

# Western Michigan University

Benchmark Comparisons August 2009



#### **Interpreting the Benchmark Comparisons Report**

To focus discussions about the importance of student engagement and to guide institutional improvement efforts, NSSE created five Benchmarks of Effective Educational Practice: Level of Academic Challenge, Active and Collaborative Learning, Student-Faculty Interaction, Enriching Educational Experiences, and Supportive Campus Environment. This Benchmark Comparisons Report compares the performance of your institution with your selected peers or consortium. In addition, page 9 provides two other comparisons between your school and (a) above-average institutions with benchmarks in the top 50% of all NSSE institutions and (b) high-performing institutions with benchmarks in the top 10% of all NSSE institutions. These displays allow you to determine if the engagement of your typical student differs in a statistically significant, meaningful way from the average student in these comparison groups. They also provide more insight into how the student experience varies on your campus and in comparison groups. More detailed information about how benchmarks are created can be found on the NSSE Web site at www.nsse.iub.edu/2009\_Institutional\_Report/.

#### Statistical Significance **Class and Sample** Effect Sizea Means are reported for Benchmarks with mean differences that are larger than would be expected by Effect size indicates the chance alone are noted with one, two, or three asterisks, denoting one of three practical significance of the first-year students and seniors. Institutionsignificance levels (p<.05, p<.01, and p<.001). The smaller the significance level, mean difference. It is the smaller the likelihood that the difference is due to chance. Please note that calculated by dividing the reported class levels are used. All randomly statistical significance does not guarantee that the result is substantive or mean difference by the selected students are important. Large sample sizes (as with the NSSE project) tend to produce more pooled standard deviation. In statistically significant results even though the magnitude of mean differences may practice, an effect size of .2 is included in these analyses. Students in be inconsequential. It is recommended to consult effect sizes to judge the practical often considered small, .5 targeted or locally meaning of the results. moderate, and .8 large. A administered positive sign indicates that oversamples are not vour institution's mean was included. greater, thus showing an Level of Academic Challenge (LAC) affirmative result for the institution. A negative sign Mid East Public indicates the institution lags behind the comparison group, suggesting that the student behavior or institutional Mean practice represented by the The mean is the weighted item may warrant attention. arithmetic average of the student level benchmark scores. **Benchmark Description Box and Whiskers Charts** & Survey Items A visual display of first-year and A description of the senior benchmark score benchmark and the individual NSSEville State Mid Fast Public Camerie Class NSSE 2009 dispersion for your institution items used in its creation is and your selected comparison or provided. Level of Academic Challenge (LAC) Items consortium groups. Challenging intellectual and creative work is central to student learning and collegiate quant of student achievement by emphasizing the importance of academic effort and setting high in active vicinity of enginestizing the importance of vacation, error and work, etc. related to academic program) paparing for class (studying, reading, writing, doing homework or lab work, etc. related to academic program) imber of assigned textbooks, books, or book-length packs of course readings imber of written papers or reports of <u>10 pages or more</u>; number of written papers or reports of <u>between 5 and 10 g</u> 95th Percentile **Box and Whiskers Key** A box and whiskers chart is a concise way to summarize the variation 75th Percentile of student benchmark scores. This display compares the distribution of scores at your institution, in percentile terms, with that of your 50th Percentile/Median (Bar) comparison groups. The ends of the whiskers show the 5th and 95th Mean (Dot) percentile scores, while the box is bounded by the 25th and 75th 25th Percentile percentiles. The bar inside the box indicates the median score, and the

dot shows the mean score.

5th Percentile

See Contextualizing INSSE Effect Sizes at www.fisse.tud.equ/pqf/effect size guide.pqf for additional information.



