

Converting Data into Actionable Results

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The NSSE Challenge

How might we more effectively use data about quality in undergraduate education to:

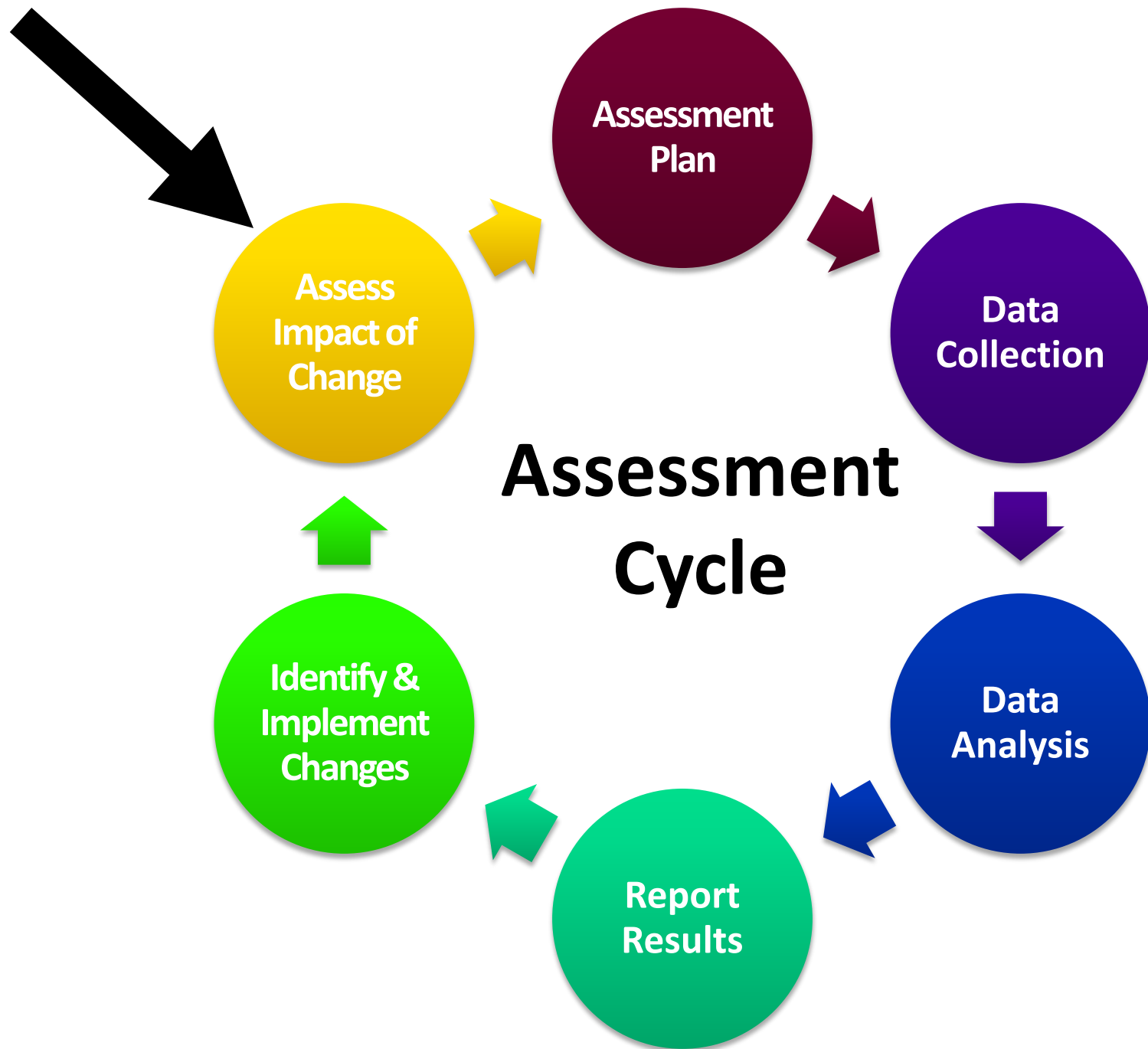
- ✓ provide evidence of student learning
- ✓ motivate and inspire effective educational practice
- ✓ strengthen the learning environment and enhance student success?



