



Western Michigan University

Multi-Year Benchmark Report

August 2010

Interpreting the Multi-Year Benchmark Report

For institutions that have participated in multiple NSSE administrations, this *Multi-Year Benchmark Report* presents recalculated and comparable benchmark scores by year so that patterns of change or stability are discernible. It also provides statistics such as *number of respondents*, *standard deviation*, and *standard error* so that shorthand mean comparison tests can be calculated. This report is necessary because improvements and modifications have been made over time, making multi-year analysis of NSSE data more complex. Specifically, the following issues are relevant:

- All items in question 7 were rescaled in 2004, making newer results on these items incompatible with those of 2003 and earlier. Therefore, it is not possible to compare the 2004-2010 Enriching Educational Experiences benchmark with prior years (2001-2003). Also, an alternate version of the Student-Faculty Interaction benchmark – labeled ‘SFC’ – removes the ‘research with faculty’ item, allowing this revised version to be compared with prior years (2001-2003).
- In 2004 NSSE changed the way benchmarks were calculated, requiring that benchmarks prior to 2004 be recalculated to more accurately compare institutional performance across years.
- Scores from NSSE 2000 are not included because several significant changes were made to the survey instrument and benchmarks beginning in 2001, making year-to-year comparisons unsuitable.
- The samples used to develop institutional estimates have been refined in recent years, making direct comparisons of reported benchmarks over the years potentially less stable.

This report has three main parts: (a) a table of *data quality indicators* (p. 3), which provides a quick reference to important statistics for each year’s participation, (b) *multi-year charts*, and (c) *detailed statistics*. Key terms and features of (b) and (c) are illustrated below.

For more information and recommendations for analyzing NSSE data over time, consult the *Multi-Year Data Analysis Guide* on the NSSE Web site. [nsse.iub.edu/pdf/NSSE Multi-Year Data Analysis Guide.pdf](http://nsse.iub.edu/pdf/NSSE%20Multi-Year%20Data%20Analysis%20Guide.pdf)

Key Terms and Features in this Report

Y-Axis

Benchmarks are computed on a 0 to 100 scale, however nearly all institutional scores are between the y-axis values of 15 and 85.

Benchmark Score

The benchmark score is the weighted average of the students' scores, using only randomly sampled students (including those from census administrations) from each year's data.

n

Unweighted number of respondents represented in the data.

SEM

Standard error of the mean is how much a score based on a sample may differ from the true population score. *SEM* is used to compute confidence intervals.

Multi-year charts appear on pages 4 & 6

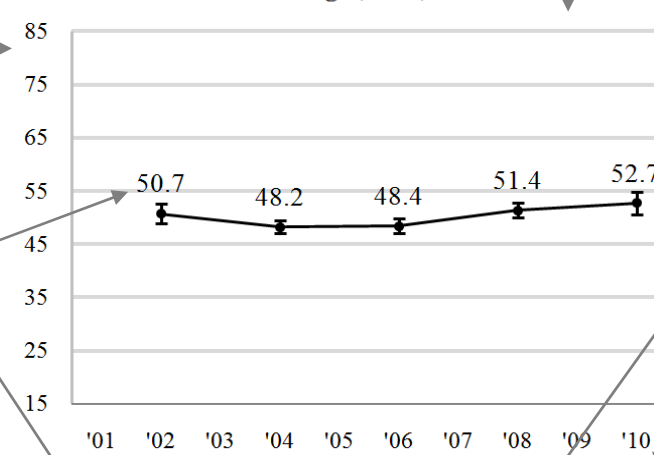
Error Bars/Confidence Intervals

Error bars around each benchmark score show the upper and lower bounds of the 95% confidence interval (mean \pm 1.96 * *SEM*), a range of values 95% likely to contain the true population score. "Upper" and "Lower" limits are reported in the detailed statistics tables. Where confidence intervals do not overlap between years, a statistically significant difference ($p < .05$) is likely to be present.

Year

All NSSE administration years are listed regardless of participation.