## Level of Academic Challenge (LAC)

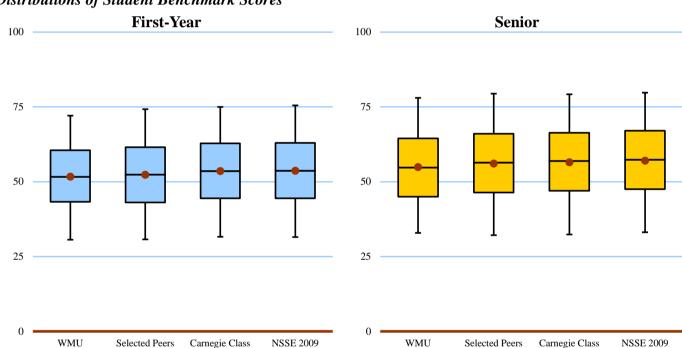
#### Mean Comparisons

Western Michigan University compared with:

	WMU	Selected	Peers	Carn	egie Clas	S	NS			
			Effect		O	Effect			Effect	
Class	Mean <sup>a</sup>	Mean <sup>a</sup> Sig	b Size c	Mean <sup>a</sup>	Sig b	Size c	Mean <sup>a</sup>	Sig b	Size c	
First-Year	51.7	52.3	05	53.5	**	14	53.7	**	15	
Senior	54.9	56.1 *	08	56.5	**	11	57.0	***	15	

<sup>&</sup>lt;sup>a</sup> Weighted by gender, enrollment status, and institutional size.

#### Distributions of Student Benchmark Scores



Note: Each box and whiskers chart plots the 5th (bottom of lower bar), 25th (bottom of box), 50th (middle line), 75th (top of box), and 95th (top of upper bar) percentile scores. The dot shows the benchmark mean. See page 2 for an illustration. See pages 10 and 11 for percentile values.

#### Level of Academic Challenge (LAC) Items

Challenging intellectual and creative work is central to student learning and collegiate quality. Colleges and universities promote high levels of student achievement by emphasizing the importance of academic effort and setting high expectations for student performance.

- · Preparing for class (studying, reading, writing, doing homework or lab work, etc. related to academic program)
- Number of assigned textbooks, books, or book-length packs of course readings
- Number of written papers or reports of <u>20 pages or more</u>; number of written papers or reports of <u>between 5 and 19 pages</u>; and number of written papers or reports of <u>fewer than 5 pages</u>
- Coursework emphasizes: Analysis of the basic elements of an idea, experience or theory
- Coursework emphasizes: Synthesis and organizing of ideas, information, or experiences into new, more complex interpretations and relationships
- Coursework emphasizes: Making of judgments about the value of information, arguments, or methods
- Coursework emphasizes: Applying theories or concepts to practical problems or in new situations
- Working harder than you thought you could to meet an instructor's standards or expectations
- Campus environment emphasizes: Spending significant amount of time studying and on academic work.

<sup>&</sup>lt;sup>b</sup> \* p<.05 \*\* p<.01 \*\*\*p<.001 (2-tailed).

<sup>&</sup>lt;sup>c</sup> Mean difference divided by the pooled standard deviation.



## Active and Collaborative Learning (ACL)

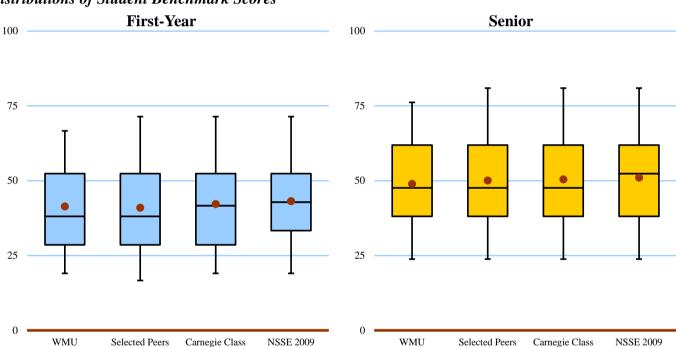
#### Mean Comparisons

Western Michigan University compared with:

	WMU	Selected I	Peers	Carne	egie Clas	S	NSSE 2009				
			Effect		O	Effect			Effect		
Class	Mean <sup>a</sup>	Mean <sup>a</sup> Sig <sup>b</sup>	Size c	Mean <sup>a</sup>	Sig b	Size c	Mean <sup>a</sup>	Sig b	Size c		
First-Year	41.4	41.0	.03	42.2		05	43.2	**	11		
Senior	49.0	50.1	06	50.5	*	09	51.0	***	12		

<sup>&</sup>lt;sup>a</sup> Weighted by gender, enrollment status, and institutional size.

