
  - Institutional emphasis on attending campus events (10 f)
- Hours spent on co-curricular activities (9d)
- Scales - Diversity Experiences (1 e, u, v)
- Compare differences by gender, race-ethnicity, students in learning communities, place of residence, work on campus, by hours of co-curricular involvement etc.

## Using NSSE Data: North Carolina State University



Created individual reports for Student Affairs programs


- ORIENTATION:** Identified NSSE items that could be influenced by a student's orientation experience

Lower scoring items that may be Orientation influenced (comparison of NCSU to Doc/Research Ext.– "DRE", and NSSE totals); [Orientation programs that may be in a position to influence outcomes]:

- Preparing for class (non-significantly lower rating among DRE: same as NSSE); [One & Two-Day programs; WolfStop; Making College Count]
- Understanding people of other racial and ethnic backgrounds (significantly lower than both DRE and NSSE); [OC training; Two-day program; WolfCamp]
- Developing personal code of values and ethics (non-significantly lower than both DRE and NSSE); [OC training; Two-day program; WolfCamp]
- Contributing to welfare of your community (non-significantly lower than both DRE and NSSE); [Volunteer Corps; WolfStop; WolfCamp]
- Providing support you need to thrive socially (non-significantly lower than both DRE and NSSE); [OC Training; One-day and Two-day programs; WolfCamp]

**"The potential New Student Orientation has to influence student engagement is compelling and motivating."**

## Using NSSE Data: UNC Charlotte




- Student Affairs Research homepage featuring all data, studies, reports
- Example:** Created Program or Demographic Specific NSSE Summaries for Freshmen:
 

Learning Communities	Freshman Seminar
New Student Orientation	Place of Residence
Student Employment	SAFE Program
Gender	Ethnicity
Freshman One Year Retention/Attrition	
- Created Freshman Year Experience Team to use data to examine all elements of the first year experience, explore factors in retention and departure, and recommend institutional improvement

<http://www.uncc.edu/stuaffairs/research.htm>

## Accreditation - Example

- Accreditation standard:** Demonstrate effectiveness of student academic and social support services
- Evidence for institutional self study:
  - Information about availability and student use of tutoring, writing support, peer study groups, counseling services
  - NSSE indicates FY & SR believe institution emphasizes spending time studying and support for student success: 79% seniors tutored or taught peers; positive correlation between peer collaboration outside of class, satisfaction and first-year retention
  - Positive student satisfaction data about support services
  - Area for improvement - seniors indicate low gains in writing and completing drafts of papers; institution responds with examination of writing requirement in senior capstone and targets seniors for increased use of writing center



## Accreditation - HLC/AQIP & the Freshman Seminar Proposal


Of the questions that showed significance at the 0.1 level, four either directly or indirectly related to the objectives of the freshman seminar course as outlined in the proposal. These included the following questions:

- 1 A**--Asked questions class or contributed to class discussion.
- 10 F**--Attending campus events and activities (special speakers, cultural performances, etc.)
- 11 K**--Understanding yourself
- 13**--How would you evaluate your entire educational experience at this institution?

(Summary Report—NSSE 2003 Special Course Oversample April 19, 2004)

## Topic 2 – NSSE and Retention

### Links between NSSE & Retention Goals:



- NSSE is a stimulus for *reflection* on what the institution does well, & areas for improvement
- Ultimate goal of retention initiative is *improved* educational experiences (not just retention)
- Identifies what *distinguishes* institution, where student experience matches espoused mission, & where it falls short
- NSSE results can be *connected* to institutional data to build retention models

## Topic 2 cont'd – NSSE and Tinto's Model of Student Persistence

- Students engagement in effective educational practices as indication of level of academic & social integration (1 a-v; 6a-f; 9a-g etc.)
- Institutional emphasis items suggest institutions' level of commitment to student success (10 a-g)
- Student intentions to engage in educational activities before graduating (7 a-h)

## Evidence about student engagement (Academic integration)

What percent of students nationally study two hours or more for every hour in class?