Level of Academic Challenge (LAC)



Multi-year detailed statistics appear on pages 5 & 7

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
LAC		50.7		48.2		48.4		51.4		52.7
n		179		405		308		307		155
SD		12.3		12.1		12.3		11.8		13.7
SEM		.92		.60		.71		.67		1.10
Upper		52.5		49.4		49.8		52.7		54.9
Lower		48.9		47.0		47.0		50.1		50.6

SD

Standard deviation, the average amount by which students' scores differ from the mean.

An important early step in conducting a multi-year analysis is to review the quality of your data for both first-year and senior respondents in each year. The precision of an institution's population estimates can vary from one year to the next. The values in this table were drawn from the *Respondent Characteristics* reports from each NSSE administration.

Data Quality Indicators for Each NSSE Participation Year

Year ^a	Mode ^b	Response Rate ^c		Sampling Error ^d		Number of Respondents ^e	
		FY	SR	FY	SR	FY	SR
2001							
2002	Paper		41%	5.3%	5.9%	206	183
2003	Paper	43%	41%	5.9%	6.0%	259	254
2004							
2005							
2006	Web+	27%	37%	4.0%	3.1%	537	725
2007							
2008	Web-only	25%	45%	2.9%	3.0%	907	593
2009	Web-only	20%	29%	4.0%	3.1%	526	753
2010	Web-only	24%	35%	3.2%	2.2%	710	1256

^a All NSSE administration years since 2001 are listed regardless of participation.

^b Modes include *Paper* (students receive a paper survey, with an option of completing a Web version), *Web* (students receive all correspondence by e-mail and complete the Web version), and *Web+* (students initially invited to participate via e-mail; a subgroup of nonrespondents receive paper surveys).

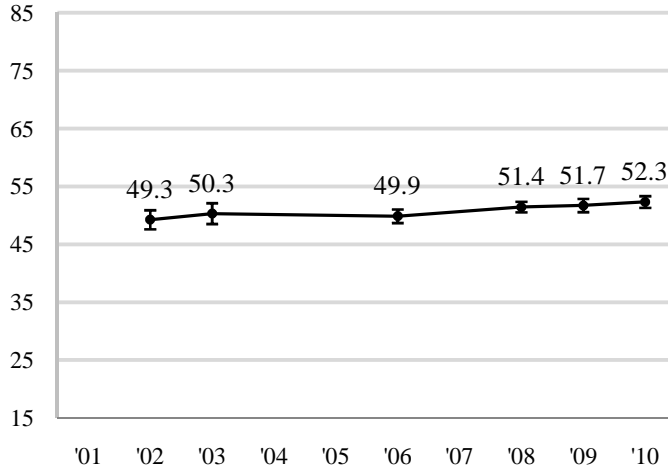
^c Response rates (number of respondents divided by sample size) adjusted for ineligibility, nondeliverable mailing addresses, and students who were unavailable during the survey administration. Before 2003, response rates were not calculated separately by class so overall response rates are reported.

^d Sampling error gauges the precision of results based on a sample survey. It is an estimate of how much survey item percentages for your respondents could differ from those of the entire population of students at your institution. Data with larger sampling errors (such as +/-10%) need not be dismissed out of hand, but any results using them should be interpreted more conservatively.

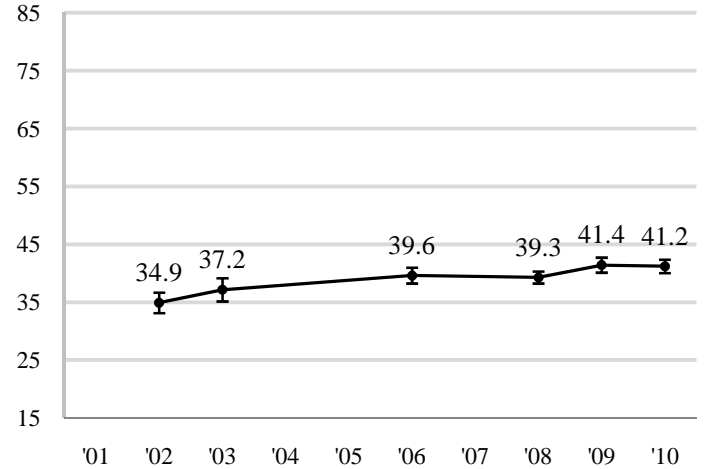
^e This is the original count used to calculate response rates and sampling errors for each administration's *Respondent Characteristics* report. This number includes all randomly sampled students (including those from census administrations). From 2001 to 2005 it may also include targeted oversamples. For this reason, the counts for 2001 to 2005 may not match those given in the detailed statistics on pages 5 and 7.