#### Distributions of Student Benchmark Scores



Note: Each box and whiskers chart plots the 5th (bottom of lower bar), 25th (bottom of box), 50th (middle line), 75th (top of box), and 95th (top of upper bar) percentile scores. The dot shows the benchmark mean. See page 2 for an illustration. See pages 10 and 11 for percentile values.

#### Active and Collaborative Learning (ACL) Items

Students learn more when they are intensely involved in their education and asked to think about what they are learning in different settings. Collaborating with others in solving problems or mastering difficult material prepares students for the messy, unscripted problems they will encounter daily during and after college.

- Asked questions in class or contributed to class discussions
- Made a class presentation
- Worked with other students on projects during class
- Worked with classmates outside of class to prepare class assignments
- Tutored or taught other students (paid or voluntary)
- Participated in a community-based project (e.g., service learning) as part of a regular course
- Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)

<sup>&</sup>lt;sup>b</sup> \* p<.05 \*\* p<.01 \*\*\*p<.001 (2-tailed).

<sup>&</sup>lt;sup>c</sup> Mean difference divided by the pooled standard deviation.



## **Student-Faculty Interaction (SFI)**

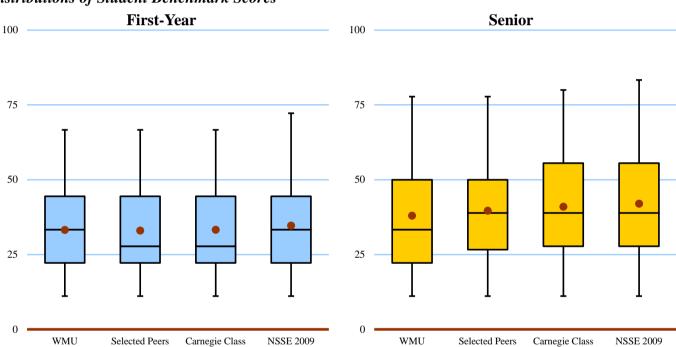
#### Mean Comparisons

Western Michigan University compared with:

	WMU	Selected Po	eers	Carne	egie Clas	S	NSSE 2009			
			Effect		O	Effect			Effect	
Class	Mean <sup>a</sup>	Mean <sup>a</sup> Sig <sup>b</sup>	Size c	Mean <sup>a</sup>	Sig b	Size c	Mean <sup>a</sup>	Sig b	Size c	
First-Year	33.3	33.0	.01	33.3		.00	34.7		08	
Senior	38.0	39.6 *	08	41.0	***	15	42.0	***	19	

<sup>&</sup>lt;sup>a</sup> Weighted by gender, enrollment status, and institutional size.

#### Distributions of Student Benchmark Scores



Note: Each box and whiskers chart plots the 5th (bottom of lower bar), 25th (bottom of box), 50th (middle line), 75th (top of box), and 95th (top of upper bar) percentile scores. The dot shows the benchmark mean. See page 2 for an illustration. See pages 10 and 11 for percentile values.

#### Student-Faculty Interaction (SFI) Items

Students learn firsthand how experts think about and solve practical problems by interacting with faculty members inside and outside the classroom. As a result, their teachers become role models, mentors, and guides for continuous, life-long learning.

- Discussed grades or assignments with an instructor
- Talked about career plans with a faculty member or advisor
- Discussed ideas from your readings or classes with faculty members outside of class
- Worked with faculty members on activities other than coursework (committees, orientation, student-life activities, etc.)
- Received prompt written or oral feedback from faculty on your academic performance
- Worked on a research project with a faculty member outside of course or program requirements

<sup>&</sup>lt;sup>b</sup> \* p<.05 \*\* p<.01 \*\*\*p<.001 (2-tailed).

<sup>&</sup>lt;sup>c</sup> Mean difference divided by the pooled standard deviation.