Converting Results to Action

- Assessment information should be actionable
- If assessment doesn't help improve teaching and learning activities and ultimately, student success... *why bother with it?*
- Implementing large-scale, transformational change in colleges and universities is difficult





Assessment into Action

Putting Student Engagement Data to Use: 4 Institutional Success Stories



Youngstown State Univ (OH)



Integrating NSSE Results with Other Institutional Data

- Examines NSSE data in relation to direct measures of learning and progress – *within subpopulations*
- Compares NSSE to internal survey data on general education and diversity



Pace University (NY)

Using NSSE data for improvement throughout the entire university

- **Emphasized goal of “student-centeredness”**
- **Used NSSE items in program assessments (service learning, capstone courses, study abroad)**
- **Improving the sophomore experience**

PACE UNIVERSITY



Pace University (NY)

Using NSSE data for improvement throughout the entire university

- **Examined engagement by school/college, including professional accreditation**
- **Assigned full-time faculty to teach Univ 101 course, and advise the same students**
- **“One-stop” initiative for student services**

Viterbo University (WI)

Effectively Communicating Results Internally and Externally

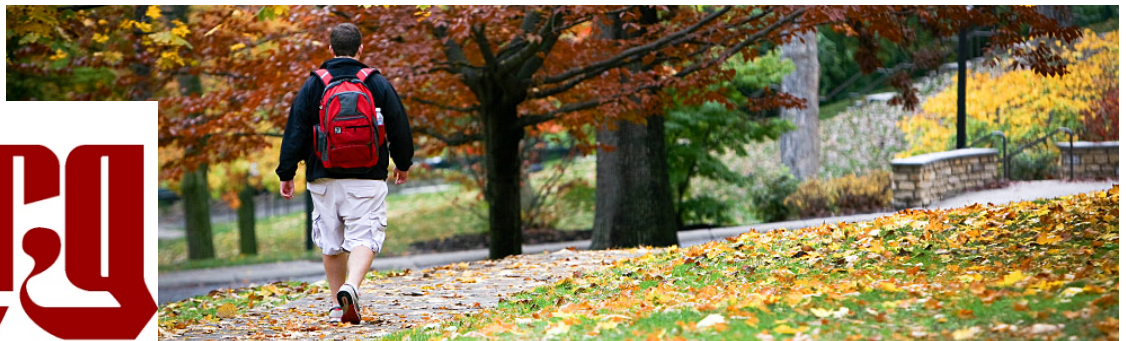
- **Benchmarks against peer institutions**
- **Disseminates item results related to active and collaborative learning for faculty, and the campus environment for administrators.**
- **Assesses diversity learning**
- **Faculty increased active learning strategies**



Wittenberg University (OH)

Appointed a Presidential Task Force on engagement in both academic and co-curricular environments

- **Encouraged faculty investment by stressing that engagement is rooted in academics**
- **Identified functional areas that helped promote student success**