First-Year Students

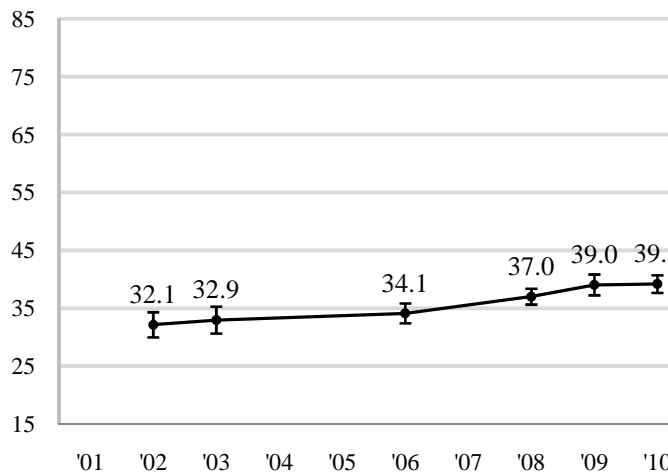
Level of Academic Challenge (LAC)



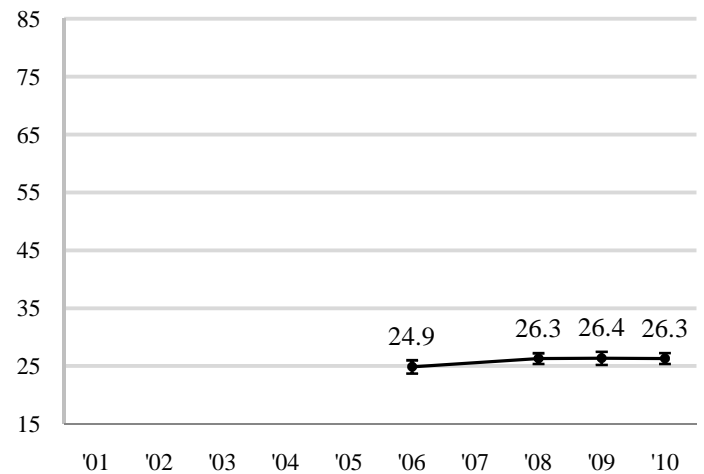
Active and Collaborative Learning (ACL)



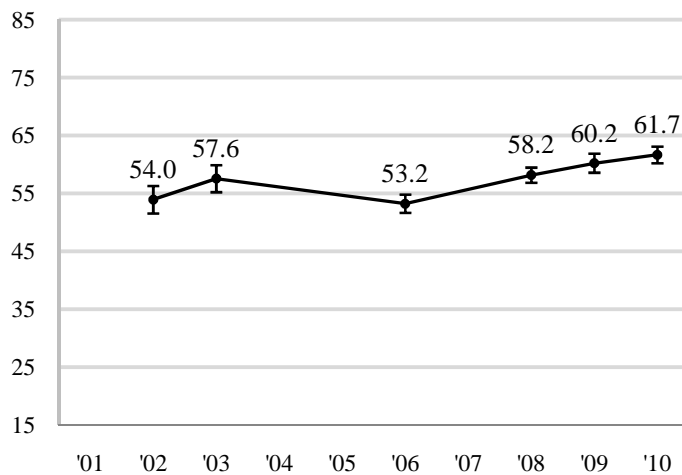
Student-Faculty Interaction (SFC)^b



Enriching Educational Experiences (EEE)^c



Supportive Campus Environment (SCE)



Notes:

- a. Recalculated benchmark scores are charted for all years of participation since 2001. See page 5 for detailed statistics. For more information and recommendations for analyzing multi-year NSSE data, consult the *Multi-Year Data Analysis Guide*. nsse.iub.edu/pdf/NSSE_Multi-Year_Data_Analysis_Guide.pdf
- b. For institutions with 2001-2003 data, due to a change to the 'research with faculty' item in 2004, 'SFC' (a version of 'SFI' that does not include that item) is charted on this page. Statistics for both versions are provided on page 5.
- c. 2001-2003 'EEE' scores are not provided because response options for several 'EEE' items were altered in 2004, and thus scores are incompatible with those of later years.