## **Enriching Educational Experiences (EEE)**

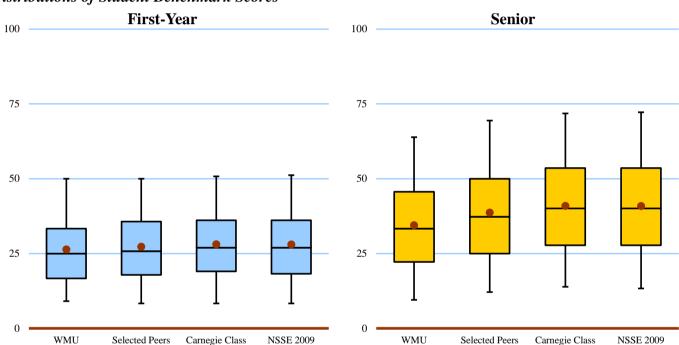
#### Mean Comparisons

Western Michigan University compared with:

	WMU	Selected I	Peers	Carn	egie Clas	S	NSSE 2009		
			Effect		C	Effect			Effect
Class	Mean <sup>a</sup>	Mean <sup>a</sup> Sig <sup>b</sup>	Size c	Mean <sup>a</sup>	Sig b	Size c	Mean <sup>a</sup>	Sig b	Size c
First-Year	26.4	27.3	07	28.1	**	13	28.0	**	13
Senior	34.4	38.7 ***	24	40.9	***	36	40.9	***	35

<sup>&</sup>lt;sup>a</sup> Weighted by gender, enrollment status, and institutional size.

#### Distributions of Student Benchmark Scores



Note: Each box and whiskers chart plots the 5th (bottom of lower bar), 25th (bottom of box), 50th (middle line), 75th (top of box), and 95th (top of upper bar) percentile scores. The dot shows the benchmark mean. See page 2 for an illustration. See pages 10 and 11 for percentile values.

#### Enriching Educational Experiences (EEE) Items

Complementary learning opportunities enhance academic programs. Diversity experiences teach students valuable things about themselves and others. Technology facilitates collaboration between peers and instructors. Internships, community service, and senior capstone courses provide opportunities to integrate and apply knowledge.

- Participating in co-curricular activities (organizations, campus publications, student government, social fraternity or sorority, etc.)
- Practicum, internship, field experience, co-op experience, or clinical assignment
- Community service or volunteer work
- Foreign language coursework / Study abroad
- Independent study or self-designed major
- Culminating senior experience (capstone course, senior project or thesis, comprehensive exam, etc.)
- Serious conversations with students of different religious beliefs, political opinions, or personal values
- Serious conversations with students of a different race or ethnicity than your own
- Using electronic medium (e.g., listsery, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment
- Campus environment encouraging contact among students from different economic, social, and racial or ethnic backgrounds
- · Participate in a learning community or some other formal program where groups of students take two or more classes together

<sup>&</sup>lt;sup>b</sup> \* p<.05 \*\* p<.01 \*\*\*p<.001 (2-tailed).

<sup>&</sup>lt;sup>c</sup> Mean difference divided by the pooled standard deviation.



## **Supportive Campus Environment (SCE)**

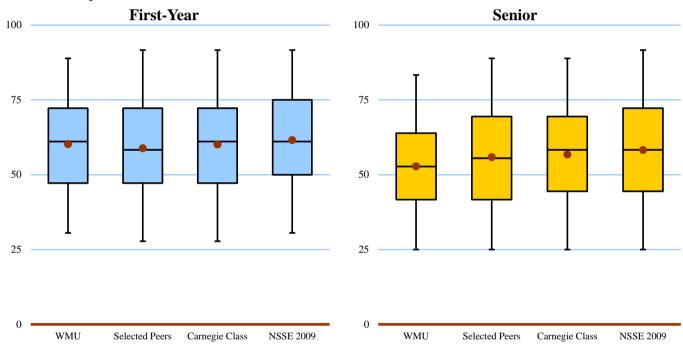
#### Mean Comparisons

Western Michigan University compared with:

	WMU	Selected P	eers	Carne	egie Clas	S	NSS		
			Effect		C	Effect			Effect
Class	Mean <sup>a</sup>	Mean <sup>a</sup> Sig <sup>b</sup>	Size c	Mean <sup>a</sup>	Sig b	Size c	Mean <sup>a</sup>	Sig b	Size c
First-Year	60.2	58.8	.07	60.2		.00	61.6		07
Senior	52.8	55.9 ***	16	56.8	***	21	58.3	***	28

<sup>&</sup>lt;sup>a</sup> Weighted by gender, enrollment status, and institutional size.