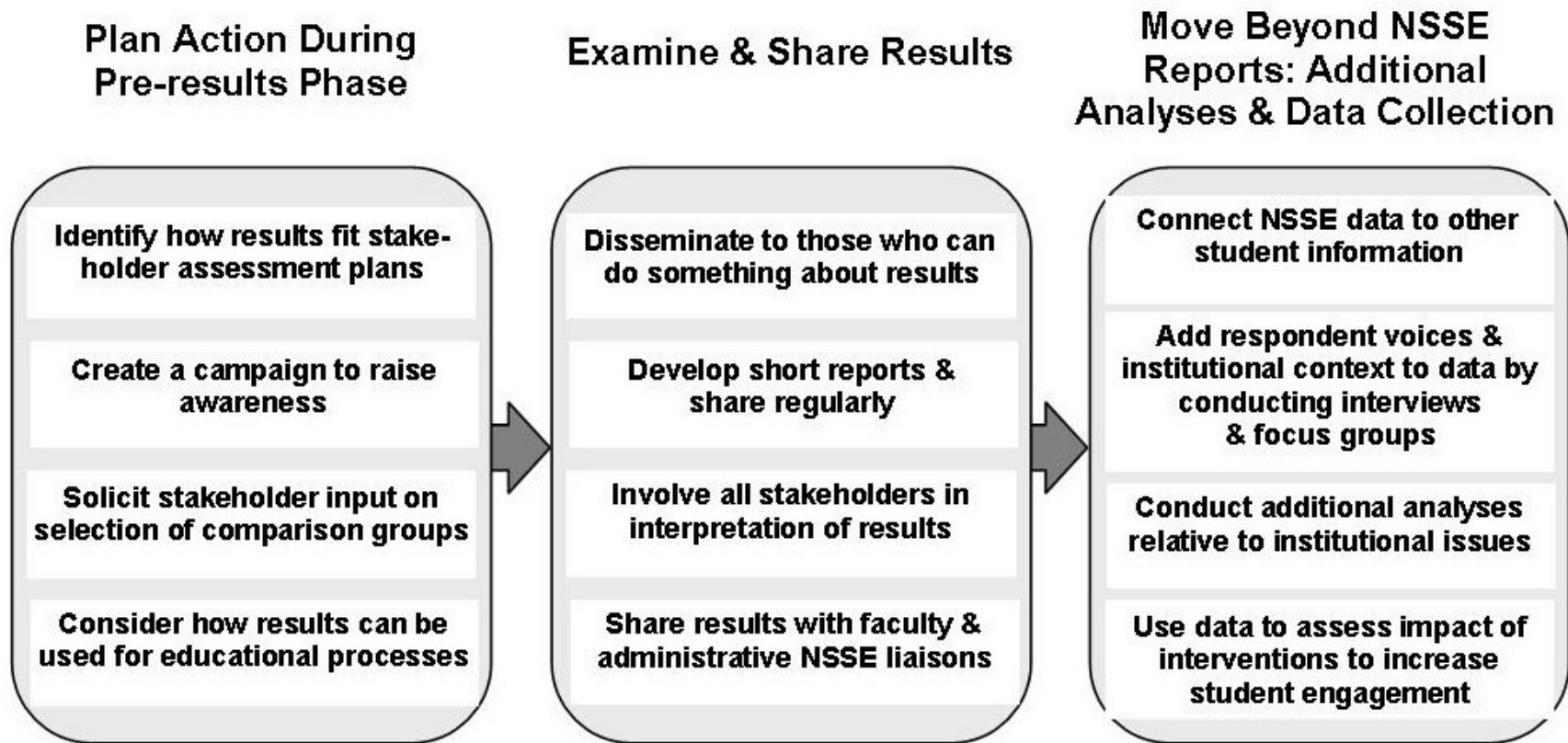


Collective Wisdom from NSSE Users: Converting Data to Action

- Campuses that maximize their student engagement results, in that action is taken to improve the quality of the undergraduate experience, and student engagement and success is enhanced, *do the following....*



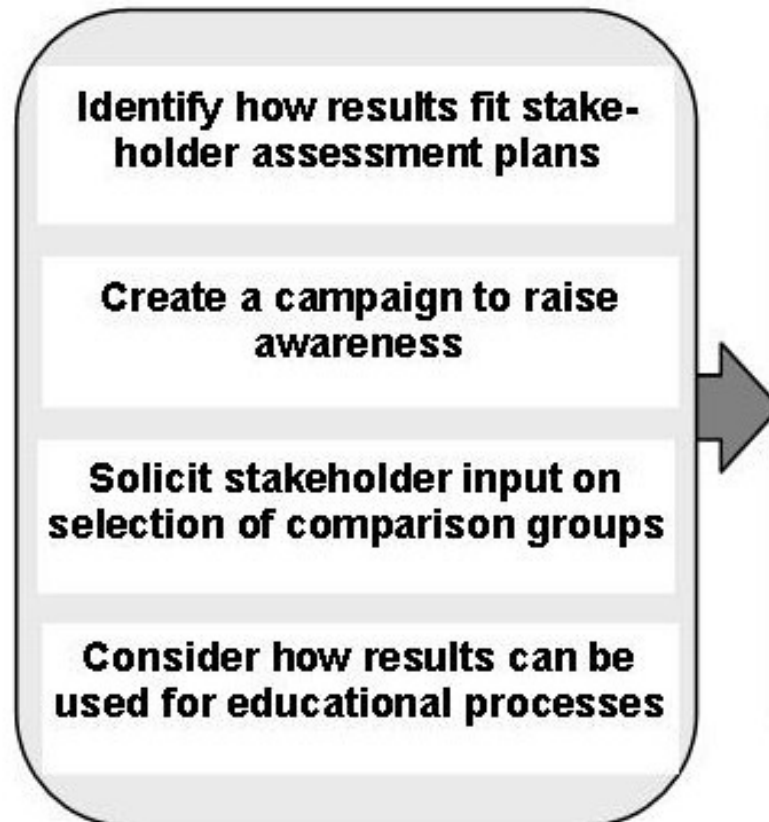
Collective Wisdom from Users: Moving from Data to Action



Source: Kinzie, J. & Pennipede, B. (2009). Converting engagement results into action. *New Directions for Institutional Research*

Plan Action Before Results Arrive

Plan Action During Pre-results Phase



Institutional Examples: Before Results Arrive...