First-Year Students

		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Level of Academic Challenge	LAC		49.3	50.3			49.9		51.4	51.7	52.3	
	n		202	182			482		806	462	643	
	SD		11.9	12.4			13.1		13.3	12.6	13.0	
	SEM		.84	.92			.60		.47	.59	.51	
	Upper		50.9	52.1			51.0		52.4	52.9	53.3	
	Lower		47.6	48.5			48.7		50.5	50.6	51.3	
Active and Collaborative Learning	ACL		34.9	37.2			39.6		39.3	41.4	41.2	
	n		204	184			535		901	525	710	
	SD		12.8	13.9			16.2		15.9	15.2	15.8	
	SEM		.90	1.02			.70		.53	.66	.59	
	Upper		36.7	39.2			41.0		40.3	42.7	42.4	
	Lower		33.1	35.1			38.2		38.2	40.1	40.0	
Student Faculty Interaction^b	SFC		32.1	32.9			34.1		37.0	39.0	39.2	
	n		204	184			492		844	486	667	
	SD		15.8	16.0			19.3		20.2	20.2	20.0	
	SEM		1.11	1.18			.87		.69	.91	.78	
	Upper		34.3	35.3			35.8		38.4	40.8	40.7	
	Lower		30.0	30.6			32.4		35.6	37.2	37.7	
	SFI		-	-			29.2		32.3	33.3	33.6	
	n		-	-			485		818	473	655	
	SD		-	-			16.9		18.5	17.4	17.6	
	SEM		-	-			.77		.65	.80	.69	
	Upper		-	-			30.7		33.5	34.8	35.0	
	Lower		-	-			27.7		31.0	31.7	32.3	
	Enriching Educational Experiences^c	EEE		-	-			24.9		26.3	26.4	26.3
		n		-	-			475		772	449	614
		SD		-	-			12.8		13.2	12.3	11.9
		SEM		-	-			.59		.48	.58	.48
Upper			-	-			26.0		27.2	27.5	27.2	
Lower			-	-			23.7		25.4	25.2	25.4	
Supportive Campus Environment	SCE		54.0	57.6			53.2		58.2	60.2	61.7	
	n		202	182			461		752	436	597	
	SD		17.3	16.0			17.2		18.3	17.5	17.8	
	SEM		1.21	1.19			.80		.67	.84	.73	
	Upper		56.3	59.9			54.8		59.5	61.9	63.1	
	Lower		51.6	55.2			51.7		56.9	58.6	60.3	

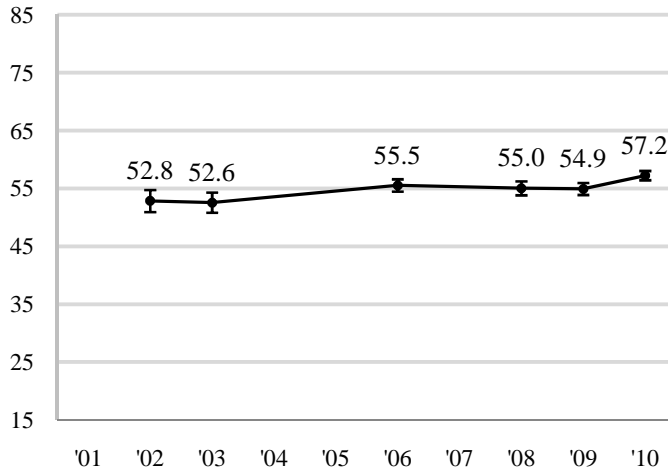
^a n=number of respondents; SD=standard deviation; SEM=standard error of the mean; Upper/Lower=95% confidence interval limits

^b Due to a change to the 'research with faculty' item in 2004, statistics for 'SFC' (the alternate version of student-faculty interaction that does not include that item) are reported for all years, and 'SFI' is reported beginning with 2004.

