



NSSE 2016

Multi-Year Report

Iowa State University

About Your Multi-Year Report

For institutions participating in multiple NSSE administrations since 2013, the year of the last survey update, this report presents year-to-year results for Engagement Indicators (EIs), High-Impact Practices (HIPs), and key academic challenge items to illustrate patterns of change or stability. It also provides details such as number of respondents, standard deviation, and standard error so that statistical tests can be calculated.

For more information and recommendations for analyzing NSSE data over time, consult the *Multi-Year Data Analysis Guide* on the NSSE website.

nsse.indiana.edu/pdf/MYDAG.pdf

This report contains three main parts: (a) a page that provides a quick reference to important information about each year's administration, (b) multi-year figures, and (c) detailed statistics. Key terms and features are illustrated below.

Report sections

Administration Summaries (p. 3)	A summary of respondent counts, response rates, sampling errors, and administration details for each participation year.
Engagement Results by Theme (pp. 4-7)	Results for ten EIs and selected individual survey items are displayed, organized under four broad themes. The Academic Challenge theme is represented by four EIs as well as several individual items. The three remaining engagement themes (Learning with Peers, Experiences with Faculty, and Campus Environment) follow, each represented by two EIs.
High-Impact Practices (pp. 8-9)	Results for six HIPs are displayed. First-year results indicate students who <i>participated</i> in a Learning Community, Service-Learning, and Research with Faculty, and who <i>planned to do</i> an Internship or Field Experience, Study Abroad, and a Culminating Senior Experience. Senior results indicate students who participated in all six.
Detailed Statistics (pp. 10-13)	Displays detailed information for results including counts, standard errors, and confidence intervals (CIs) for each measure.

Interpreting year-to-year results

When examining year-to-year results, you may wonder whether observed differences signify meaningful change and whether a trend is indicated. Figures display CIs around each score showing the range of values that will contain the population score 95% of the time. Upper and lower CI bounds are also reported in the Detailed Statistics section.

For further investigation

The Report Builder—Institution Version, updated with current data in the fall, allows for multi-year analysis of Engagement Indicators and individual items. It also affords the analysis of results by subpopulation.

The precision of an institution's population estimates can vary between administrations. An important early step in conducting a multi-year analysis is to review data quality. The values in the tables below were drawn from your *Administration Summary* reports.

Response Details by Participation Year

Year	First-year students			Seniors						
	Response rate ^a	Sampling error ^b	Total respondents ^c	Full completions	Partial completions	Response rate ^a	Sampling error ^b	Total respondents ^c	Full completions	Partial completions
2013	21%	+/- 2.7%	1,073	827	246	24%	+/- 2.2%	1,542	1,227	315
2014										
2015										
2016	14%	+/- 2.9%	1,012	677	335	15%	+/- 2.5%	1,280	943	337
2017										
2018										
2019										
2020										

Administration Details by Participation Year

Year	Recruitment method	Sample type	Incentives offered	Topical module(s)	Consortium	BCSSE	FSSE
2013	Email	Census	No	Transferable Skills	Association of American Universities Data Exchange	No	No
2014							
2015							
2016	Email	Census	No	None	Association of American Universities Data Exchange	No	No
2017							
2018							
2019							
2020							

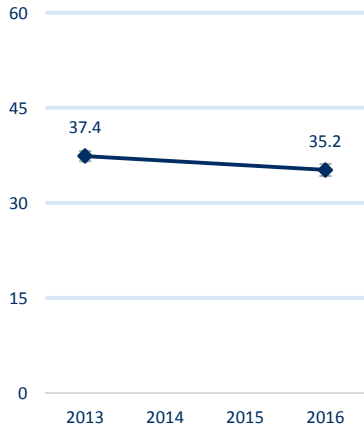
Note: All of your institution's participation years since 2013 (the first year of the updated NSSE) are reported. Years in which your institution did not participate are blank.

- a. Response rates (number of respondents divided by sample size) are adjusted for ineligibility, nondeliverable addresses, and students who were unavailable during the survey administration.
- b. Sampling error gauges the precision of results based on a sample survey. It is an estimate (at the 95% confidence level) of how much survey item percentages for your respondents could differ from those of the entire population of students at your institution. While data with larger sampling errors (such as +/-10%) need not be dismissed out of hand, such results should be interpreted more conservatively.
- c. This is the count used to calculate response rates and sampling errors for each year's *Administration Summary* report. This number includes all census-administered and randomly sampled students.

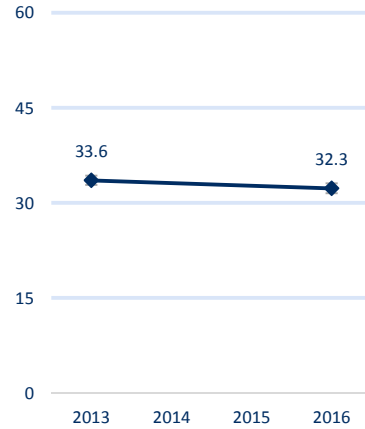
Engagement Indicators (EIs) provide valuable information about distinct aspects of student engagement, organized within four themes. EI scores represent the averaged student responses to a set of related survey questions. The Academic Challenge theme contains four EIs as well as several important individual items. See page 10 for detailed statistics. For more information, including the items that make up each EI, refer to your *Engagement Indicators* report.