- **Illinois State University** – involved all potential stakeholders in planning survey administration, connected promise of results with units in invested in Council for the First Year Experience.
- **Texas State San Marcos** – heightened interest of academic deans/departments by soliciting input regarding selection of institutions in comparison groups. Circulated list of options, asked department heads to choose 20.

Disseminating Your Results

Examine & Share Results

**Disseminate to those who can
do something about results**

**Develop short reports &
share regularly**

**Involve all stakeholders in
interpretation of results**

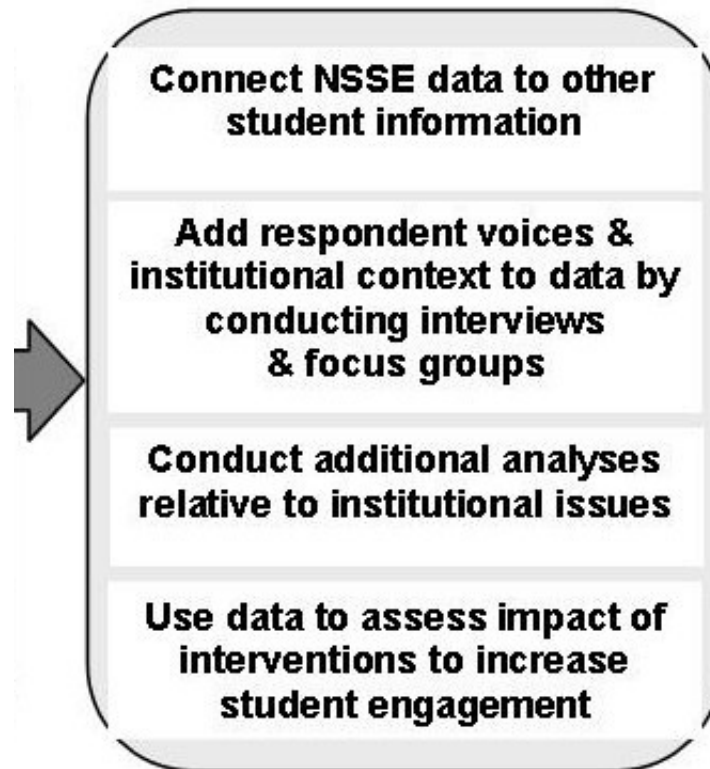
**Share results with faculty &
administrative NSSE liaisons**

Institutional Examples: Examine & Share Results

- **Grand Valley State University** – presented NSSE results (higher order learning, gains scores) relevant to institution's Claiming a Liberal Education campus change initiative (reform of gen ed).
- **University of Tulsa** – identifies faculty and staff leaders in each college/dept. to serve as liaisons to IR office. Liaisons disseminate results, more likely to convince colleagues of potential for reflection on pedagogy

Going Beyond Reports

Move Beyond NSSE Reports: Additional Analyses & Data Collection



Institutional Examples: Beyond Reports

- **GA Institute of Technology** – added NSSE results to retention & persistence models identified several items that distinguish GA Tech experience and persistence. Campus leaders focused on ensuring student engagement in these activities.
- **Univ of Wisconsin Stout** Teaching and Learning Center– added student voices to quantitative results. Distilled short list of effective educational practices.

Buffalo State College Student Stakeholder Forums

Qualitative Assessment Project

(Focus: NSSE dimensions)



Purpose of Stakeholder Assessment Project :

- **Explore** with students what the college can do to support and enhance their academic and personal success.
- **Engage** Buffalo State students in active, face-to-face dialogue re. their needs and opinions.
- **Inform** the College Planning Council about priority student concerns.

Two central questions asked with a focus on the NSSE dimensions:

- *What things should Buffalo State College **continue** that are working well to support your success as a student?*

and

- *What should the College **change** that is not working well?*

Student Stakeholder Project

Spring, 2008

What things should Buffalo State College **continue** that are working well to support your success as a student?

- and -

What should the College **change** that is not working well?