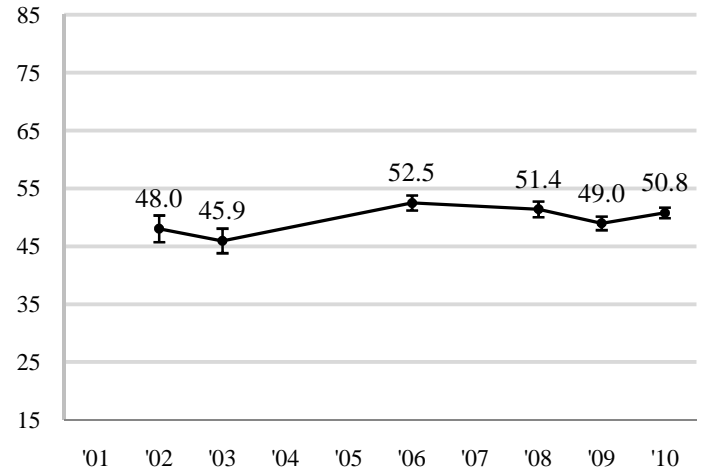
^c 2001-2003 'EEE' scores are not provided because they are not comparable with those of later years. This is because response options for several of 'EEE' items were substantially altered in 2004.

Seniors

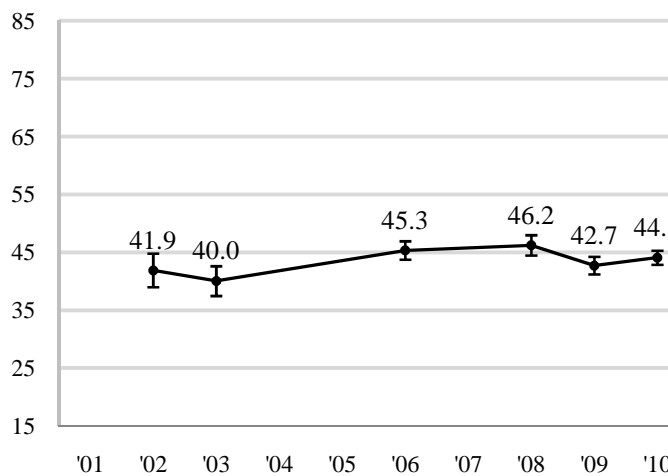
Level of Academic Challenge (LAC)



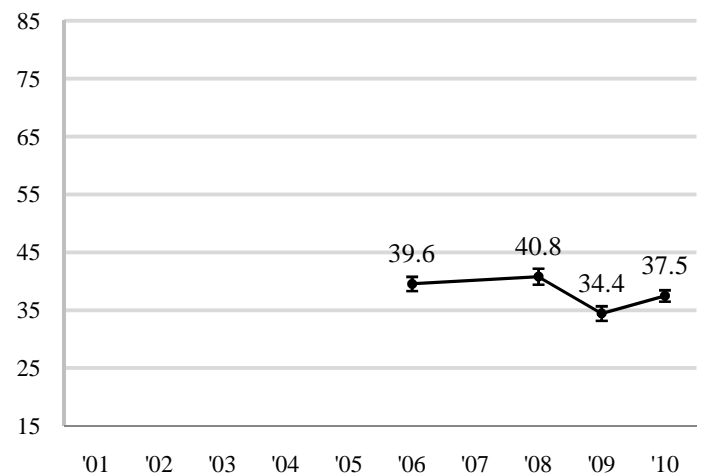
Active and Collaborative Learning (ACL)