Academic Challenge: First-year students

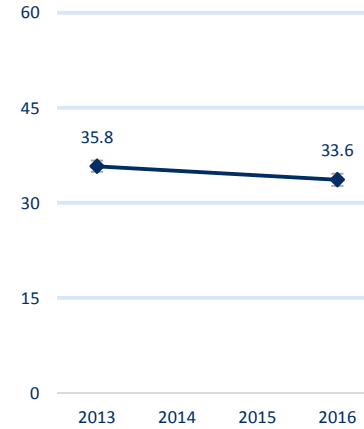
Higher-Order Learning



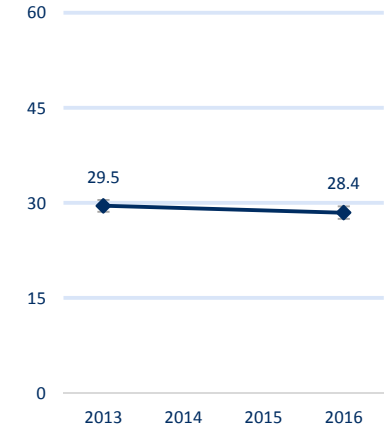
Reflective & Integrative Learning



Learning Strategies

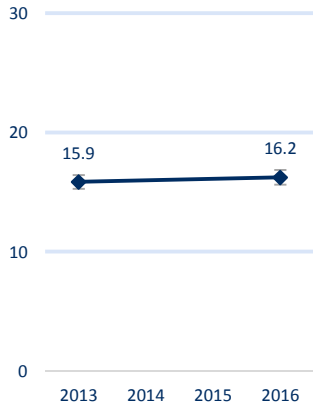


Quantitative Reasoning

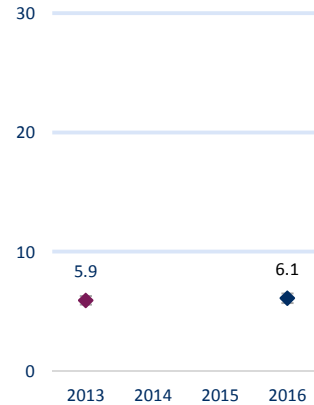


Academic Challenge (additional items): First-year students

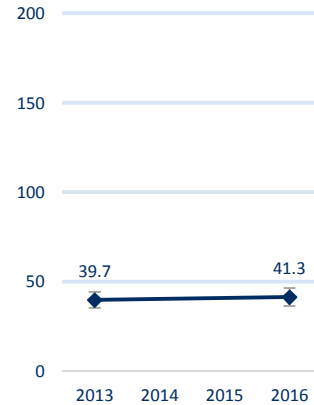
Preparing for Class (hrs/wk)



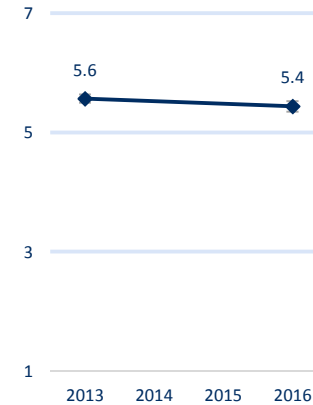
Course Reading (hrs/wk)^a



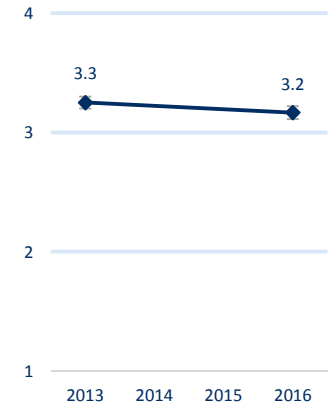
Assigned Writing (pages)^a



Course Challenge^b



Academic Emphasis^c



a. Values for Course Reading and Assigned Writing are estimates calculated from two or more survey questions. The Course Reading question was modified after 2013; comparability between 2013 and later years is limited.

b. Extent to which courses challenged students to do their best work (from 1 = "Not at all" to 7 = "Very much").

c. How much students said the institution emphasizes spending significant time studying and on academic work (1 = "Very little," 2 = "Some," 3 = "Quite a bit," and 4 = "Very much").

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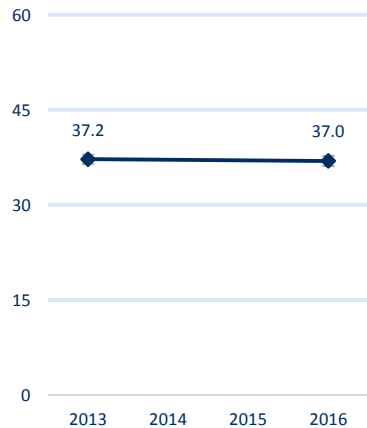
Engagement Results by Theme

Iowa State University

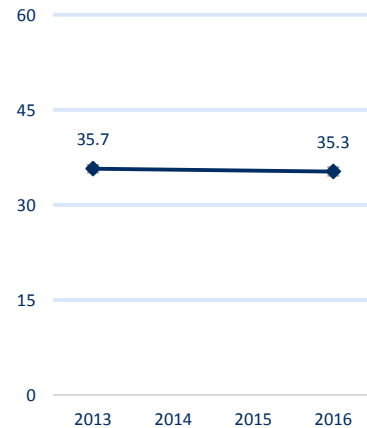
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Academic Challenge: Seniors