Part A. We are interested in knowing what Buffalo State should **continue** in order to support your success as a student, and what the College needs to **change** because it is **not working** well. In the spaces provided below, please describe the positive and negative aspects of each of the following areas. **Please print clearly.**

- 1. Opportunities to participate in the campus community through experiences outside the classroom.**

Negative things that need to be **changed**



Positive things that should be **continued**



Eight areas of inquiry:

1. Participation in campus community through experiences outside the classroom (EEE);
2. Interacting with other students (EEE);
3. Quality of services and support available for your non-academic needs (SCE);
4. Extent to which lectures, course readings, assignments and test / exams are challenging (LAC);

Eight areas of inquiry (Cont'd):

5. Participation in class discussions and work with other students on projects, etc. (ACL);
6. Interactions with faculty both in class and outside of class (SFI);
7. Feeling a part of, and identifying with, Buffalo State College (SCE); and
8. Other suggestions and comments related to the College's goal of supporting your success as a student.

Student Stakeholder Assessment Project

Spring, 2008

Summary of Findings

Areas of Student Satisfaction

(*“Things the College should continue that are working well to support your success as a student”*)

- ✓ **Quality of relationships with faculty and staff**
- ✓ **Support received from student service areas**
- ✓ **Variety of student organizations and events**
- ✓ **Advisement**
- ✓ **Transportation (NFTA bus pass program)**
- ✓ **Technology (Angel)**
- ✓ **The conduct and experience of courses.**
- ✓ **Student peer relationships**
- ✓ **Campus safety**

Areas in Need of Improvement

(“What the College should change that is not working well”)

- Dining facilities and services
- Faculty and staff responsiveness to students’ needs
- More aid for daily living expenses
- Parking
- Academic rigor
- Communication about events, programs, activities.
- Accessibility for students with disabilities.
- Safety concerns
- Student facilities and services

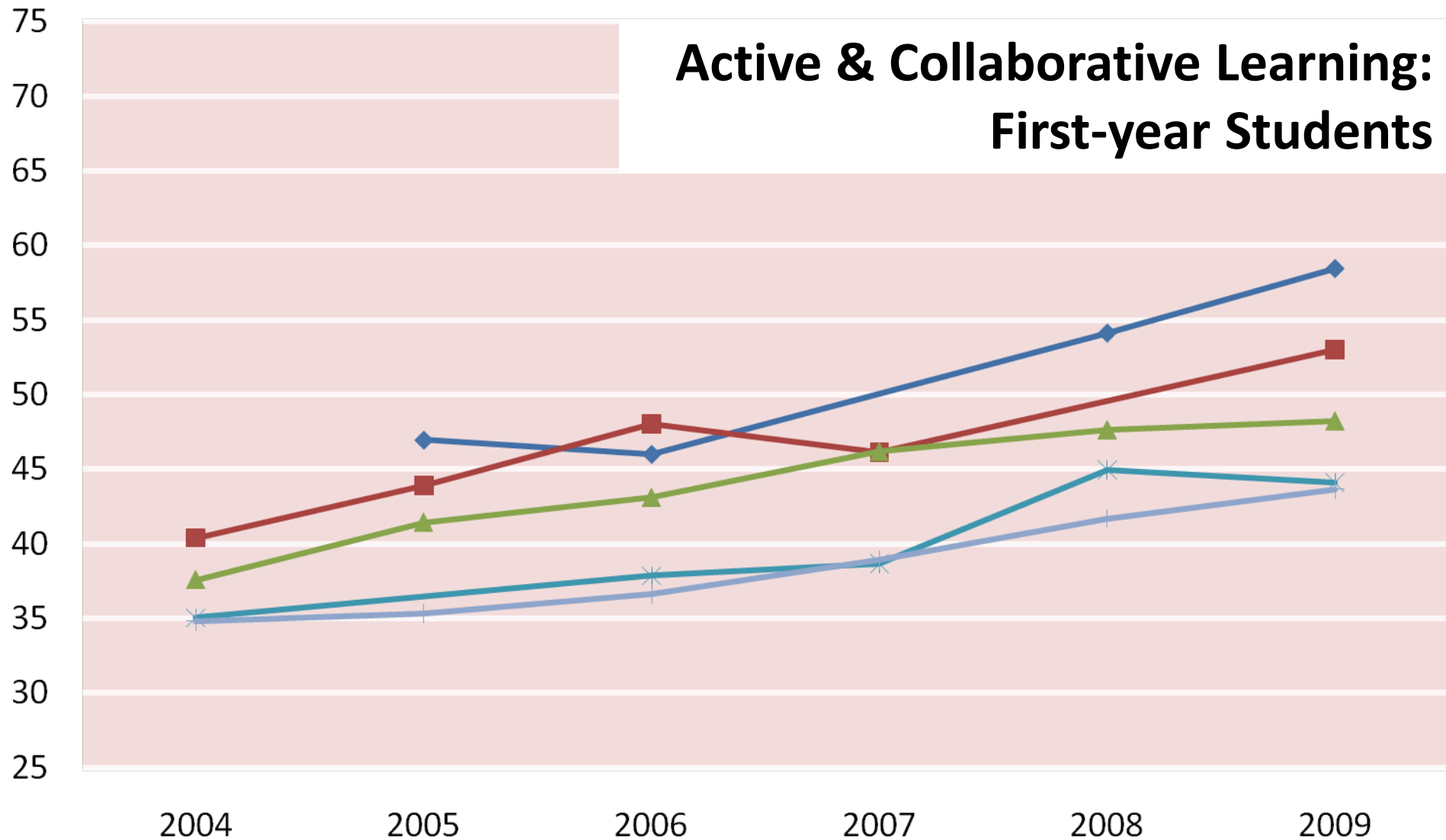
Are Institutions Improving?