(a) 12% (b) 20% (c) 31% (d) 39% (e) 49%

a. **12%** (is your institution higher or lower?)

## Time on Task – Hours Per Week

Task	First-Year Students		Seniors	
	Part-time	Full-time	Part-time	Full-time
Studying	9	13	10	14
Working on-campus	2	3	3	4
Working off-campus	18	5	20	10
Participating in co-curricular	1	5	2	5
Relaxing and socializing	10	12	10	11
Caring for Dependents	13	2	12	4
Commuting to class	5	4	5	5

## Engagement in Enriching Educational Experiences

Percentage of Seniors Who Participated in Various Educationally Enriching Activities*						
	Doc-Ext	Doc-Int	Master's	Bac-LA	Bac-Gen	Total
Practicum, internship, field experience	51%	51%	53%	68%	59%	56%
Community service/volunteer work	58%	54%	57%	74%	64%	60%
Research with faculty member	20%	18%	17%	33%	19%	20%
Learning community	21%	22%	23%	23%	25%	23%
Foreign language	47%	34%	38%	68%	39%	43%
Study abroad	15%	10%	12%	38%	13%	17%
Independent study/self-designed	18%	17%	20%	40%	24%	23%
Culminating senior experience	25%	26%	31%	57%	38%	35%

\* Percentages in this table differ from past years due primarily to a change in the response set for question #7 on the survey.

## Link to Other Student Data

- In-house surveys
- National surveys
  - CIRP / CSS
  - YFCY
  - CSEQ / CSXQ
  - EBI Benchmarking surveys
  - Noel Levitz Student Satisfaction Inventory
  - ETS Major Field Tests
  - ACT Collegiate Assessment of Academic Proficiency
- Institutional data such as GPA, financial aid, transcripts, retention, certification tests, etc.



## Elon University - Presentation Outline

- About Elon
- NSSE reporting at Elon
- NSSE and Retention
- Effect Size?
- Using the reported Effect Size
- Issues and Concerns
- Improvements at Elon
- An Example – Study Abroad

## Elon

- Type: Private (UCC affiliate)
- Location: Central NC
- 4,800 students
- 95% are fulltime
  - 88% Freshmen retention rate
  - 65% 4-yr graduation rate
  - 76% 5-yr graduation rate
  - 74% 6-yr graduation rate

## NSSE Reporting at Elon

- Annually since 2000
- Reporting:
  - Percent Positive Frequency
    - Freshmen
    - Seniors
    - Combined (posted to web site)
  - Effect Size Analysis
    - Senior Staff
    - Faculty

## 2004 NSSE

- Web-only
  - 705 responses
    - 377 FY + 328 SR
  - 37% response
    - higher in previous years, but not web-only
    - 75% female
- Why Web-only ??
  - Increase the respondents for department information
  - Value-Added studies

## Retention

- Predicting Retention:
  - What is one of the most effective procedures to forecast retention?
  - Simply ask they plan to return !!
    - 93% of the variance is explained
    - Adjusted R<sup>2</sup> = .18

## Correlated Items

Correlations					
		Retention	If you could start over again, would you go to the SAME INSTITUTION you are now attending?	How would you evaluate your entire educational experience at this institution?	Quality: Your relationships with other students
Retention	Pearson Correlation Sig. (2-tailed) N	1 377 351	.368** .000 351	.227** .000 351	.233** .000 369
If you could start over again, would you go to the SAME INSTITUTION you are now attending?	Pearson Correlation Sig. (2-tailed) N	.368** .000 351	1 .000 351	.608** .000 351	.547** .000 351
How would you evaluate your entire educational experience at this institution?	Pearson Correlation Sig. (2-tailed) N	.227** .000 351	.608** .000 351	1 .000 351	.487** .000 351
Quality: Your relationships with other students	Pearson Correlation Sig. (2-tailed) N	.233** .000 369	.547** .000 351	.487** .000 351	1 .000 369

\*\* Correlation is significant at the 0.01 level (2-tailed).