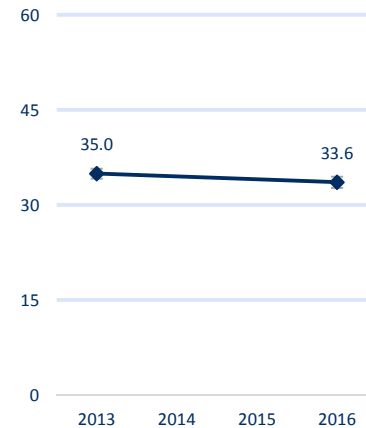
Higher-Order Learning



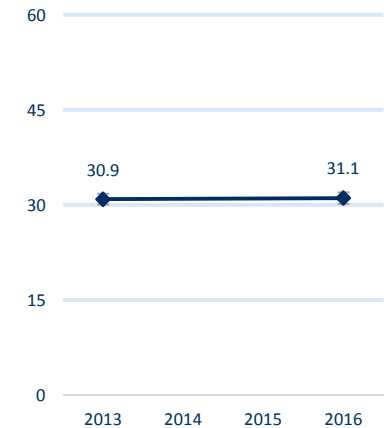
Reflective & Integrative Learning



Learning Strategies

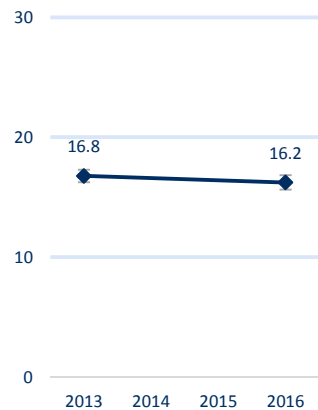


Quantitative Reasoning

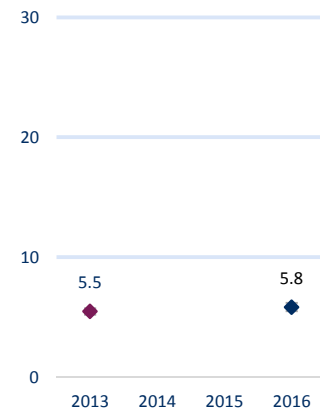


Academic Challenge (additional items): Seniors

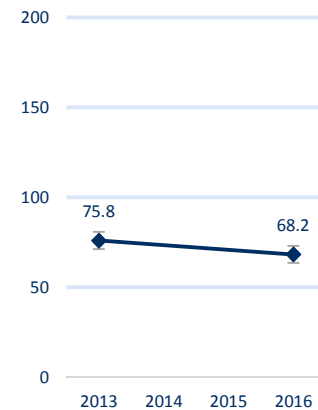
Preparing for Class (hrs/wk)



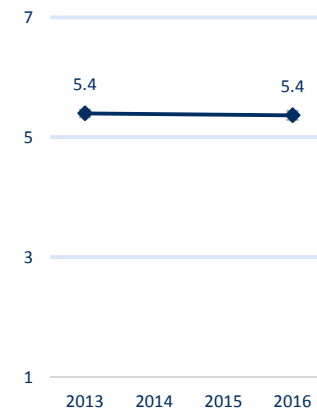
Course Reading (hrs/wk)^a



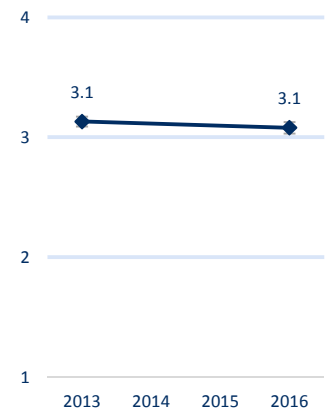
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Academic Emphasis^c



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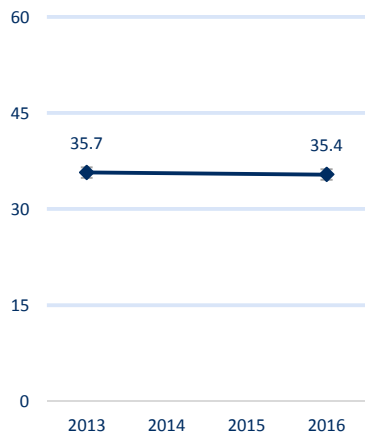
b. Extent to which courses challenged students to do their best work (from 1 = "Not at all" to 7 = "Very much").

c. How much students said the institution emphasizes spending significant time studying and on academic work (1 = "Very little," 2 = "Some," 3 = "Quite a bit," and 4 = "Very much").

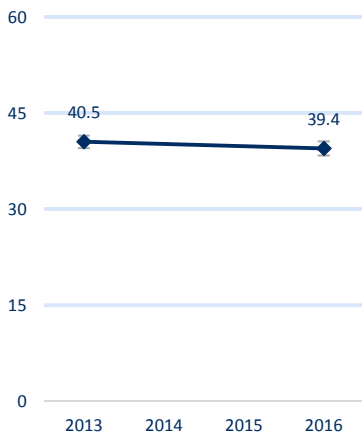
Engagement Indicators (EIs) provide valuable information about distinct aspects of student engagement, organized within four themes. EI scores represent the averaged student responses to a set of related survey questions. The Learning with Peers, Experiences with Faculty, and Campus Environment themes are each represented by two EIs. See pages 10-11 for detailed statistics. For more information, including the items that make up each EI, refer to your *Engagement Indicators* report.