- **Opportunity: 10th NSSE administration**
- **Institutions with multiple years of NSSE make it possible to assess change (or stability) in engagement over time.**
- **Comparing results over time**
 - **Four NSSE administrations, 2004-2009**
 - **Examined Benchmarks and High-Impact Practices**
 - **As indicated by effect size and linearity of trend**

Are Institutions Improving?

- **Evidence of improvement found at 41% of institutions on at least one measure;**
 - **These institutions represented all types and sizes**
 - **Examples of downward trends were rare**

Are Institutions Improving?



Are Institutions Improving?

Yes.

**Systematic improvement efforts
have paid off.**



Lessons Learned: Taking Action on Results

- 1. Find relevancy and entice with results**
- 2. Continuously disseminate data in small doses**
- 3. Appoint NSSE ambassadors**
- 4. Connect student engagement results to the study of real campus problems**
- 5. Infuse data into continuous improvement processes**
- 6. Dig deeper into results**
- 7. Improvement may begin in small ways, but accumulates over time**



Final thoughts...

1. If assessment doesn't help improve teaching and learning activities and ultimately, student success... *why bother with it?*
2. Link data to develop a solid foundation for action.
3. Improvement begins in small ways – so start something!
4. Evaluate effectiveness of action. Celebrate and tweak.
5. Implementing change in colleges and universities is difficult, and takes *time...be in it for the long haul!*

Improvement & Positive Change



- Implementing large-scale, transformational change in colleges and universities is difficult
- Link data to develop a solid foundation for action
- Improvement begins in small ways – *so start something!*
- Evaluate effectiveness of action. Celebrate and tweak.

Multi-Year Analysis

- What is the best approach to using results from multiple NSSE administrations?
- More than 75% of NSSE participating institutions have administered the survey more than once.
- Some look for changes in the way their current students are engaged, some track possible trends, and others evaluate specific campus initiatives.



NSSE Multi-Year Data Analysis Guide

About this Guide

Questions from NSSE users about the best approach to using results from multiple administrations are increasingly common. More than three quarters of NSSE participating institutions have administered the survey more than once. Some look for changes in the way their current students are engaged, some track possible trends, and others evaluate specific campus initiatives. Regardless of the reason, a variety of questions quickly emerges, such as:

- Can existing reports be used to evaluate changes from year to year, or should multi-year data sets be merged for separate analyses?
- I know the NSSE survey has changed over time, so how can I quickly identify comparable survey items and benchmarks?
- What is an appropriate method for determining if there has been a meaningful change between years?

The answers to these questions may be complicated because—especially in the early years—NSSE survey items as well as the construction of institutional reports have undergone several improvements and adjustments. Thus, the purpose of this document is to provide researchers with helpful resources, information, and suggestions for suitable approaches to NSSE multi-year analysis and to strengthen the validity of any final conclusions drawn.

We recommend the following tasks for any multi-year analyses of NSSE data:

1. *Identify and focus on specific questions.* Are you looking for general shifts in engagement, or something more specific to assess a particular campus initiative?