## Logical Questions

- Since a students' relationship with other students affects retention...
  - What programs/services can either be created or enhanced to foster these relationships?
  - Has your institution looked at the effect of these programs/services?
  - Check published findings



## It's Becoming the Norm

- Never before has it been so easy to survey so many people
- So we do, and we get ...
  - 500
  - 700
  - 1,000+ responses
- And now, everything is statistically significant at the 0.001 level !!

## What do we do Now?

- As N becomes large, almost everything becomes statistically significant - even if it doesn't explain much
- How do we identify truly significant differences?
- This is a question of ...  
*practical significance*

## Use the Effect Size

- **Effect size** provides practical significance to the interpretation
  - For example, while the difference in the means is statistically significant, the difference is so nominal that it doesn't warrant further attention
- **Effect size** also provides an easy way to focus attention on particular items – those that are small versus those that can be *seen*

## Effect Size

- Various types ...
  - Eta<sup>2</sup>
  - Adjusted R<sup>2</sup>
  - Cohen's *d* (provided by NSSE)
- **Cohen's *d*** is located in the Institutional Report under the Means Comparison tab along with standard deviations

## Power and Effect-Size

- Power
  - Proportion of times the effect-size is significant
  - $\beta \geq 0.80$
- Effect-size (practical significance)

Effect-size	Small	Moderate (visible)	Large
Eta <sup>2</sup> (liberal)	0.03	0.10	0.25
Adjusted R <sup>2</sup>	0.03	0.10	0.25
Cohen's- <i>d</i>	0.20	0.50	0.80

## Using the Reported Cohen's *d*

- Percent Positive Frequency is easy to understand
- Effect size helps select items
- Items that **distinguish** Elon = an effect size that approaches or exceeds 0.50
  - ☺ These items have been identified in the past as "Elon does well"

## Items that distinguish Elon

For <b>Freshmen and Seniors</b> , these items distinguish Elon from other schools	Elon % Positive	All NSSE Schools % Positive
Make significantly more class presentations	66.8	47.6
Work more frequently with classmates outside of class	70.6	49.2
Use e-mail more frequently to communicate with their instructors	91.2	74.0
Write significantly more short papers (5 pages or less)	87.8	68.3
More frequently attend exhibits, galleries, plays, or dances	49.0	27.6
More frequently attend campus events (athletics, special speakers, cultural)	87.1	59.6
Feel supported to succeed academically	89.9	75.3
Are more satisfied about their educational experience	95.3	87.3

## Items that distinguish Elon

For <b>Freshmen</b> , these items distinguish Elon from other schools	Elon % Positive	All NSSE Schools % Positive
Write significantly more papers between 5 and 19 pages	66.9	38.9
Are more likely to have participated in a learning community than their peers	41.1	31.8
For <b>Seniors</b> , these items distinguish Elon from other schools	Elon % Positive	All NSSE Schools % Positive
Talk about career plans with faculty	68.5	45.4
Work with faculty on activities other than coursework	48.6	24.2
Participate in a practicum/internship	88.1	75.1
Perform community/volunteer service	89.1	71.5
Study abroad	69.7	22.2
Have a culminating senior experience	89.1	63.2
Participate in co-curricular activities	14.0	4.8

## Using the Reported Cohen's *d*

- Items that do not distinguish Elon
- Very small effect size (0.00 to 0.12)
- 4 or 5-year consistent trend w/respect to effect size (providing consistent trends will help suppress nay-sayers or skeptics)

## Items that do not distinguish Elon

NSSE Item and (Percent Positive Scale)	2004 Class	2004 Elon Percent Positive	2004 All NSSE Schools Percent Positive	2004 Effect Size
To what extent have your exams challenged you? (6, 7)	Freshmen	54%	55%	0.00
	Seniors	55%	54%	0.00
Discuss ideas with faculty outside the classroom (Often, Very Often)	Freshmen	19%	17%	0.12
Course work emphasizes making judgments about the value of information, arguments, or methods (Quite a bit, Very much)	Seniors	72%	72%	0.00
Plan to do before graduation - Work on a research project w/ a faculty member outside of course or program (Plan to do, Have done)	Freshmen	33%	30%	0.00