Learning with Peers: First-year students

Collaborative Learning

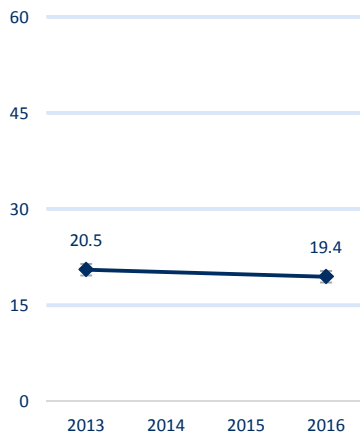


Discussions with Diverse Others

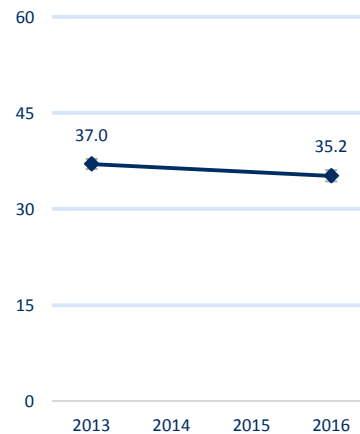


Experiences with Faculty: First-year students

Student-Faculty Interaction

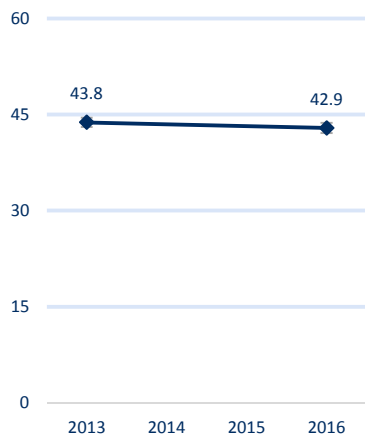


Effective Teaching Practices

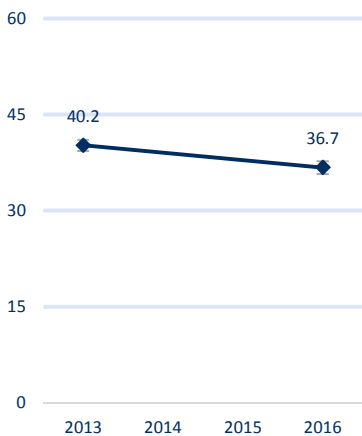


Campus Environment: First-year students

Quality of Interactions



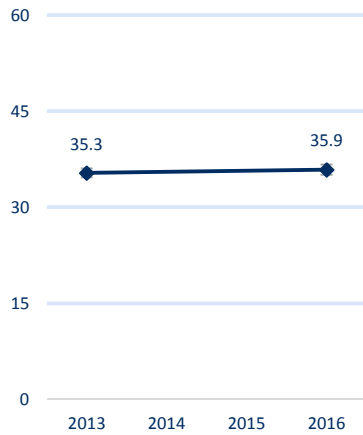
Supportive Environment



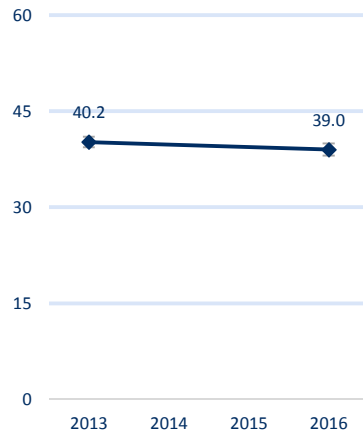
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Learning with Peers: Seniors