Inside

- 1 About this Guide
- 2 Task 1: Identify And Focus On Specific Questions
- 2 Task 2: Select and Employ Appropriate Methods of Analysis
- 5 Task 3: Attend to Data Quality for Each Year in the Analysis
- 5 Task 4: Take Into Account Changes in NSSE Items and Reports Across Years
- 6 Task 5: Merge Multiple Years of Data
- 7 Case Study: A Multi-Year Analysis at NSSEville State University
- 9 Additional Resources on Selected Topics

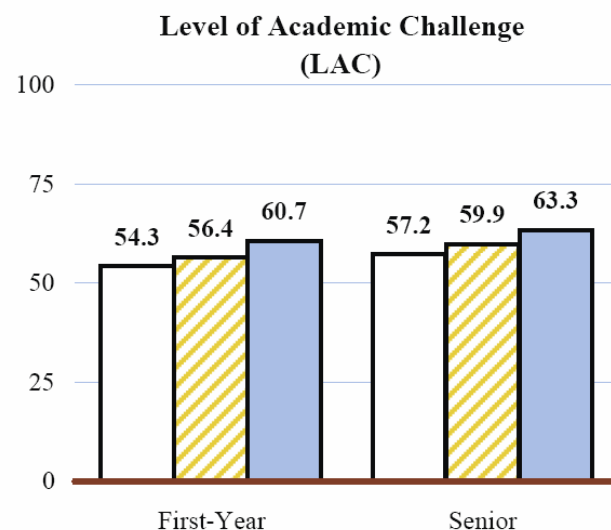
2. *Select and employ appropriate methods of analysis.* Determine your analytic approach and the statistical tests that would best identify changes from year-to-year, and the criteria that might be used for evaluating the magnitude of the change.
3. *Attend to data quality for each year in the analysis.* You should consider, for example, the response rate, total count, sampling error, representativeness, and circumstances surrounding the administration for each year included in your analysis.
4. *Take into account changes in NSSE items and reports across years.* Determine which NSSE items changed over the years and how your reports might differ in terms of weighting, construction of benchmarks, etc.
5. *Merge multiple years of data.* We provide a link to an Excel workbook to assist with identifying comparable NSSE variables and a SPSS syntax file and script to merge data sets.

The five tasks, explained in more detail in the following pages, are presented in this order as our recommendation, although it is probably not necessary to accomplish them sequentially. For example, the first thing you might do is merge your data before diving into the analysis.



NSSE Benchmarks

- 🌀 Level of Academic Challenge
- 🌀 Active and Collaborative Learning
- 🌀 Student-Faculty Interaction
- 🌀 Enriching Educational Experiences
- 🌀 Supportive Campus Environment



- 🌀 Peer Groups
- 🌀 Top 50% and Top 10%
- 🌀 Means, significant differences, and **effect size**
- 🌀 Detailed statistics

Benchmarks as a Broad Overview

- 🌀 Benchmarks are good for broad overview, & external comparison purposes; a constellation
 - 🌀 Discover patterns, identify strengths, challenges
 - 🌀 Compare based on student and institutional characteristics
- 🌀 **But...**
 - 🌀 Breadth conceals strong/weak items
 - 🌀 BM are gross measures, difficult to know exactly where to focus action
 - 🌀 Masks “variation with-in” (race-ethnicity, gender, major)
 - 🌀 BM not the best performers in analysis (predicting retention or GPA, multi-year change)

NSSE Scales

NSSE Scales and Scalelets

 Smaller, more reliable measures

 NSSE Scale properties:


www.nsse.iub.edu/pdf/Norms%20and%20Scales%20-%202006%20NSSE%20Scalets.pdf

 Deep approaches to learning

[see NSSE Annual Reports 2006 – 2008]

 Diversity experiences (1e,u,v;10c,11l)

[Pike, G. R., & Kuh, G. D. (2006). Relationship among structural diversity, informal peer interactions and the perceptions of the campus environment. *The Review of Higher Education*, 29 (4), 425-450.]

 Scales to measure perceived gains in social, practical, and academic competence

[Zhao, C. & Kuh, G. D. (2004). Adding value: Learning communities and student engagement. *Research in Higher Education*, 45 , 115-138.]

NSSE Scales

- “Scalelet scores are most useful to academic affairs, student affairs, and assessment professionals charged with taking NSSE results and translating them into a series of action items to improve the student experience on campus”

Pike, G. R., (2006). The convergent and discriminant validity of NSSE scalelet scores. *Journal of College Student Development*, 47 (5), 551-564.

- GA Tech linked multiple years NSSE responses to several outcomes: FY retention, GPA, pursuit of graduate education, & employment outcome upon commencement/degree conferral. Found BM offered little explanatory power, but scales and items showed promise.