## An Example

NSSE Item and	2004 Class	Elon Mean	NSSE Mean	Standard Deviation	2004 Effect Size
To what extent have your exams challenged you?	Freshmen	5.53	5.54	1.08	0.00
	Seniors	5.53	5.48	1.17	0.00
		New Elon Mean			New Effect Size
To what extent have your exams challenged you?	Freshmen	6.00	5.54	1.08	0.43
	Seniors	6.00	5.48	1.17	0.44

Effect sizes now approach **visibly** noticeable levels

## Issues and Concerns

- Effect Sizes can and do change from year to year
  - However, effect sizes tend to be relatively stable
- Effect sizes are not easy to grasp
  - Don't report effect sizes
  - Use effect size to help select items
  - Report what will be understood

## Confirmation

- NSSE confirms other finds  
(multiple methods of assessment)
  - Your First College Year (YFCY)
  - Exiting Senior Survey
  - Student Services Survey
  - Advising Survey
  - Institutional Data Base
  - ... and a host of others

Elon does a lot of surveying !!

## Student Life

- Held open forums on diversity issues
- Diversity training for it's staff and student workers
- Held open forums with faculty about concerns on too much out of class activities

## Academics

- A new core statistics course created
- President issues the academic challenge and rigor message to faculty and students
- Foreign Language requirement

## Sharing the Results / PR

- NSSE results shared with ...
  - Board of Trustees
  - Senior Staff
  - Faculty
  - Alumni
  - Students
  - Parents
  - Recruitment efforts

## Non-Distinction Areas

- 3 areas are related to academic rigor
  - Challenging exams
  - Course work – making judgments
  - Conducting a faculty lead research project
- 1 area related to student-faculty interaction
  - Talking with faculty outside the classroom

Value Added Project  
Study Abroad



## Value Added

- Because of the many issues and challenges inherent with value-added assessment, it's not often used
  - Maturation
  - Pre-test/post-test knowledge
  - Attrition of the sample
  - Intervening variables (GPA, SAT, Greek-life, roommates, parents education, friends, SES, HS grades, other experiences/events)*

## Value Added

- Measures the contribution, positive or negative, of an intervention
  - pedagogy, a program/service, training, exposure, ...
- Value added appears to be gaining momentum again ...
  - Rand Corp. (C)ollegiate (L)earning (A)ssessment)
  - Private school consortium
  - Measuring Up 2004: States Report Cards

## Study Abroad

- What affect does a Study Abroad experience have upon a series of outcomes?
  - Outcomes are from the NSSE
  - Those that SA versus those that did not
  - Compare difference-scores for self-report items

## Study Abroad Matched Subjects

- NSSE: 1<sup>st</sup> year students ↔ seniors
- 211 fresh = 64 seniors

NSSE	1 <sup>st</sup> Year	Seniors	Total	1 <sup>st</sup> Year 3 years later
2000	90	90	180	
2001	121	87	208	
2002	180	189	369	
2003	214	193	407	20
2004	377	328	705	44
2005*	472*	381*	853*	73*

\*estimated

## Accounting for Intervening Variables

### Univariate Analysis of Variance

Between-Subjects Factors			
	Value Label	N	
Study Abroad	No	24	
	Yes	40	
Volunteer	No	10	
	Yes	54	