Collaborative Learning

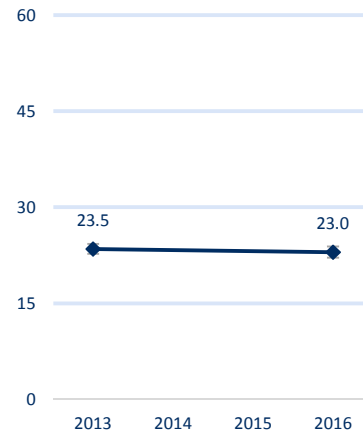


Discussions with Diverse Others

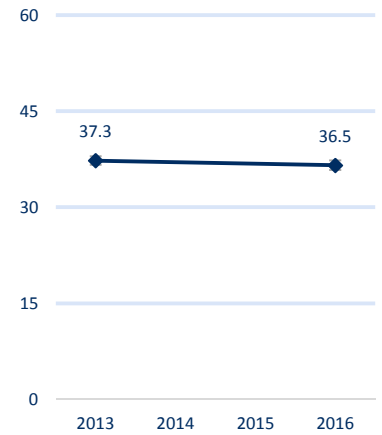


Experiences with Faculty: Seniors

Student-Faculty Interaction

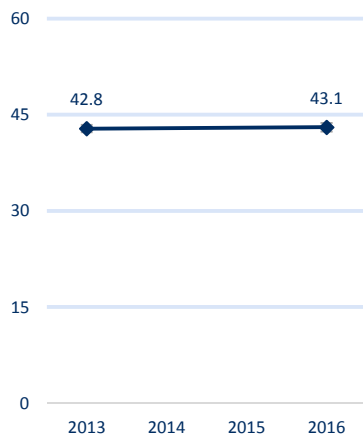


Effective Teaching Practices

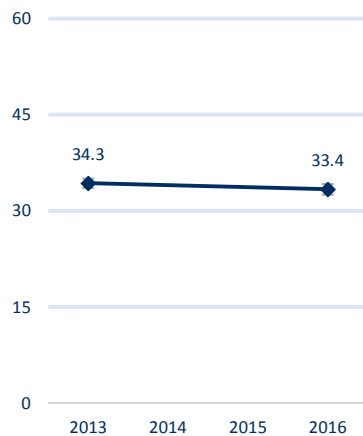


Campus Environment: Seniors

Quality of Interactions



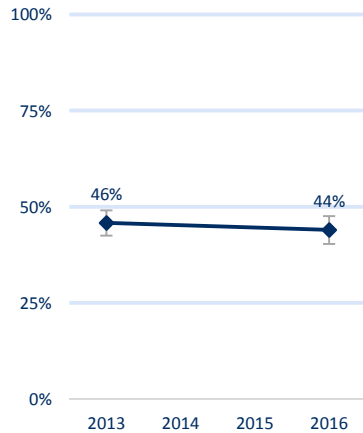
Supportive Environment



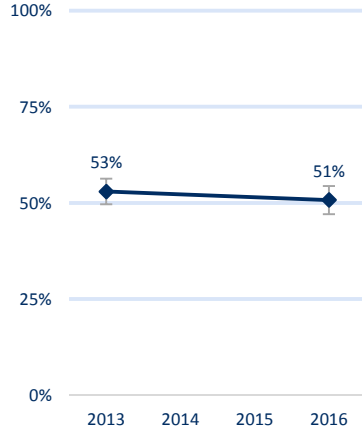
Due to their positive associations with student learning and retention, special undergraduate opportunities are designated "high-impact." The figures below display first-year students' participation, or intent to participate, in High-Impact Practices (HIPs) by year. See page 12 for detailed statistics. For more information, refer to your *High-Impact Practices* report.

High-Impact Practices: First-year students

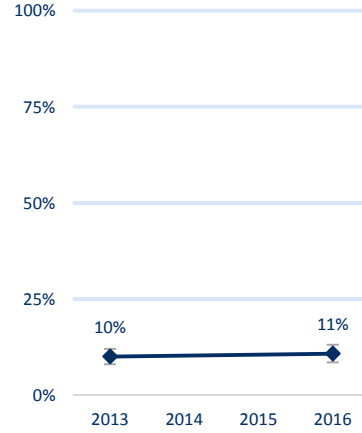
Learning Community (Done or in progress)



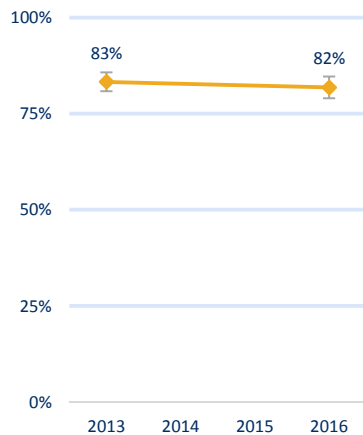
Service-Learning (Some, most, or all courses)



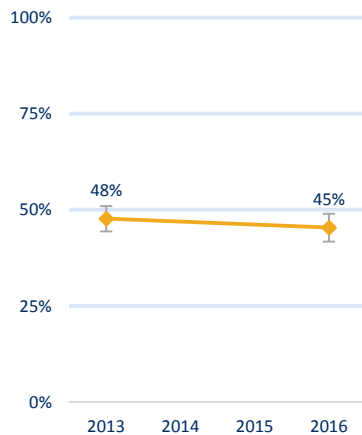
Research with Faculty (Done or in progress)



Internship/Field Experience (Plan to do)



Study Abroad (Plan to do)

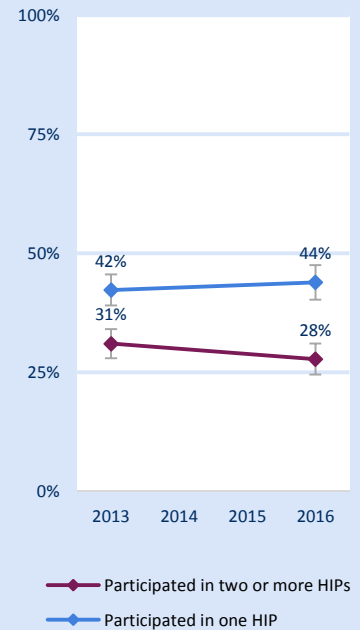


Culminating Senior Experience (Plan to do)



Overall first-year HIP participation

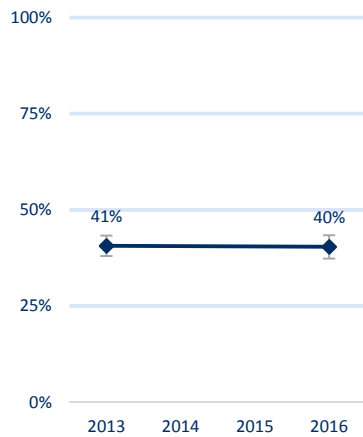
The figure below displays the percentages of first-year students who participated in one, and two or more, HIPs. The figure is limited to participation in a learning community, service-learning, and research with faculty.