#### Distributions of Student Benchmark Scores



Note: Each box and whiskers chart plots the 5th (bottom of lower bar), 25th (bottom of box), 50th (middle line), 75th (top of box), and 95th (top of upper bar) percentile scores. The dot shows the benchmark mean. See page 2 for an illustration. See pages 10 and 11 for percentile values.

#### Supportive Campus Environment (SCE) Items

Students perform better and are more satisfied at colleges that are committed to their success and cultivate positive working and social relations among different groups on campus.

- Campus environment provides the support you need to help you succeed academically
- Campus environment helps you cope with your non-academic responsibilities (work, family, etc.)
- Campus environment provides the support you need to thrive socially
- Quality of relationships with other students
- Quality of relationships with faculty members
- Quality of relationships with administrative personnel and offices

<sup>&</sup>lt;sup>b</sup> \* p<.05 \*\* p<.01 \*\*\*p<.001 (2-tailed).

<sup>&</sup>lt;sup>c</sup> Mean difference divided by the pooled standard deviation.



## NSSE 2009 Benchmark Comparisons With Highly Engaging Institutions

#### **Interpreting the Top 10% and Top 50% Comparisons**

This section of the NSSE Benchmark Comparisons report allows you to estimate the performance of your average student in relation to the average student attending two different institutional peer groups identified by NSSE for their high levels of student engagement: (a) those with benchmark scores placing them in the top 50% of all NSSE schools in 2009 and (b) those with benchmark scores in the top 10% for 2009. These comparisons allow an institution to determine if the engagement of their students differs in significant, meaningful ways from students in these high performing peer groups.

### **Example**

				NSSEville State compared with										
		NSSEville State		NSSE Top 5		NSSE 2009 Top 10%								
		Mean	Mean	Sig	Effect size	Mean	Sig	Effect size						
•	LAC	57.1	55.8	*	.10	60.5	***	-0.28						
ear	ACL	50.3	45.8	***	.28	50.7		-0.02						
t-Y	SFI	37.3	37.2		.01	42.0	***	-0.24						
First-Y	EEE	21.8	30.0	***	63	34.4	***	-0.98						
1	SCE	60.9	64.7	***	21	69.7	***	-0.49						

#### NSSEville State CAN conclude...

- ◆ The average score for NSSEville State first-year students is slightly above (i.e., small positive effect size) that of the average student attending NSSE 2009 schools that scored in the top 50% on Level of Academic Challenge (LAC).
- The average NSSEville State first-year student is as engaged (i.e., not significantly different) as the average student attending NSSE 2009 schools that scored in the top 10% on Active and Collaborative Learning (ACL).
- It is *likely* that NSSEville State is in the top 50% of all NSSE 2009 schools for first-year students on Level of Academic Challenge (LAC) and Active and Collaborative Learning (ACL).<sup>a</sup>

#### NSSEville State CANNOT conclude<sup>a</sup>...

- NSSEville State is in the top half of all schools on the Student-Faculty Interaction (SFI) benchmark for first-year students.<sup>a</sup>
- NSSEville State is a "top ten percent" institution on Active and Collaborative Learning (ACL) for first-year students.<sup>a</sup>

For additional information on how to understand and use the Top 50% and Top 10% section of the benchmark report, see www.nsse.iub.edu/2009\_Institutional\_Report/.

<sup>a</sup> Precision-weighted means (produced by Hierarchical Linear Modeling) were used to determine the top 50% and top 10% institutions for each benchmark, separately for first-year and senior students. Using this method, benchmark scores of institutions with relatively large standard errors are adjusted substantially toward the grand mean of all students, while those with smaller standard errors receive smaller corrections. Thus, schools with less stable data, though they may have high scores, may not be identified among the top scorers. NSSE does not publish the names of the top 50% and top 10% institutions because of our commitment not to release individual school results and our policy against the ranking of institutions.