Gordon, J., Ludlum, J., & Hoey, J. (2008). Validating NSSE Against Student Outcomes: Are They Related? *Research in Higher Education*, 49, 19–39.

Using Scales: Miami University



Assessment Brief #15
February 28, 2006

Engaging with Other Learners Outside of the Classroom

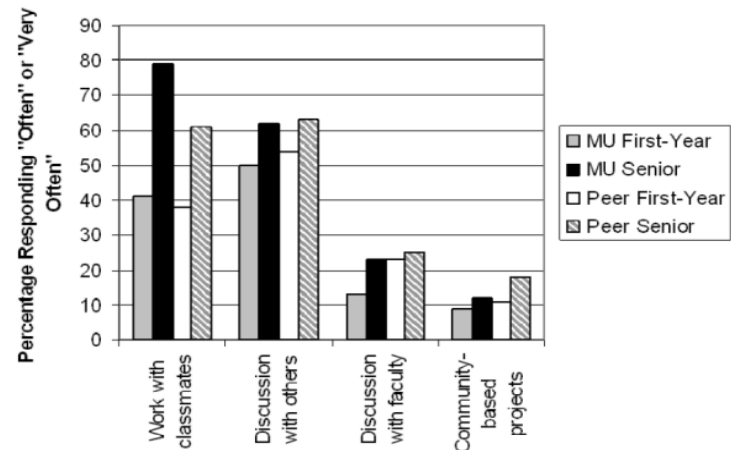
NSSE Overview

In the Spring of 2005, 873 undergraduate students (556 first-years and 317 seniors) on the Oxford campus of Miami University completed the National Survey of Student Engagement (NSSE). The NSSE contains 29 questions that assess the extent to which students engage in a variety of effective educational processes. A total of 5,813 students at 27 peer institutions also completed the NSSE during the Spring of 2005.¹

Engaging with Learners Outside of the Class


On all questions reported below, seniors at Miami University reported significantly higher levels of engagement than did first-year students ($p < .01$).

Engaging with Learners Outside of the Classroom



Assessment brief from Miami University (OH), that explores degree to which first-year and senior students engaged in learning activities outside the classroom

NSSE Scales

 Gains items (alphas .83 - .88) – solid outcome variables

Student Self-Reported Gains

Gains in Practical Competence

- | | | |
|---|----------|--|
| 1 | gnwork | Acquiring job or work-related knowledge and skills |
| 2 | gnothers | Working effectively with others |
| 3 | gncmpts | Using computing and information technology |
| 4 | gnquant | Analyzing quantitative problems |
| 5 | gnprobsv | Solving complex real-world problems |
-

Gains in General Education

- | | | |
|---|----------|--------------------------------------|
| 1 | gnwrite | Writing clearly and effectively |
| 2 | gnspeak | Speaking clearly and effectively |
| 3 | gngenled | Acquiring a broad general education |
| 4 | gnanaly | Thinking critically and analytically |

NSSE Scales

Gains items (alphas .83 - .88) – solid outcome variables

Gains in Personal and Social Development	1 gnetics	Developing a personal code of values and ethics
	2 gnself	Understanding yourself
	3 gnivers	Understanding people of other racial and ethnic backgrounds
	4 gncitizn	Voting in local, state, or national elections
	5 gning	Learning effectively on your own
	6 gncommun	Contributing to the welfare of your community
	7 gnsprit	Developing a deepened sense of spirituality

NSSE Scales

🌀 Deep approaches to learning

🌀 Higher order thinking (item 2b,c,d,e)

🌀 Integrated learning (items 1d,e,i,p,t)

🌀 Reflective learning (items 6d,e,f)

- *Educationally substantive information, interesting to faculty*
- *Perform well in analyses*



NSSE Deep/Integrative Learning

- Integrating ideas or information from various sources
- Included diverse perspectives in class discussions/writing
- Put together ideas from different courses
- Discussed ideas with faculty members outside of class
- Discussed ideas with others outside of class
- Analyzing the basic elements of an idea, experience, or theory
- Synthesizing & organizing ideas, info., or experiences
- Making judgments about the value of information
- Applying theories to practical problems or in new situations
- Examined the strengths and weaknesses of your own views
- Tried to better understand someone else's views
- Learned something that changed how you understand an issue

Taking Action in KY



- What successes have you experienced with your NSSE results? challenges?
- What action was taken on your results? If no action was taken, why?
- How might the KY CPE support and further your work?
- How can NSSE help?
- What might you do when you return to campus?