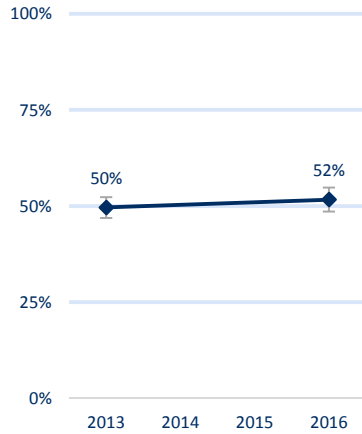
Due to their positive associations with student learning and retention, special undergraduate opportunities are designated "high-impact." Participation in High-Impact Practices (HIPs) by year is displayed in the figures below. See page 12 for detailed statistics. For more information, refer to your *High-Impact Practices* report.

High-Impact Practices: Seniors

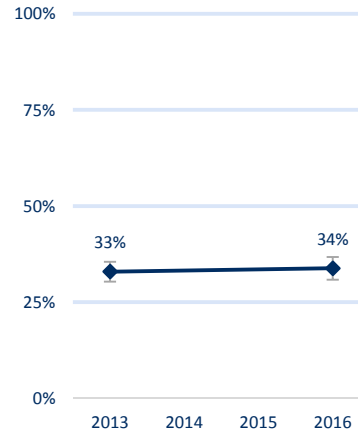
Learning Community (Done or in progress)



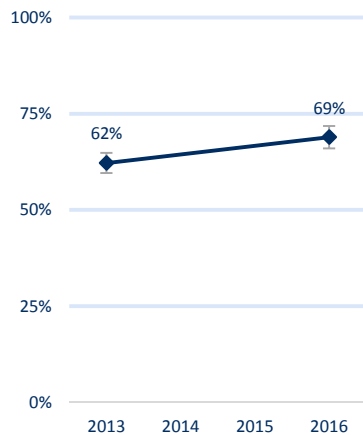
Service-Learning (Some, most, or all courses)



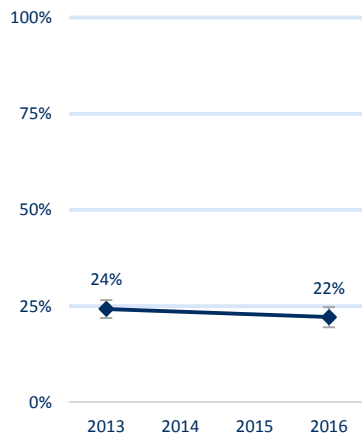
Research with Faculty (Done or in progress)



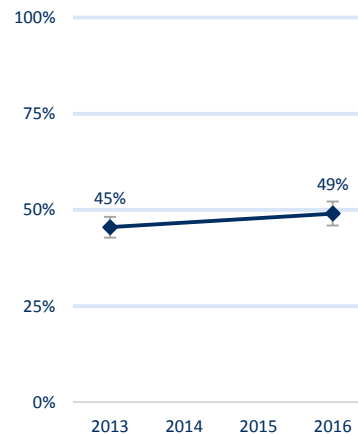
Internship/Field Experience (Done or in progress)



Study Abroad (Done or in progress)

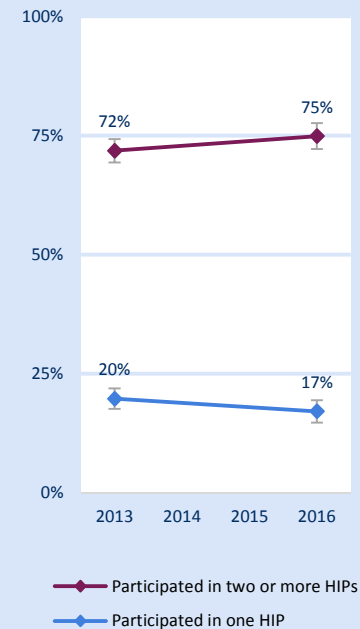


Culminating Senior Experience (Done or in progress)



Overall senior HIP participation

The figure below displays the percentages of seniors who participated in one, and two or more, HIPs. The figure includes all six HIPs.