## NSSE 2009 Benchmark Comparisons With Highly Engaging Institutions Western Michigan University

					WMU comp	ared with					
				NSSE 2			NSSE 2				
		WMU		Top 50	)%		Top 10	)%		Level of Academic Challenge	
		Mean <sup>a</sup>	Mean <sup>a</sup>	Sig b	Effect size c	Mean <sup>a</sup>	Sig b	Effect size c	400	(LAC)	
	LAC	51.7	56.8	***	39	58.9	***	55	100		
ear	ACL	41.4	47.8	***	38	51.7	***	60		-	
t-Y	SFI	33.3	39.1	***	30	43.7	***	52	75		_
First-Year	EEE	26.4	31.0	***	35	32.8	***	47			
	SCE	60.2	66.2	***	33	69.1	***	49			
=	LAC	54.9	60.1	***	38	62.8	***	59	50		
Ä	ACL	49.0	55.7	***	40	59.1	***	59			
Senior	SFI	38.0	48.8	***	51	54.2	***	74	25		_
Š	EEE	34.4	48.1	***	77	54.2	***	-1.16			
	SCE	52.8	64.1	***	60	67.5	***	80	0		
									0	First-Year Senior	_

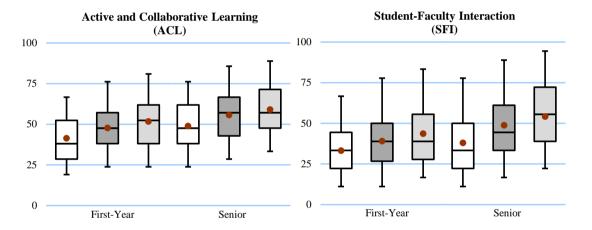


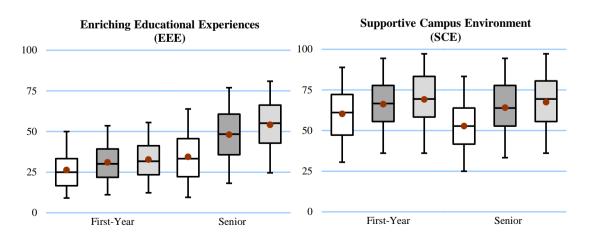
☐ WMU

Top 50%

☐ Top 10%

This display compares your students with those attending schools that scored in the top 50% and top 10% of all NSSE 2009 institutions on a particular benchmark.





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<sup>&</sup>lt;sup>a</sup> Weighted by gender, enrollment status, and institutional size.

<sup>&</sup>lt;sup>b</sup> \* p<.05 \*\* p<.01 \*\*\*p<.001 (2-tailed).

<sup>&</sup>lt;sup>c</sup> Mean difference divided by the pooled standard deviation.