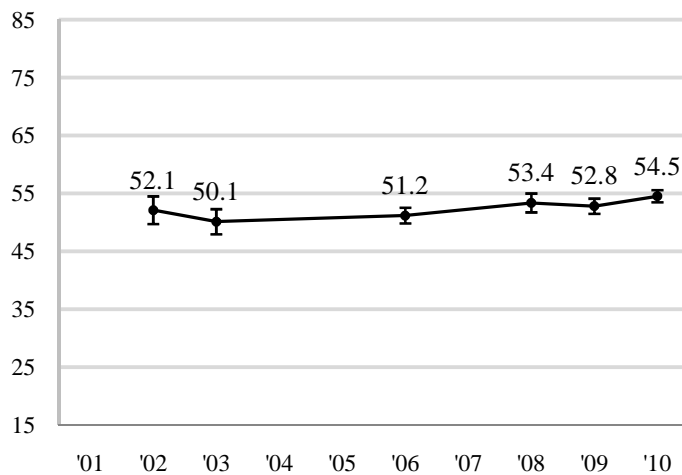
Student-Faculty Interaction (SFC)^b



Enriching Educational Experiences (EEE)^c



Supportive Campus Environment (SCE)



Notes:

- a. Recalculated benchmark scores are charted for all years of participation since 2001. See page 7 for detailed statistics. For more information and recommendations for analyzing multi-year NSSE data, consult the *Multi-Year Data Analysis Guide*. nsse.iub.edu/pdf/NSSE_Multi-Year_Data_Analysis_Guide.pdf
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- c. 2001-2003 'EEE' scores are not provided because response options for several 'EEE' items were altered in 2004, and thus scores are incompatible with those of later years.

		Seniors										
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Level of Academic Challenge	LAC		52.8	52.6			55.5		55.0	54.9	57.2	
	n		182	200			689		551	707	1192	
	SD		13.1	12.5			14.4		14.4	14.1	14.2	
	SEM		.97	.89			.55		.61	.53	.41	
	Upper		54.8	54.3			56.6		56.2	56.0	58.0	
	Lower		50.9	50.8			54.4		53.8	53.9	56.4	
Active and Collaborative Learning	ACL		48.0	45.9			52.5		51.4	49.0	50.8	
	n		182	201			723		583	752	1256	
	SD		15.9	15.4			17.6		16.6	16.3	16.5	
	SEM		1.18	1.09			.65		.69	.59	.47	
	Upper		50.4	48.1			53.8		52.7	50.1	51.7	
	Lower		45.7	43.8			51.2		50.1	47.8	49.9	
Student Faculty Interaction^b	SFC		41.9	40.0			45.3		46.2	42.7	44.1	
	n		182	201			700		570	724	1217	
	SD		19.9	18.6			21.5		21.5	20.8	21.6	
	SEM		1.48	1.31			.81		.90	.77	.62	
	Upper		44.8	42.6			46.9		48.0	44.2	45.3	
	Lower		39.0	37.5			43.7		44.4	41.2	42.9	
	SFI		-	-			40.4		41.5	38.0	39.9	
	n		-	-			696		558	709	1201	
	SD		-	-			20.6		20.7	19.9	20.7	
	SEM		-	-			.78		.88	.75	.60	
	Upper		-	-			42.0		43.2	39.4	41.1	
	Lower		-	-			38.9		39.8	36.5	38.8	
	Enriching Educational Experiences^c	EEE		-	-			39.6		40.8	34.4	37.5
		n		-	-			673		542	699	1169
		SD		-	-			16.2		16.5	16.8	17.0
		SEM		-	-			.63		.71	.64	.50
Upper			-	-			40.8		42.2	35.7	38.5	
Lower			-	-			38.3		39.4	33.2	36.5	
Supportive Campus Environment	SCE		52.1	50.1			51.2		53.4	52.8	54.5	
	n		182	199			663		530	686	1142	
	SD		16.4	15.7			17.7		19.2	17.6	18.1	
	SEM		1.22	1.11			.69		.83	.67	.54	
	Upper		54.5	52.3			52.5		55.0	54.1	55.6	
	Lower		49.7	48.0			49.8		51.7	51.5	53.5	

^a n=number of respondents; SD=standard deviation; SEM=standard error of the mean; Upper/Lower=95% confidence interval limits

^b Due to a change to the 'research with faculty' item in 2004, statistics for 'SFC' (the alternate version of student-faculty interaction that does not include that item) are reported for all years, and 'SFI' is reported beginning with 2004.

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