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Detailed Statistics: Engagement Indicators and Additional Items

Iowa State University

		First-year students							Seniors								
		2013	2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2016	2017	2018	2019	2020
<i>Academic Challenge</i>																	
Higher-Order Learning	<i>Mean</i>	37.4			35.2					37.2			37.0				
	<i>n</i>	934			839					1,366			1,086				
	<i>SD</i>	12.7			13.6					13.6			13.6				
	<i>SE</i>	.42			.47					.37			.41				
	<i>CI upper bound</i>	38.2			36.1					37.9			37.8				
	<i>CI lower bound</i>	36.6			34.3					36.5			36.1				
Reflective & Integrative Learning	<i>Mean</i>	33.6			32.3					35.7			35.3				
	<i>n</i>	981			885					1,424			1,155				
	<i>SD</i>	11.8			12.0					12.1			12.0				
	<i>SE</i>	.38			.40					.32			.35				
	<i>CI upper bound</i>	34.3			33.1					36.4			36.0				
	<i>CI lower bound</i>	32.8			31.5					35.1			34.6				
Learning Strategies	<i>Mean</i>	35.8			33.6					35.0			33.6				
	<i>n</i>	873			725					1,291			983				
	<i>SD</i>	13.5			13.4					14.3			14.3				
	<i>SE</i>	.46			.50					.40			.45				
	<i>CI upper bound</i>	36.7			34.6					35.7			34.5				
	<i>CI lower bound</i>	34.9			32.7					34.2			32.7				
Quantitative Reasoning	<i>Mean</i>	29.5			28.4					30.9			31.1				
	<i>n</i>	953			842					1,387			1,105				
	<i>SD</i>	15.0			14.7					16.0			15.6				
	<i>SE</i>	.49			.51					.43			.47				
	<i>CI upper bound</i>	30.5			29.4					31.8			32.0				
	<i>CI lower bound</i>	28.6			27.5					30.1			30.2				
<i>Academic Challenge (additional items)</i>																	
Preparing for Class (hours/week)	<i>Mean</i>	15.9			16.2					16.8			16.2				
	<i>n</i>	819			667					1,221			933				
	<i>SD</i>	8.2			8.1					9.4			9.3				
	<i>SE</i>	.29			.31					.27			.30				
	<i>CI upper bound</i>	16.4			16.8					17.3			16.8				
	<i>CI lower bound</i>	15.3			15.6					16.2			15.6				
Course Reading Estimated hours per week calculated from two survey questions. The item was modified in 2014; comparability between 2013 and later years is limited.	<i>Mean</i>	5.9			6.1					5.5			5.8				
	<i>n</i>	817			663					1,219			928				
	<i>SD</i>	5.4			5.2					4.8			5.4				
	<i>SE</i>	.19			.20					.14			.18				
	<i>CI upper bound</i>	6.3			6.5					5.7			6.2				
	<i>CI lower bound</i>	5.5			5.7					5.2			5.5				

Notes: n = Number of respondents; SD = Standard deviation; SE = Standard error of the mean; upper and lower bounds represent the 95% confidence interval (mean +/- 1.96 * SE).

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Detailed Statistics: Engagement Indicators and Additional Items

Iowa State University

	First-year students							Seniors								
	2013	2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2016	2017	2018	2019	2020
<i>Academic Challenge (additional items, continued)</i>																
Assigned Writing	<i>Mean</i>		39.7			41.3			75.8			68.2				
Estimated number of pages calculated from three survey questions.	<i>n</i>		817			700			1,229			949				
	<i>SD</i>		64.3			66.9			85.5			74.5				
	<i>SE</i>		2.25			2.53			2.44			2.42				
	<i>CI upper bound</i>		44.1			46.3			80.6			72.9				
	<i>CI lower bound</i>		35.3			36.3			71.1			63.4				
Course Challenge	<i>Mean</i>		5.6			5.4			5.4			5.4				
Extent to which courses challenged students to do their best work (1 = "Not at all" to 7 = "Very much").	<i>n</i>		887			725			1,313			992				
	<i>SD</i>		1.1			1.2			1.2			1.2				
	<i>SE</i>		.04			.05			.03			.04				
	<i>CI upper bound</i>		5.6			5.5			5.5			5.4				
	<i>CI lower bound</i>		5.5			5.4			5.3			5.3				
Academic Emphasis	<i>Mean</i>		3.3			3.2			3.1			3.1				
Perceived institutional emphasis on spending significant time studying and on academic work (1 = "Very little," 2 = "Some," 3 = "Quite a bit," and 4 = "Very much").	<i>n</i>		827			675			1,231			943				
	<i>SD</i>		0.7			0.7			0.8			0.8				
	<i>SE</i>		.03			.03			.02			.02				
	<i>CI upper bound</i>		3.3			3.2			3.2			3.1				
	<i>CI lower bound</i>		3.2			3.1			3.1			3.0				
<i>Learning with Peers</i>																
Collaborative Learning	<i>Mean</i>		35.7			35.4			35.3			35.9				
	<i>n</i>		1,008			948			1,460			1,208				
	<i>SD</i>		13.4			13.3			13.6			13.9				
	<i>SE</i>		.42			.43			.36			.40				
	<i>CI upper bound</i>		36.5			36.2			36.0			36.6				
	<i>CI lower bound</i>		34.9			34.5			34.6			35.1				
Discussions with Diverse Others	<i>Mean</i>		40.5			39.4			40.2			39.0				
	<i>n</i>		873			732			1,299			1,000				
	<i>SD</i>		14.8			15.1			15.1			15.1				
	<i>SE</i>		.50			.56			.42			.48				
	<i>CI upper bound</i>		41.5			40.5			41.0			39.9				
	<i>CI lower bound</i>		39.5			38.3			39.4			38.1				

Notes: n = Number of respondents; SD = Standard deviation; SE = Standard error of the mean; upper and lower bounds represent the 95% confidence interval (mean +/- 1.96 * SE).