### NSSE 2009 Benchmark Comparisons Detailed Statistics and Effect Sizes <sup>a</sup> Western Michigan University

#### First-Year Students

				Distribution Statistics					Reference Group Comparison Statistics				
		Me	an Stati	stics					s			n Statistics	
		Mean	SD <sup>b</sup>	SEM <sup>c</sup>	5th	Pe 25th	ercentile 50th	75th	95th	Deg. of Freedom <sup>e</sup>	Mean Diff.	Sig. f	Effect size <sup>g</sup>
LEVEL OF ACADEMIC CH	ALLENGE (LA	<b>C</b> )											
WMU	(N = 462)	51.7	12.6	.6	31	43	52	60	72				
Selected Peers		52.3	13.5	.2	31	43	52	62	74	7,811	6	.320	05
Carnegie Class		53.5	13.4	.1	32	44	54	63	75	14,337	-1.8	.004	14
NSSE 2009		53.7	13.5	.1	32	44	54	63	76	69,850	-2.0	.002	15
Top 50%		56.8	13.0	.1	35	48	57	66	78	27,066	-5.1	.000	39
Top 10%		58.9	12.9	.2	37	50	59	68	79	7,675	-7.1	.000	55
ACTIVE AND COLLABORA	TIVE LEARNI	NG (AC	L)										
WMU	(N = 525)	41.4	15.2	.7	19	29	38	52	67				
Selected Peers		41.0	16.7	.2	17	29	38	52	71	610	.4	.545	.03
Carnegie Class		42.2	16.5	.1	19	29	42	52	71	568	8	.229	05
NSSE 2009		43.2	16.6	.1	19	33	43	52	71	533	-1.8	.008	11
Top 50%		47.8	16.6	.1	24	38	48	57	76	554	-6.3	.000	38
Top 10%		51.7	17.5	.3	24	38	52	62	81	685	-10.3	.000	60
STUDENT-FACULTY INTERACTION (SF		)											
WMU	(N = 473)	33.3	17.4	.8	11	22	33	44	67				
Selected Peers		33.0	18.5	.2	11	22	28	44	67	7,881	.2	.775	.01
Carnegie Class		33.3	18.3	.2	11	22	28	44	67	14,464	1	.950	.00
NSSE 2009		34.7	18.4	.1	11	22	33	44	72	70,576	-1.4	.097	08
Top 50%		39.1	19.2	.1	11	27	39	50	78	499	-5.8	.000	30
Top 10%		43.7	20.6	.4	17	28	39	56	83	671	-10.4	.000	52
ENRICHING EDUCATIONA	L EXPERIENC	CES (EE	E)										
WMU	(N = 449)	26.4	12.3	.6	9	17	25	33	50				
Selected Peers		27.3	13.3	.2	8	18	26	36	50	7,604	9	.143	07
Carnegie Class		28.1	13.3	.1	8	19	27	36	51	13,978	-1.7	.007	13
NSSE 2009		28.0	13.4	.1	8	18	27	36	51	68,038	-1.7	.008	13
Top 50%		31.0	13.4	.1	11	22	30	39	54	30,553	-4.6	.000	35
Top 10%		32.8	13.7	.1	12	23	32	41	56	502	-6.4	.000	47
SUPPORTIVE CAMPUS EN	VIRONMENT (	SCE)											
WMU	(N = 436)	60.2	17.5	.8	31	47	61	72	89				
Selected Peers		58.8	18.6	.2	28	47	58	72	92	7,427	1.4	.129	.07
Carnegie Class		60.2	18.7	.2	28	47	61	72	92	13,663	.1	.931	.00
NSSE 2009		61.6	18.8	.1	31	50	61	75	92	66,387	-1.3	.138	07
Top 50%		66.2	18.1	.1	36	56	67	78	94	21,554	-6.0	.000	33
Top 10%		69.1	18.3	.3	36	58	69	83	97	5,214	-8.9	.000	49

<sup>&</sup>lt;sup>a</sup> All statistics are weighted by gender, enrollment status, and institutional size.

<sup>&</sup>lt;sup>b</sup> Standard deviation is a measure of the average amount the individual scores deviate from the mean of all the scores in the distribution.

 $<sup>^{\</sup>rm c}$  The 95% confidence interval for the population mean is equal to the sample mean plus/minus 1.96 times the standard error of the mean.

<sup>&</sup>lt;sup>d</sup> A percentile is the point in the distribution of student-level benchmark scores at or below which a given percentage of benchmark scores fall.

<sup>&</sup>lt;sup>e</sup> Degrees of freedom used to compute the t-tests. Values vary for the total Ns due to weighting and the equal variance assumption.

f Statistical significance represents the probability that the difference between the mean of your institution and that of the comparison group occurred by chance.

<sup>&</sup>lt;sup>8</sup> Effect size is calculated by subtracting the comparison group mean from the school mean, and dividing the result by the pooled standard deviation.



