

In 2004, changes were made in the process for calculating the NSSE benchmarks of effective educational practice. The changes were a result of our continuing efforts to provide institutions with the best information possible. By revising our calculation process, we enhanced the usability of the information for intra-institutional comparisons. For example, institutions can now calculate scores using the benchmark items at the school, college, or department level. This was not previously possible because the benchmarks were only constructed at the institution level. In addition, using the student-level scores, the precursors to the benchmarks, institutions can compare groups of students (e.g., seniors from two different years). For more information about the benchmark construction process and to download syntax that calculates student-level scores, please see the NSSE Web site: nsse.iub.edu.

Recalculated Benchmarks

While individual institutions now have more options to reconstruct NSSE benchmark scores for their own purposes, the changes in the benchmark calculation procedures require that benchmarks prior to 2004 also be recalculated to more accurately interpret changes in institutional performance over the years. Table 1 provides all of your institution's scores for four of the five benchmarks based upon this revised process, allowing you to compare benchmark scores from two or more years using the same metric. Note that the Student Faculty Interaction benchmark^c has been computed in a way to make possible accurate year-to-year comparisons. In contrast, no adjustment could be made to allow for comparisons between the 2004 and 2005 Enriching Educational Experiences benchmarks^d and earlier years.

**Table 1
Recalculated Benchmarks for All Years of NSSE Participation^a**

<i>Benchmark</i>	<i>Class</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004^b</i>	<i>2005^b</i>
Level of Academic Challenge	FY	47	47	49		47
	SR	57	55	55		53
Active and Collaborative Learning	FY	38	40	38		41
	SR	50	47	50		50
Student-Faculty Interaction ^c	FY	31	36	33		37
	SR	49	45	47		47
Supportive Campus Environment	FY	59	55	58		59
	SR	62	60	62		56

Note: Due to changes in the response set for survey items that comprise the Enriching Educational Experiences^d benchmark, it is not possible to compare 2004 and 2005 results to earlier years, hence its omission from the table above.

How comparable are benchmark scores from year to year?

This report is a brief introduction to how to compare institutional performance over time, not an exhaustive treatment of all the pertinent issues that need to be considered. We recommend that you do further analysis and investigation to better understand the changes in relation to your institutional context. It is important to keep in mind three issues before comparing benchmark scores from year to year:

- 1) Drawing a random sample from a population results in a certain amount of sampling error – an estimate of the degree to which the characteristics of the sample do not match those of the population. Smaller samples relative to the size of the population risk larger sampling errors. Thus, relatively small benchmark differences could be attributed to random sampling fluctuation.
- 2) In addition to sampling error, you should examine the demographic characteristics of the samples to be sure that similar groups of students are represented among the respondents in various years. If respondent characteristics are different, and these differences likely could affect engagement scores, these differences should be acknowledged and taken into account when attributing reasons for benchmark differences. A more sophisticated approach would be to weight the samples so they more closely resemble the student population, and then recalculate the benchmark scores using the formulas provided by NSSE.
- 3) Some questions and response options were changed over the years based on psychometric analyses to

improve the survey's validity and reliability. Most notably, response options for the 'enriching' items (question 7 on the survey) were revised in 2004.^d Our analysis shows that these items are not comparable with prior years. *For most institutions, this change will produce a substantially lower Enriching Educational Experiences score in 2004 and 2005 compared to prior years, particularly for first-year students.* See the NSSE website for specific changes to these and other items.

What constitutes a real change in a benchmark score?

One way to estimate the magnitude of change in a benchmark score over time is to combine your institutional data from all participating years and run statistical analyses between students from the respective years. For example, t-tests can be computed between first-year students in 2003 and first-year students in 2004 to see if the differences between benchmark scores are statistically significant. Effect sizes can also be computed by dividing the difference of the benchmark scores by the standard deviation of the entire distribution. The t-tests can also be weighted according to statistical weights provided by NSSE (based on gender and enrollment status), or institutions can create their own weights based on school records.

Institutions can also conduct regression analyses using this multi-year data and include a dummy variable for the year of participation as an independent variable. With this approach, the regression model could control for student demographic variables or other independent variables to see what the unique effect of the year of administration might be.

Notes

- a. Scores from NSSE 2000 are not included because several significant changes were made to the survey instrument after that year, thus making year-to-year comparisons less suitable.
- b. Student weights prior to 2004 were computed exclusively using the most recent IPEDS data available. In 2004, institutional population files were used for class rank and gender because these files provide more recent and accurate data. Beginning in 2005, enrollment status information (full-time/part-time) was also taken from institutional population files rather than IPEDS.

- c. All items in question 7 on the 2004 instrument were rescaled in 2004. One of these items, "Work on a research project with a faculty member outside of course or program requirements," contributes to the Student-Faculty Interaction benchmark. The old response set (NSSE 2000-2003) was 'yes,' 'no,' or 'undecided' whereas the new response set is 'done,' 'plan to do,' 'do not plan to do,' or 'have not decided.' Our analysis shows that these items are not comparable across years. Therefore the Student-Faculty Interaction scores on this report do not include the 'research' item. This also means that the score on this report

will not match benchmarks reported on previous year reports.

- d. All items in question 7 on the 2004 instrument were rescaled in 2004. The old response set (NSSE 2000-2003) was 'yes,' 'no,' or 'undecided' whereas the new response set is 'done,' 'plan to do,' 'do not plan to do,' or 'have not decided.' Our analysis shows that these items are not comparable across years. Therefore, it is not possible to compare the 2004 and 2005 Enriching Educational Experiences benchmark with prior years (2001 – 2003).