**!! CAUTION !!**  
While interaction is significant, it has low power

Tests of Between-Subjects Effects							
Dependent Variable: How would you evaluate your entire educational experience at this institution?							
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Noncent. Parameter	Observed Power
Corrected Model	6.244 <sup>a</sup>	3	2.081	4.736	.005	14.209	.899
Intercept	951	1	951	115	.735	115	.953
Error	26.366	60	.439				
Total	32.609	64					
Corrected Total	32.609	63					

a. Computed using alpha = .05  
b. R Squared = .191

Moderate Effect-size

Interaction is significant

## Non-Significant Intervening Variables

Variable	Significance	Item [Outcome]
SAT score	Not Sig.	Not Applicable
GPA	Not Sig.	Not Applicable
Gender	Not Sig.	Not Applicable
Athlete	Not Sig.	Not Applicable
Greek-Life	Not Sig.	Not Applicable
Parental Education	Not Sig.	Not Applicable
Internship	Not Sig.	Not Applicable
Research Project	Not Sig.	Not Applicable
Leadership Position	Not Sig.	Not Applicable

## Significant (Intervening) Variables



Variable	Power	Adjusted R <sup>2</sup>	Item [Outcome]
Study Abroad (SA)	0.78	0.10	Analyzing Quant. Problems
Study Abroad (SA)	0.60	0.06	Thinking Critically
SA * Volunteerism	0.64	0.15	Overall Ed Experience
SA * College	0.63	0.05	Learning on Your Own

## What Did We Learn? Study Abroad

- Need more N (moderate power)
- Visibly noticeable effect-size
- Significant interactions: requires further research
- BCSSE (Bessie) participation
- Test additional variables
  - **SES, Major, ...**

## Retention of Transfer Students - Towson University


- ◆ Disaggregated NSSE results from seniors by those who started at the institution as first-year students and those who entered as transfer students
- ◆ Better understand the transfer student experience.
- ◆ Combines with CIRP to develop a fuller portrait of the transfer student experience.



## Using NSSE Data to Improve Undergraduate Education

**Intentional improvement examples:**


- Ursinus College found that about 70% of their students were participating in an independent learning experience before graduating. However, Ursinus wanted to insure that ALL students have this experience, so they instituted a graduation requirement – the ILE.
- University of Texas at El Paso was not satisfied with its first-year retention. They established a University College, created new learning communities, course-based service learning, and volunteerism, to actively engage its mostly commuter, first-generation students.



## Using Data to Improve Practice: Oregon State University

**Student affairs initiative; and a "Blue Ribbon" steering committee led by students**



## Discussion and Comments

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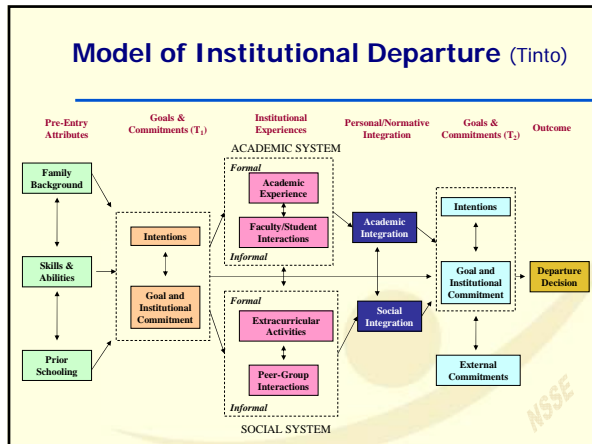


[www.iub.edu/~nsse](http://www.iub.edu/~nsse)

**ELON UNIVERSITY**

<http://www.elon.edu/>





### Exercise #1 – Using NSSE to Enhance the Undergraduate Experience

Which activity listed in question #1 and #7 if increased would lead to greatest learning and development for students?

Ideas, Strategies, and Approaches to Increase Most Valued Benchmark?



### NSSE Cautions



- ◆ Only one source of information about student experience
- ◆ Not everyone will jump on the student engagement bandwagon
- ◆ Managing denial when confronted with less-than-desirable results
- ◆ Be sure results are thoroughly vetted
- ◆ Data don't speak for themselves
- ◆ Link results to other data

### NSSE Virtues



- ◆ Survey has compelling face validity
- ◆ Concept of engagement is accessible
- ◆ Window into the areas that all colleges and universities espouse to be important
- ◆ Points to areas where improvement is possible
- ◆ Benchmark data reveal national picture