NSSE 2016 Multi-Year Report

Detailed Statistics: Engagement Indicators and Additional Items

Iowa State University

		First-year students							Seniors								
		2013	2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2016	2017	2018	2019	2020
<i>Experiences with Faculty</i>																	
Student-Faculty Interaction	<i>Mean</i>	20.5			19.4					23.5			23.0				
	<i>n</i>	955			858					1,397			1,111				
	<i>SD</i>	14.0			13.5					15.0			14.8				
	<i>SE</i>	.45			.46					.40			.44				
	<i>CI upper bound</i>	21.4			20.3					24.3			23.9				
	<i>CI lower bound</i>	19.6			18.5					22.7			22.1				
<hr/>																	
Effective Teaching Practices	<i>Mean</i>	37.0			35.2					37.3			36.5				
	<i>n</i>	960			854					1,405			1,117				
	<i>SD</i>	12.4			12.8					12.5			12.8				
	<i>SE</i>	.40			.44					.33			.38				
	<i>CI upper bound</i>	37.8			36.0					37.9			37.3				
	<i>CI lower bound</i>	36.2			34.3					36.6			35.8				
<hr/>																	
<i>Campus Environment</i>																	
Quality of Interactions	<i>Mean</i>	43.8			42.9					42.8			43.1				
	<i>n</i>	850			679					1,268			955				
	<i>SD</i>	10.9			10.6					10.5			10.6				
	<i>SE</i>	.38			.41					.30			.34				
	<i>CI upper bound</i>	44.5			43.7					43.4			43.7				
	<i>CI lower bound</i>	43.0			42.1					42.3			42.4				
<hr/>																	
Supportive Environment	<i>Mean</i>	40.2			36.7					34.3			33.4				
	<i>n</i>	821			665					1,221			931				
	<i>SD</i>	12.8			13.1					12.8			12.7				
	<i>SE</i>	.45			.51					.37			.42				
	<i>CI upper bound</i>	41.1			37.7					35.0			34.2				
	<i>CI lower bound</i>	39.3			35.7					33.6			32.5				

Notes: n = Number of respondents; SD = Standard deviation; SE = Standard error of the mean; upper and lower bounds represent the 95% confidence interval (mean +/- 1.96 * SE).

NSSE 2016 Multi-Year Report

Detailed Statistics: High-Impact Practices

Iowa State University

		First-year students							Seniors							
		2013	2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2016	2017	2018	2019
Learning Community^a	%	46			44					41			40			
	<i>n</i>	883			721					1,308			991			
	<i>SE</i>	1.7			1.9					1.4			1.6			
	<i>CI upper bound (%)</i>	49			48					43			43			
	<i>CI lower bound (%)</i>	43			40					38			37			
Service-Learning^a	%	53			51					50			52			
	<i>n</i>	880			718					1,308			985			
	<i>SE</i>	1.7			1.9					1.4			1.6			
	<i>CI upper bound (%)</i>	56			54					52			55			
	<i>CI lower bound (%)</i>	50			47					47			49			
Research with Faculty^a	%	10			11					33			34			
	<i>n</i>	875			717					1,301			985			
	<i>SE</i>	1.0			1.2					1.3			1.5			
	<i>CI upper bound (%)</i>	12			13					35			37			
	<i>CI lower bound (%)</i>	8			9					30			31			
Internship or Field Experience^b	%	83			82					62			69			
	<i>n</i>	885			723					1,308			990			
	<i>SE</i>	1.3			1.4					1.3			1.5			
	<i>CI upper bound (%)</i>	86			85					65			72			
	<i>CI lower bound (%)</i>	81			79					60			66			
Study Abroad^b	%	48			45					24			22			
	<i>n</i>	884			719					1,305			983			
	<i>SE</i>	1.7			1.9					1.2			1.3			
	<i>CI upper bound (%)</i>	51			49					27			25			
	<i>CI lower bound (%)</i>	44			42					22			20			
Culminating Senior Experience^b	%	54			50					45			49			
	<i>n</i>	882			713					1,305			986			
	<i>SE</i>	1.7			1.9					1.4			1.6			
	<i>CI upper bound (%)</i>	57			54					48			52			
	<i>CI lower bound (%)</i>	51			46					43			46			
Overall HIP Participation^c																
Participated in one HIP	%	42			44					20			17			
	<i>n</i>	890			723					1,315			995			
	<i>SE</i>	1.7			1.8					1.1			1.2			
	<i>CI upper bound (%)</i>	46			48					22			19			
	<i>CI lower bound (%)</i>	39			40					18			15			
Participated in two or more HIPs	%	31			28					72			75			
	<i>n</i>	890			723					1,315			995			
	<i>SE</i>	1.6			1.7					1.2			1.4			
	<i>CI upper bound (%)</i>	34			31					74			78			
	<i>CI lower bound (%)</i>	28			25					69			72			

Notes: n = Number of respondents; SE = Standard error of the proportion ($\sqrt{p * (1 - p) / (n - 1)}$) where p is the proportion; upper and lower bounds represent the 95% confidence interval ($p \pm 1.96 * SE$).

a. Results are the percentage who had done the activity.

b. First-year results are the percentage who planned to do the activity, and senior results are the percentage who had done the activity.

c. First-year results are limited to participation in a Learning Community, Service-Learning, and Research with Faculty; senior results include all six HIPs.