## NSSE 2009 Benchmark Comparisons Detailed Statistics and Effect Sizes <sup>a</sup> Western Michigan University

## **Seniors**

		Mean Statistics			Distribution Statistics					Reference Group Comparison Statistics				
		Mean	SD <sup>b</sup>	SEM <sup>c</sup>	Percentiles <sup>d</sup> 5th 25th 50th 75th 95th			Deg. of Freedom <sup>e</sup>	Mean Diff.	Sig. <sup>f</sup>	Effect size g			
LEVEL OF ACADEMIC CH	ALLENGE (L	AC)												
WMU	(N = 707)	54.9	14.1	.5	33	45	55	65	78					
Selected Peers		56.1	14.3	.1	32	46	56	66	79	18,132	-1.2	.033	08	
Carnegie Class		56.5	14.2	.1	32	47	57	66	79	35,005	-1.6	.003	11	
NSSE 2009		57.0	14.3	.0	33	48	57	67	80	161,866	-2.1	.000	15	
Top 50%		60.1	13.7	.1	37	51	61	70	82	51,230	-5.2	.000	38	
Top 10%		62.8	13.3	.1	40	54	63	72	84	794	-7.9	.000	59	
ACTIVE AND COLLABORA	ATIVE LEARN	NING (AC	CL)											
WMU	(N = 752)	49.0	16.3	.6	24	38	48	62	76					
Selected Peers		50.1	17.3	.1	24	38	48	62	81	822	-1.1	.070	06	
Carnegie Class		50.5	17.2	.1	24	38	48	62	81	786	-1.5	.012	09	
NSSE 2009		51.0	17.4	.0	24	38	52	62	81	759	-2.1	.001	12	
Top 50%		55.7	16.9	.1	29	43	57	67	86	46,537	-6.8	.000	40	
Top 10%		59.1	17.2	.2	33	48	57	71	89	885	-10.1	.000	59	
STUDENT-FACULTY INTE	RACTION (SF	I)												
WMU	(N = 709)	38.0	19.9	.7	11	22	33	50	78					
Selected Peers		39.6	20.2	.2	11	27	39	50	78	18,266	-1.7	.032	08	
Carnegie Class		41.0	20.7	.1	11	28	39	56	80	740	-3.0	.000	15	
NSSE 2009		42.0	20.9	.1	11	28	39	56	83	715	-4.0	.000	19	
Top 50%		48.8	21.3	.1	17	33	44	61	89	740	-10.8	.000	51	
Top 10%		54.2	22.0	.3	22	39	56	72	94	929	-16.2	.000	74	
ENRICHING EDUCATIONA	AL EXPERIEN	ICES (EE	EE)											
WMU	(N = 699)	34.4	16.8	.6	10	22	33	46	64					
Selected Peers		38.7	17.5	.1	12	25	37	50	69	17,779	-4.3	.000	24	
Carnegie Class		40.9	17.9	.1	14	28	40	54	72	732	-6.5	.000	36	
NSSE 2009		40.9	18.2	.0	13	28	40	54	72	705	-6.4	.000	35	
Top 50%		48.1	17.8	.1	18	36	48	61	77	720	-13.6	.000	77	
Top 10%		54.2	17.1	.2	25	43	55	66	81	11,060	-19.7	.000	-1.16	
SUPPORTIVE CAMPUS EN	VIRONMENT	(SCE)												
WMU	(N = 686)	52.8	17.6	.7	25	42	53	64	83					
Selected Peers		55.9	19.3	.1	25	42	56	69	89	754	-3.1	.000	16	
Carnegie Class		56.8	19.2	.1	25	44	58	69	89	719	-4.0	.000	21	
NSSE 2009		58.3	19.3	.0	25	44	58	72	92	692	-5.5	.000	28	
Top 50%		64.1	18.8	.1	33	53	64	78	94	711	-11.3	.000	60	
Top 10%		67.5	18.5	.2	36	56	69	81	97	790	-14.7	.000	80	

<sup>&</sup>lt;sup>a</sup> All statistics are weighted by gender, enrollment status, and institutional size.

<sup>&</sup>lt;sup>b</sup> Standard deviation is a measure of the average amount the individual scores deviate from the mean of all the scores in the distribution.

<sup>&</sup>lt;sup>c</sup> The 95% confidence interval for the population mean is equal to the sample mean plus/minus 1.96 times the standard error of the mean.

<sup>&</sup>lt;sup>d</sup> A percentile is the point in the distribution of student-level benchmark scores at or below which a given percentage of benchmark scores fall.

<sup>&</sup>lt;sup>e</sup> Degrees of freedom used to compute the t-tests. Values vary for the total Ns due to weighting and the equal variance assumption.

f Statistical significance represents the probability that the difference between the mean of your institution and that of the comparison group occurred by chance.



## NSSE 2009 Benchmark Comparisons Detailed Statistics and Effect Sizes <sup>a</sup> Western Michigan University

## Seniors

Mea	ın Statis	]	Distribution Statistics					Reference Group Comparison Statistics				
				Pe	rcentile	s <sup>d</sup>		Deg. of	Mean		Effect	
Mean	SD <sup>b</sup>	SEM <sup>c</sup>	5th	25th	50th	75th	95th	Freedom e	Diff.	Sig. <sup>f</sup>	size <sup>g</sup>	

g Effect size is calculated by subtracting the comparison group mean from the school mean, and dividing the result by the pooled standard deviation.